



MINISTRY OF EDUCATION
TE TĀHUHU O TE MĀTAURANGA

How does New Zealand's education system compare?

OECD's Education at a Glance 2016

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MINISTRY OF EDUCATION

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NEW ZEALAND'S EDUCATION SYSTEM AT A GLANCE

Early Childhood Education (ECE) and Schooling

- *New Zealand continues to perform well in early childhood indicators – participation and expenditure are in the top third of OECD countries and child-teacher ratios are amongst the lowest in the OECD.*
- *Enrolment rates for 15 to 19 year-olds have grown in recent years, but flattened in 2014. New Zealand remains in the bottom half of OECD countries, a little below the OECD average.*
- *Employment rates for youth increased, and youth employment relative to other OECD countries remains high. 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 number of young New Zealanders (15 to 19 years old) not in employment, education or training (NEET) is now back to around pre-recession levels; however, it remains a little higher than the OECD average for this age group.*
- *Upper-secondary attainment continues to increase at younger ages but over the whole population remains below 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, and as a percentage of total public expenditure remains one of the highest in the OECD.*
- *Teacher statutory salaries start lower, but increase faster than the OECD average and reach a maximum which is lower than the average maximum in other OECD countries. The gap between the salaries of teachers and other similarly-educated workers is smaller in New Zealand than it is in many other OECD countries.*
- *New Zealand school teachers are older on average and the proportion of teachers over 50 years old has been increasing. The proportion of teachers younger than 30 is about the same as the OECD average.*
- *The average class size for teachers who teach Years 7 to 10 students is around 25 students per class, compared with the OECD average of 23 students.*
- *Compared with their OECD counterparts, New Zealand principals in schools teaching Years 7 to 10 students engage well over a range of good practice and decision-making indicators, involving professional development, leadership, collaboration, use of information, and school development.*

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 about the OECD average. The proportion with a level 4 qualification or higher (at 48%) is in the top six.*
- *Literacy, and problem-solving in technology-rich environments skill levels were higher than OECD averages across all education levels, while numeracy skills were closer to the OECD average. New Zealand has a comparatively high proportion of tertiary qualified adults with high levels of literacy, numeracy and problem-solving skills. However, the share of tertiary-qualified adults with low numeracy skills was higher than the OECD average.*
- *While today's adults are significantly more educated than their parents across all OECD countries, New Zealand's educational upward mobility has been faster than the average change seen in the OECD. This has been influenced by New Zealand's higher levels of qualified immigrants.*
- *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 high, as are levels of part-time study. New Zealand has a high rate of adult participation in non-formal education, with adult New Zealanders spending an average of 71 hours in organised non-formal education per year.*
- *Around 14% of tertiary qualified adults in New Zealand had a qualification in engineering, manufacturing or construction, compared with an average of 18% across OECD countries. However, 13% had a qualification in science, mathematics or computing, above the OECD average of 11%.*

- *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, and public expenditure on tertiary education as a percentage of total public spending remains one of the highest in the OECD.*
- *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 45% of students are international students.*
- *Among nine countries with available data, young New Zealand graduates were more likely to be overseas three years after finishing their tertiary qualification. About 20% of bachelor's and 30% of master's graduates were living overseas after three years, compared with 3% or 4% in some Nordic countries.*
- *Full-time students in New Zealand take a little longer to complete their bachelor's degree, but had the second highest completion rate of 15 OECD countries.*
- *Relative to other OECD countries, employment rates in New Zealand remain high, and unemployment remains below the OECD average. Those with lower education levels and lower literacy or numeracy skills have employment rates above the OECD average.*
- *Earnings of New Zealanders are at or above the OECD average at every education level. However, the earnings advantage for tertiary educated people, compared with non-tertiary educated people remains smaller than that in many other OECD countries, and returns on investment in higher levels of education remain smaller than those in most other countries. This reflects the comparatively higher earnings of non-tertiary educated adults in New Zealand.*
- *Adults across the OECD with higher levels of education also do better over a range of social outcomes. They report better health, lower levels of disability and higher levels of life satisfaction. Adults with higher levels of education are also more likely to volunteer, report having more trust in others, and believe they have a say in government. In terms of these indicators, New Zealand has better social outcomes than many OECD countries. The difference in benefits between least and most educated is much smaller in New Zealand than other OECD countries.*

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 35 member countries, and other participating partner countries. The indicators in *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 24th edition of *Education at a Glance*. This year's report reflects 2015 data on educational attainment and labour market outcomes, and 2014 data for other non-financial indicators. Financial indicators are for 2013 data (which for New Zealand is the 2013/2014 financial year). The report includes over 300 country comparison tables and graphs covering 28 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
- Education and social outcomes
- International education
- Teachers: teacher-student ratios, salaries, working time, and demographics, and school leaders
- Student financial support and tertiary tuition fees
- How early childhood systems differ around the world
- Adult learning.

This year, *Education at a Glance* includes New Zealand results from the Survey of Adult Skills, part of the Programme for the International Assessment of Adult Competencies (PIAAC). These allow us to compare education in terms of skills rather than attainment, specifically literacy, numeracy and problem solving in technology-rich environments. New Zealand was one of six OECD countries to be included in the second round of countries, their data being collected in 2014 or 2015. First-round countries' data was collected in 2012.

The number of OECD member countries has increased to 35, with Latvia becoming a member of the OECD from 1 July 2016. In previous editions, Latvia was included as a partner country.

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.

This report presents a summary of New Zealand results. Readers are encouraged to check out the full OECD report. The report, and all tables and graphs, are available online at <http://www.oecd.org/education/eag.htm>.

The hardcopy version of *Education at a Glance 2016* has been reduced in size, with some content moving to the OECD's online resources. The OECD has expanded its data offering on [OECD.stat](#) and the [OECD GPS](#). This allows users to access data at a more granular level and therefore allows deeper insights. These are useful resources enabling further comparisons of New Zealand with specific countries and indicators.

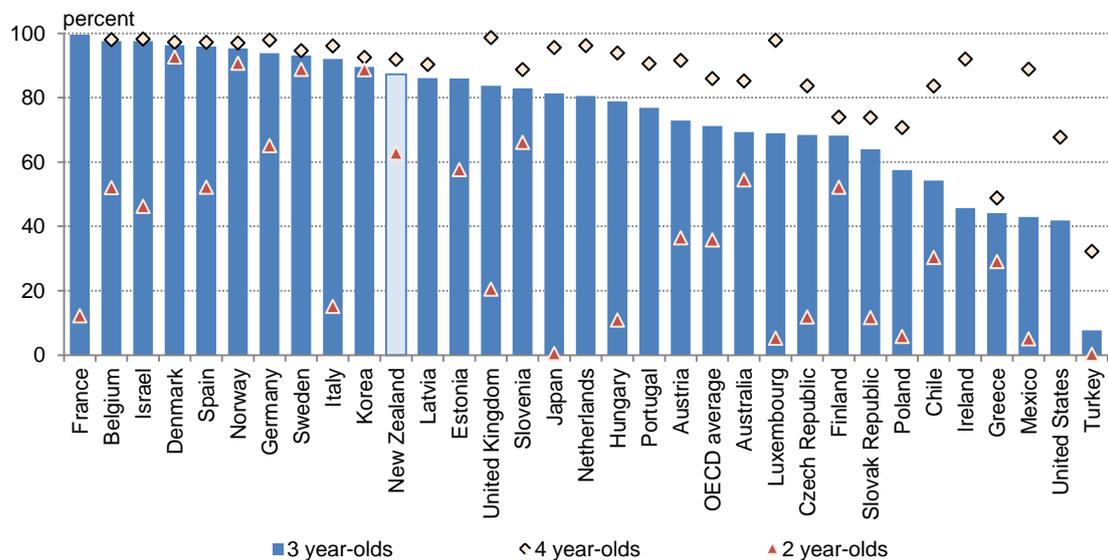
EARLY CHILDHOOD EDUCATION

In the International Standard Classification of Education (ISCED), early childhood education is separated into two levels. 'Early childhood educational development programmes' covers very young children, and 'pre-primary education' covers programmes for older children. The distinction between these two levels is typically operationalised by age, with pre-primary relating to ECE at ages 3 and above up to primary school age.

New Zealand has above average participation in early childhood education

New Zealand has relatively high participation in ECE. In 2014, over 90% of 4 year-olds and 87% of 3 year-olds were enrolled in ECE. Participation at younger ages is also relatively high, with over 60% of 2 year-olds in ECE¹.

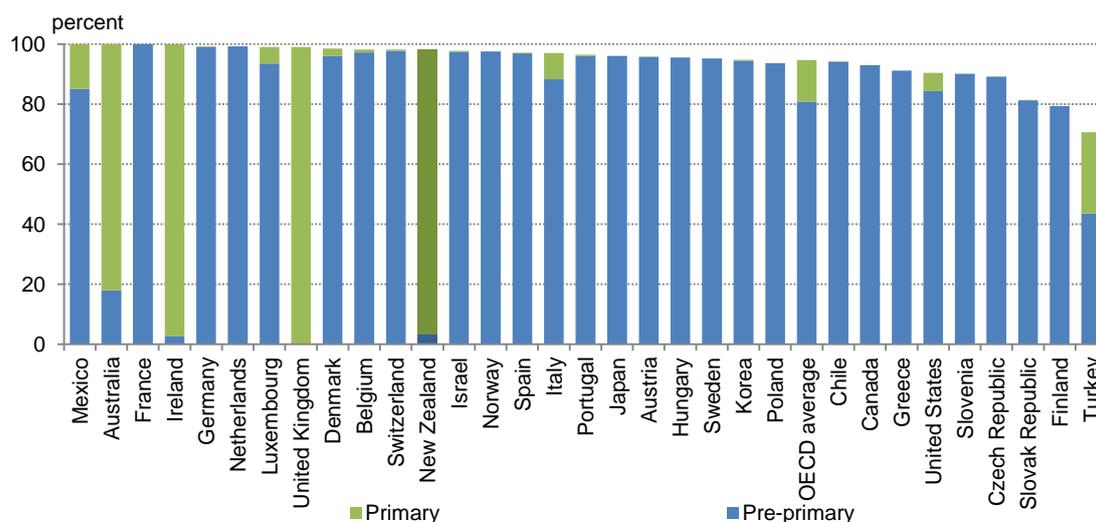
Figure 1 Enrolment rates in early childhood education, 2, 3 and 4 year-olds (2014)



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 including the United Kingdom, Ireland and Australia where a majority of 5 year-olds start primary school. In most OECD countries, ECE continues at age 5, whereas in New Zealand less than 4% of 5 year-olds are enrolled in ECE.

¹ New Zealand figures for this year cannot be compared with previous years. Results have been improved by removing the effect of double counting of children who were enrolled in more than one ECE service.

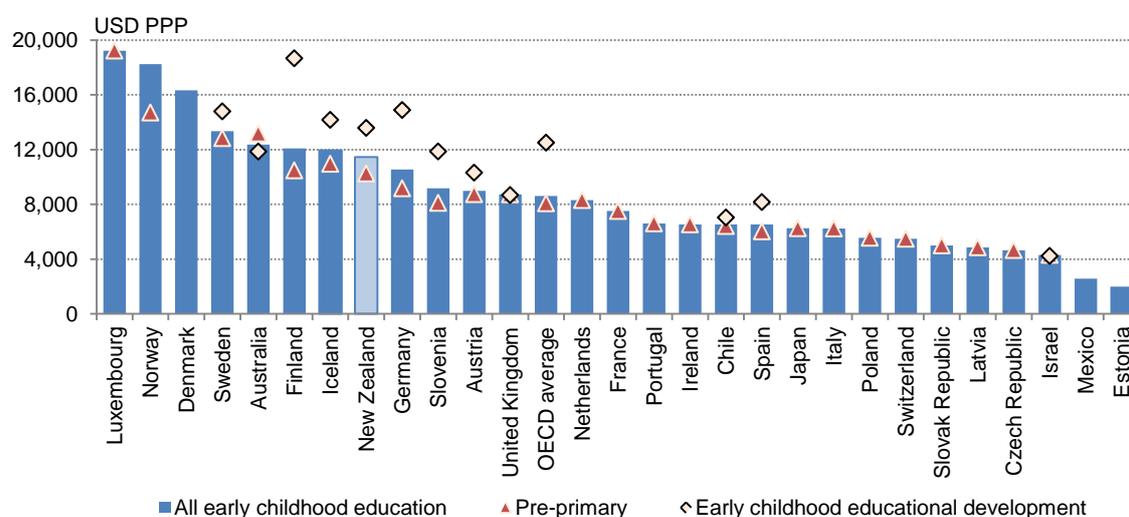
Figure 2 Enrolment rates of 5 year-olds in education (2014)



New Zealand's investment in early childhood education is relatively high

New Zealand's investment in ECE has grown rapidly in the past decade. In 2013, total ECE expenditure per child from public and private sources was in the top third. At the pre-primary level (ages 3 and above), New Zealand is one of nine countries that spend more than US\$10,000 per child.

Figure 3 Annual expenditure per child in early childhood education institutions (2013)



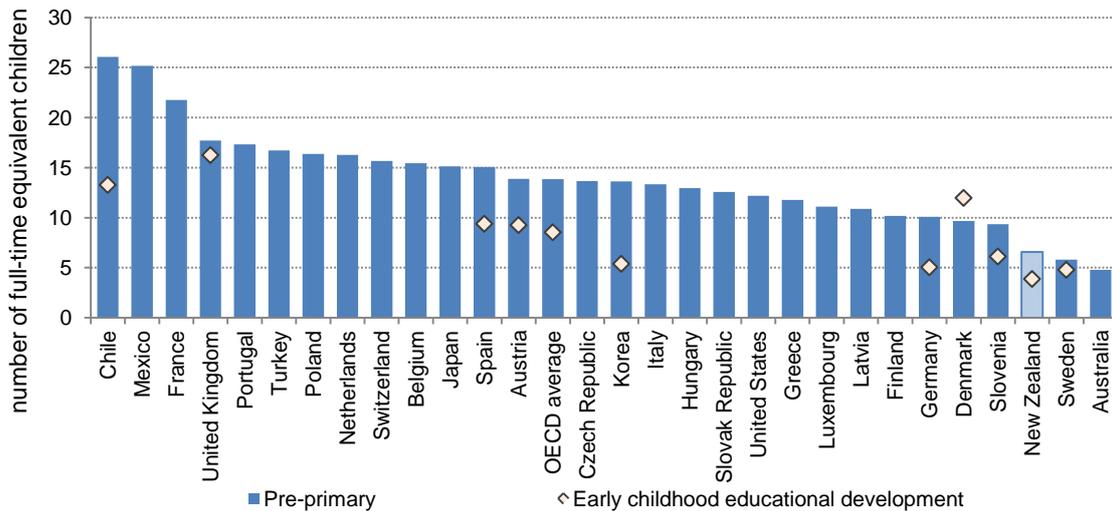
In most countries, education expenditure on 5 year-olds is ECE expenditure, while for New Zealand this expenditure is mostly counted as primary school expenditure. Despite this, New Zealand was in the top third of countries, in terms of ECE expenditure as a percentage of gross domestic product (GDP), at 0.9%. This was above Australia and the United Kingdom.

In New Zealand, 86% of expenditure in pre-primary education (typically ages 3 and above) comes from public sources, compared with 83% across the OECD. At younger ages, 72% of early childhood expenditure is from public sources, compared with 69% on average across the OECD.

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

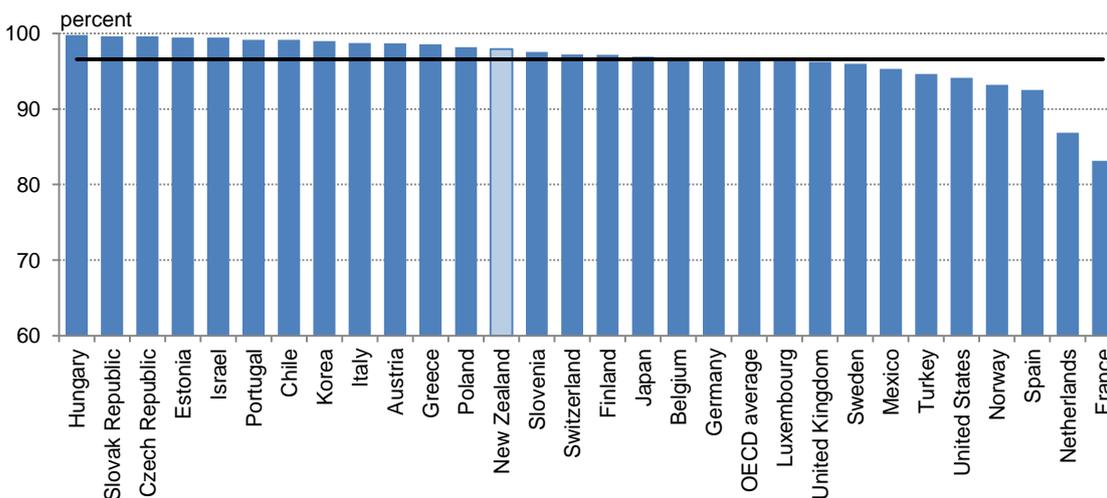
In New Zealand, maximum child-teacher ratios are regulated. Of the 24 countries reporting data in EAG 2016, New Zealand had the some of the lowest ratios of children to teachers in ECE. On average there were 3.9 children per teaching staff member in early childhood educational development programmes (under 3 years old), and 6.6 children per teaching staff member at pre-primary (3 and over). This compared with 8.5 and 13.8 children per teaching staff member respectively across the OECD².

Figure 4 Ratio of full-time equivalent children to teaching staff in early childhood education (2014)



In all OECD countries, pre-primary teachers were more likely to be female. In New Zealand, 98% of pre-primary teachers were female, compared with 96% on average across the OECD. All countries, apart from France and the Netherlands had proportions of female teachers over 90%.

Figure 5 The percentage of pre-primary teaching staff that was female (2014)



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, 68% of pre-primary ECE institutions are publicly owned and 23% receive some funding from the government. Independently funded private institutions make up the remaining 10%.

Most OECD countries offer integrated ECE programmes, where both education and childcare are delivered. New Zealand offers only integrated programmes.

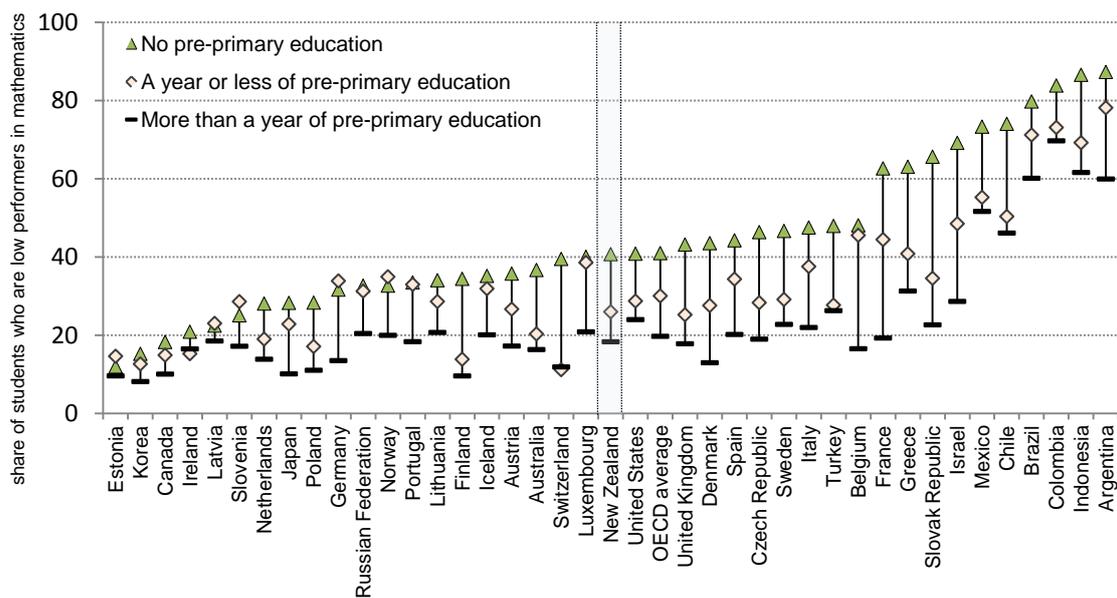
Participation in ECE has been linked to better performance at school

Analysis from the Programme for International Student Assessment (PISA) 2012 found that, in most countries, students who had attended at least one-year of pre-primary tended to perform better in mathematics than those who had not. This was also evident even after accounting for differences in socio-economic background.

The analysis also showed that ECE systems where programmes were longer in duration, had lower student-teacher ratios and had higher public expenditure per child led to stronger performance in PISA tests.

In New Zealand, there was a significant difference in the percentage of low performers in mathematics between those who did not attend ECE and those that attended ECE for one year or more.

Figure 6 Share of students who were low performers in mathematics (2012)



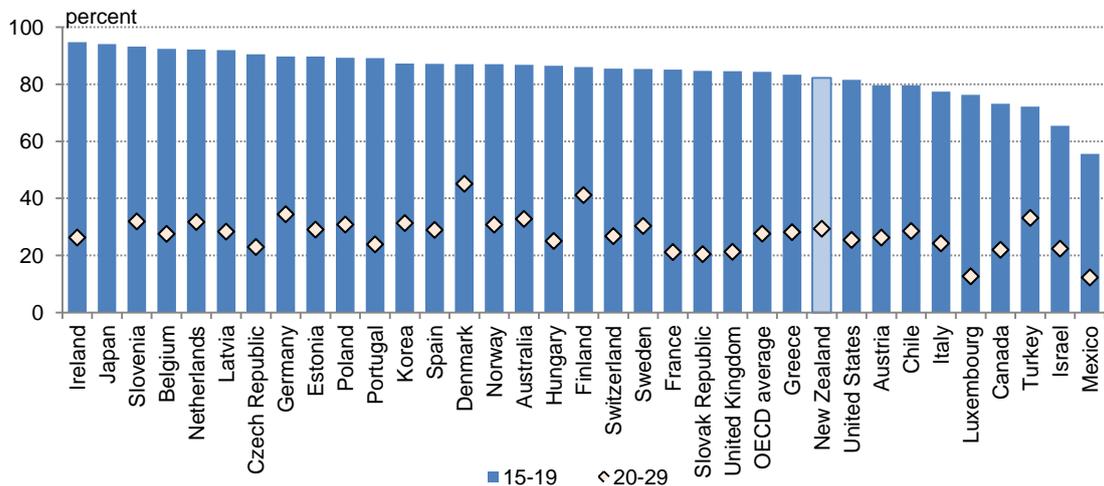
SCHOOLING

The level of 15 to 19 year-olds in education has grown in recent years, but this growth flattened in 2014, while employment rates for youth increased. Compared with youth in 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.

In New Zealand, 82% of 15 to 19 year-olds were enrolled in education in 2014. New Zealand is still in the bottom half of OECD countries, below the OECD median of 85%.

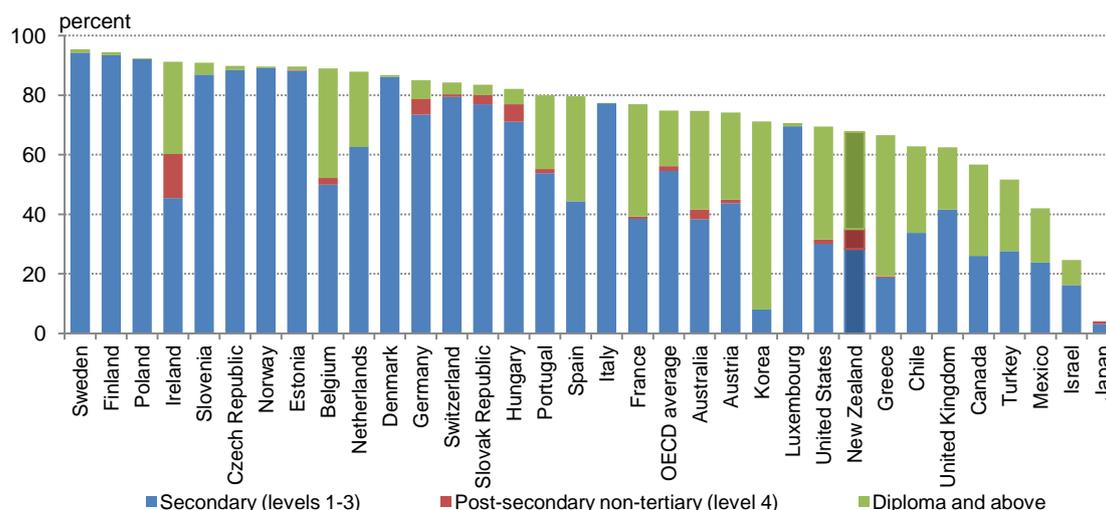
This participation rate is down slightly from what was reported for 2013. This is due to the introduction of revised New Zealand population estimates. When revised population estimates are applied back to past data, it shows a period of increasing retention of young people in education, followed by a flat trend at 82% for the past few years, a couple of percentage points below the OECD average.

Figure 7 Enrolment rates of 15 to 19 year-olds and 20 to 29 year-olds in education (2014)



In New Zealand, students tend to transition to post-secondary education earlier than many of their OECD counterparts; 33% of 18 year-olds and 2% of 17 year-olds were enrolled in tertiary education, compared with the OECD averages of 18% and 1.5% respectively. A similar pattern is also observed in Canada, the United States, the United Kingdom and Australia. In many European countries, it is relatively uncommon for an 18 year-old to have left school and be enrolled in tertiary education.

Figure 8 Percentage of 18 year-olds in education, by level (2014)



Upper-secondary attainment remains below the OECD average

In 2015, 81% of 25 to 34 year-olds had attained an education equivalent to an NCEA Level 2 qualification or higher. This was below the OECD average of 84%. A two-year upper-secondary qualification (such as equivalent to NCEA Level 2 in New Zealand) is the level set internationally as ‘upper-secondary’ attainment, and is increasingly considered a basic minimum benchmark for equipping citizens and societies to do well³.

New Zealand is one of a small number of countries that has a recognised, credentialed pathway out of education after one year of upper-secondary study. While NCEA Level 1 is considered ‘below upper-secondary’ in international comparisons, some 8% of 25 to 34 year-olds still hold a recognised NCEA Level 1 or equivalent qualification, while 11% hold no qualification at all⁴.

These rates for 25 to 34 year-olds won't yet reflect the gains in achievement happening at ages below 25. The proportion of 20 to 24 year-olds that attained NCEA Level 2 or equivalent, for example, is now at the OECD average for 25 to 34 year-olds of 84%.

Of all adults aged between 25 and 64, 75% have at least an upper-secondary qualification as their highest achieved qualification level. This places New Zealand in the bottom half of countries, again below the OECD average of 78%. Of adults aged 25 to 64, 11% hold NCEA Level 1, School Certificate or an equivalent one-year upper-secondary qualification, while 16% have no qualification.

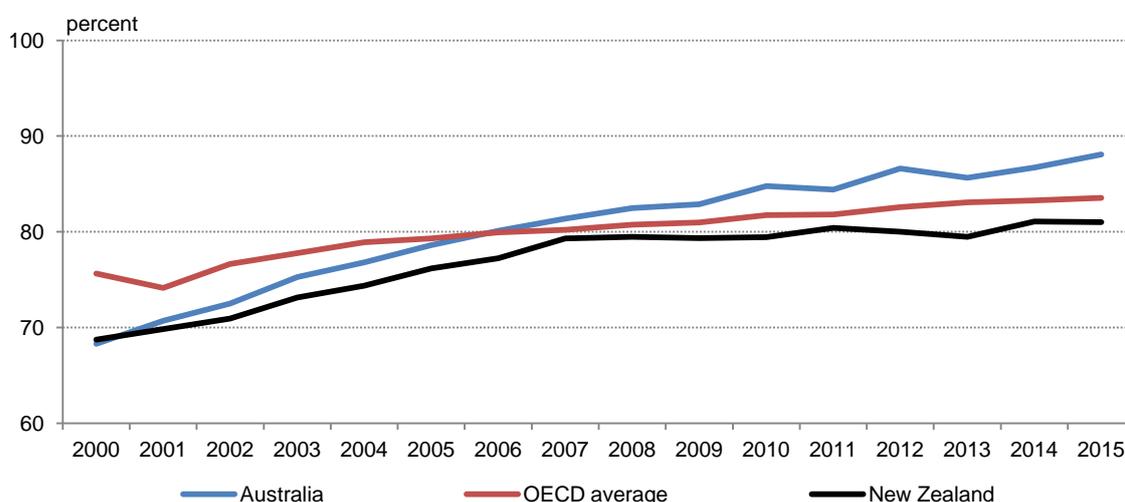
For 25 to 34 year-olds, there is no difference in rates of attainment between men and women in New Zealand. Over all adults aged 25 to 64, the percentage of New Zealand men with at least upper-secondary attainment is 76%, compared with the OECD average of 78%. Of New Zealand women, 74% have at least an upper-secondary qualification, compared with the OECD average of 78%.

³ *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 and also includes levels 1 to 3 post-secondary education. But in terms of attainment, 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.

⁴ Statistics New Zealand – Census 2013 Highest qualification by age group and sex

Since 2000, New Zealand's growth in the proportion attaining an upper-secondary education has been ahead of average growth across the OECD; however, it has remained below the OECD average over this period. Growth in educational attainment for women has been faster across the OECD; in New Zealand, growth in educational attainment for men and women has been similar.

Figure 9 25 to 34 year-olds with at least an upper-secondary education (2000-2015)

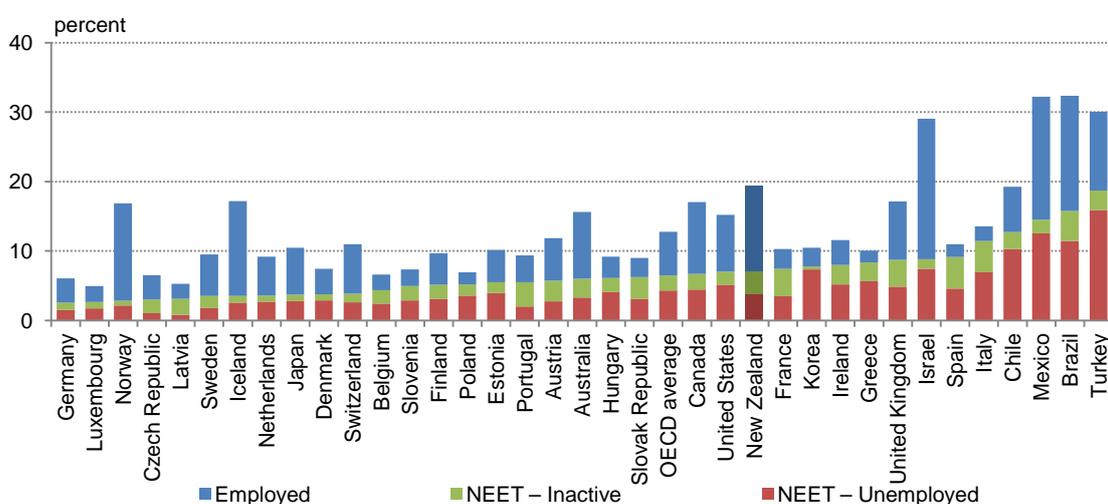


Note: 'Upper-secondary' is the equivalent of NCEA Level 2 qualification or higher.

Compared with other OECD countries, New Zealand has fairly high youth employment, and a one-year upper-secondary qualification (NCEA Level 1) which provides an early, credentialed pathway to the labour market for young people. New Zealand has a relatively large proportion of young people who are not in education but are in employment, at 12% compared with the OECD average of 6.3%. New Zealand's profile is fairly similar to those of 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, for example, Brazil, Israel, Mexico, Norway and Turkey.

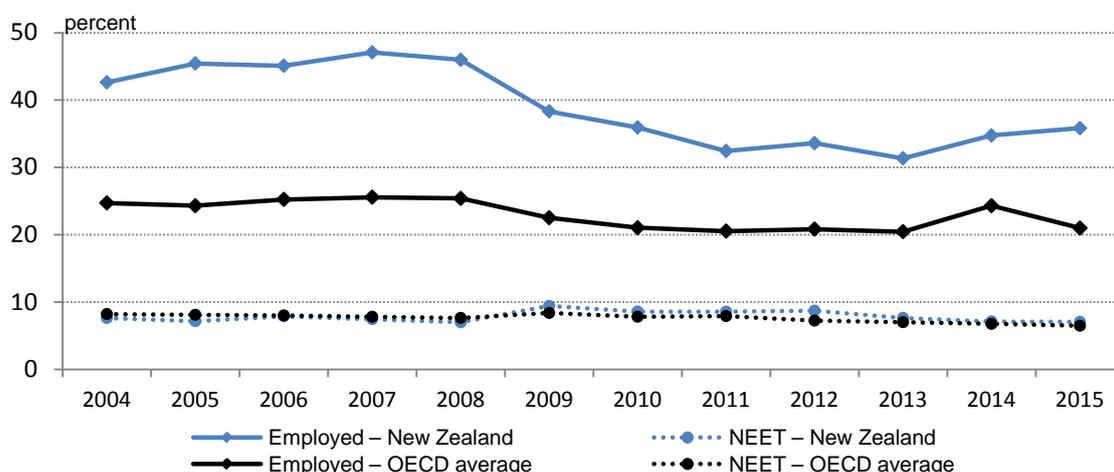
However, the level of 15 to 19 year-olds not in employment, education or training (NEET) was still in the bottom half of OECD countries. New Zealand had a NEET rate for 15 to 19 year-olds of 7.1% compared with the OECD average of 6.5%.

Figure 10 Not in education – NEET and employed among 15 to 19 year-olds (2015)



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 negative economic shocks often affect the youngest and least qualified first in terms of reduced employment and earnings, encouraging many to stay on in or go back to education.

Figure 11 15 to 19 year-olds in employment, or NEET (2004-2015)

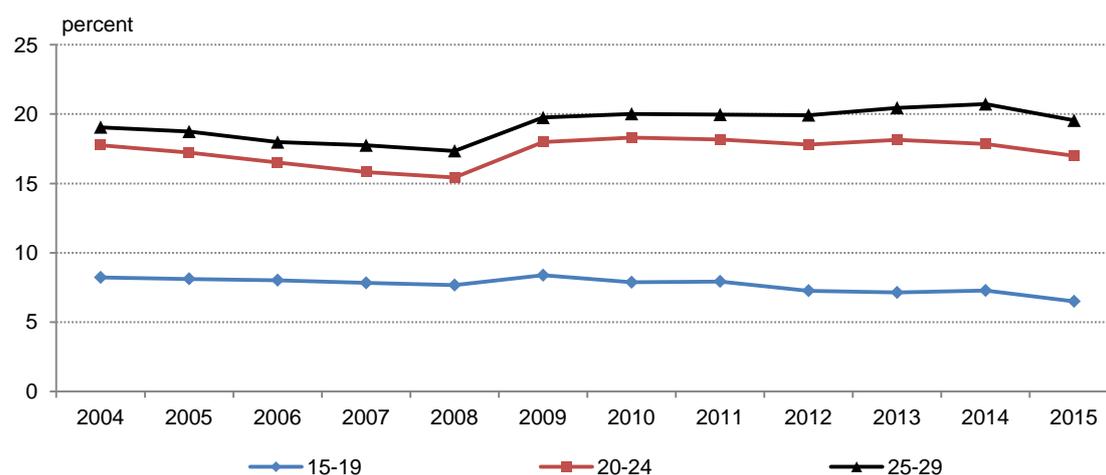


Note: Employed includes 15-19 year-olds in and not in education.

NEET rates for 20 to 29 year-olds are naturally higher than those of 15 to 19 year-olds as they have often attained their highest education qualification. This group therefore had the greatest overall change in NEET rates over the period of the global financial crisis as they were facing a difficult labour market.

In 2015, the NEET rate for New Zealanders aged 20 to 24 was 14.9%, below the OECD average of 17.0%. Of 25 to 29 year-olds, 17.9% were NEET, compared with the OECD average of 19.5%.

Figure 12 Trends in the OECD average NEET population, by age group (2004 to 2015)

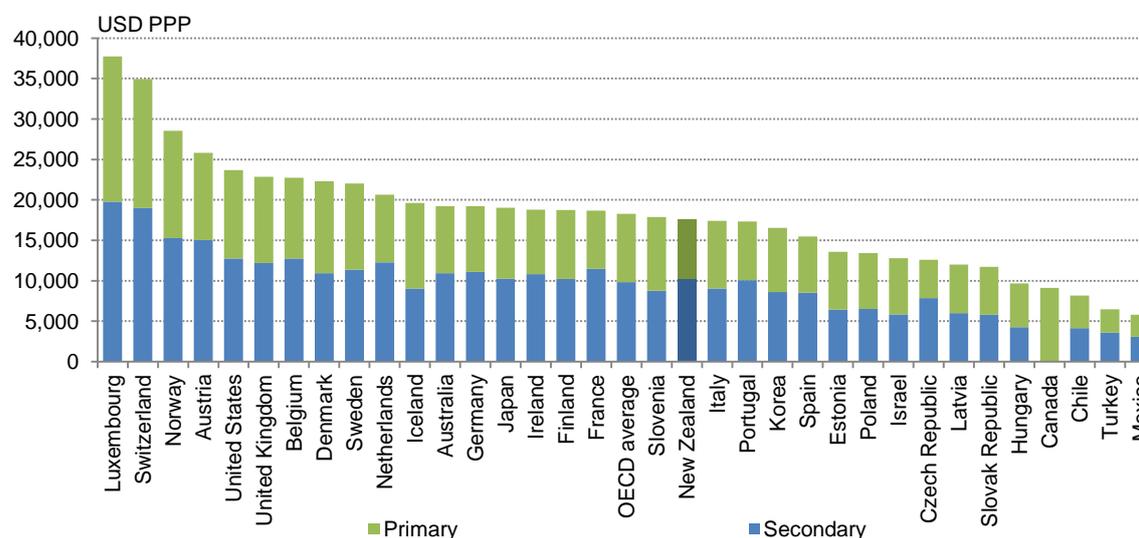


The Survey of Adult Skills shows that NEET rates are strongly associated with literacy. Those with the lowest literacy proficiency had a NEET rate of 29% across the OECD. This compared with just 8% for those with the highest levels of literacy proficiency (levels 4 and 5). In New Zealand the difference was even greater, with a 32% NEET rate for those with the lowest literacy proficiency and just 6% for those with the highest literacy.

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

In the 2013/2014 financial year, New Zealand's expenditure from public and private sources per student at primary level was below the OECD average, while expenditure at the secondary school level was around the OECD average.

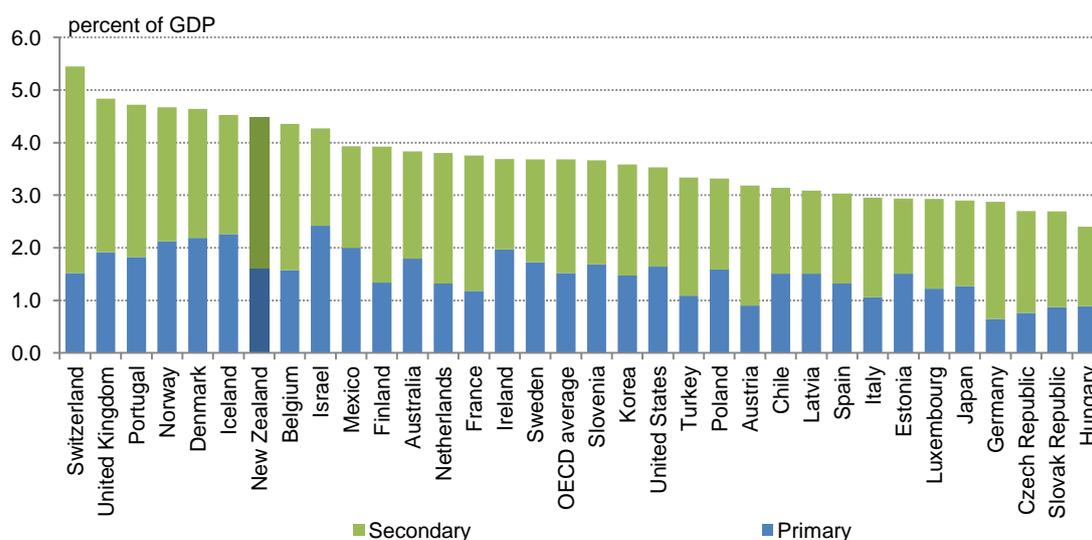
Figure 13 Annual expenditure per student by educational institutions (2013)



New Zealand has a relatively small population, and a relatively small economy as measured by gross domestic product (GDP). Measuring educational expenditure as a percentage of GDP or GDP per capita gives a better understanding of how much a country spends given its relative resources.

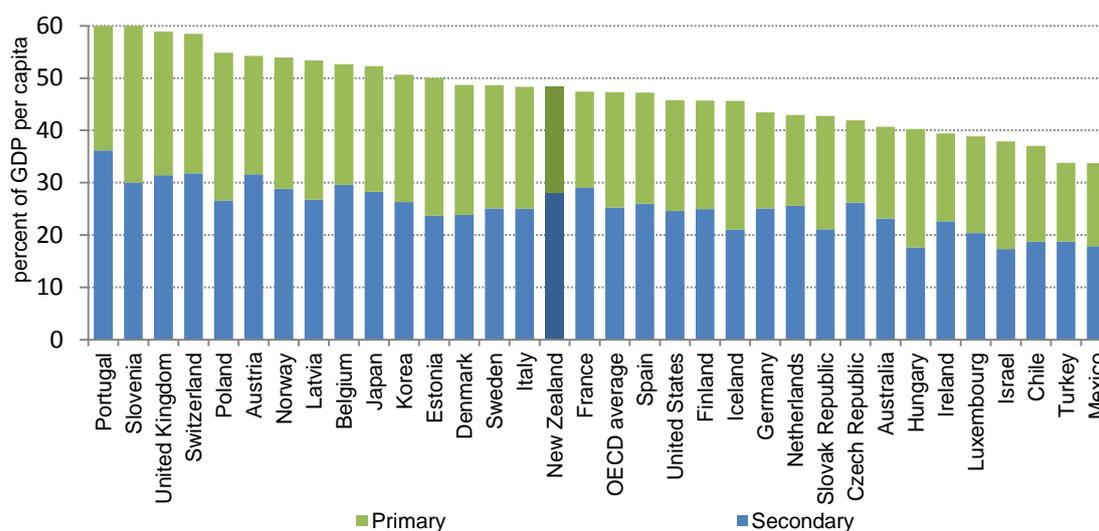
Total (public and private) expenditure on educational institutions (i.e. schools) as a percentage of GDP in New Zealand was above average. At the primary level New Zealand spent 1.6% of GDP, compared with the OECD average of 1.5%. At the secondary level, New Zealand spent 2.9% of GDP, above the OECD average of 2.2%.

Figure 14 Expenditure on educational institutions as a percentage of GDP (2013)



Expenditure per student relative to GDP per capita allows investment to be viewed after accounting for differences in the size of the economy and national demographic differences. This is important, for example, at primary level, where most 5 year-olds are included in New Zealand but not in other countries. At the primary level, annual expenditure per student relative to GDP per capita was 20%, below the OECD average of 22%. At the secondary level, annual expenditure per student relative to GDP per capita was 28%, above the OECD average of 25%. On these measures New Zealand ranked 24th and 10th respectively.

Figure 15 Annual expenditure per student by educational institutions relative to GDP per capita (2013)

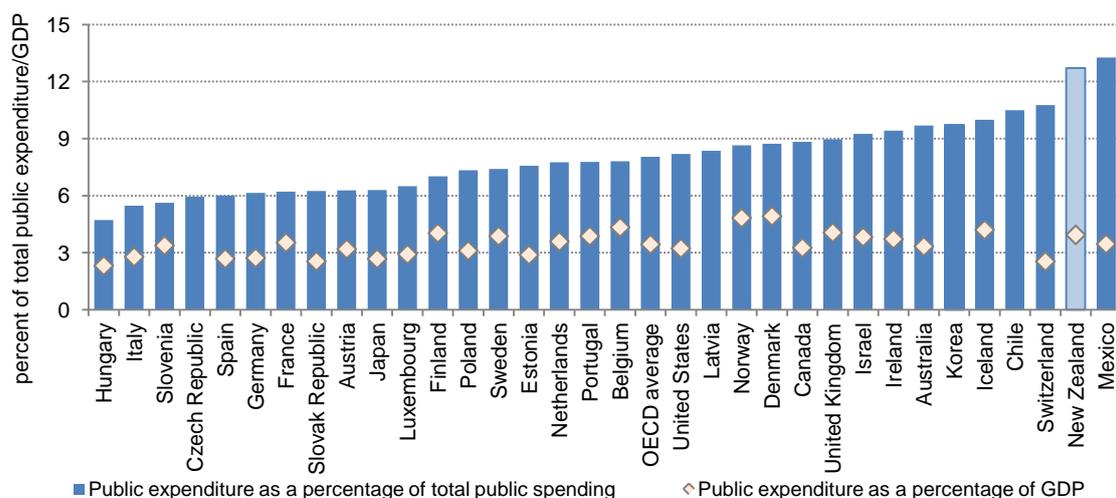


Education at a Glance 2016 does not include the proportion of just primary and secondary school funding coming from public sources. It only provides a figure for all schooling and post-schooling levels below diploma combined. This proportion in New Zealand was 83% compared with the OECD average of 91%.

Public expenditure on primary and secondary education as a percentage of total public expenditure in New Zealand was relatively high at 4.8% at the primary level, and 7.9% at the secondary level. This compared with 3.5% and 4.5% respectively across the OECD, and was the second highest after Mexico.

Public expenditure as a percentage of GDP was also relatively high, with 1.5% of GDP invested at the primary level, and 2.5% invested at the secondary level. This compared with 1.5% and 2.0% respectively across the OECD. With total public expenditure on schooling equivalent to 4.0% of GDP, New Zealand investment in schooling was in the top 10 in the OECD.

Figure 16 Public expenditure on primary and secondary education institutions as a percentage of total public expenditure and as a percentage of GDP (2013)



Student-teacher ratios are a little higher in New Zealand

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

At the primary level, there were 16 FTE students for every FTE teacher, compared with the OECD average of 15. At the lower-secondary level, there were 16 FTE students for every FTE teacher, compared with 13 across the OECD. At the upper-secondary level, there were 12 FTE students per FTE teacher, below the average of 13 across the OECD. These rates were similar to those seen in Australia and Ireland.

Average class sizes at the lower-secondary level (Years 7-10) for public schools were around 23 students, while in New Zealand the average at the lower-secondary level (Years 7-10) for public schools was 25 students. For private schools at this level, New Zealand's average class-room size of 21 students was the same as the OECD average.

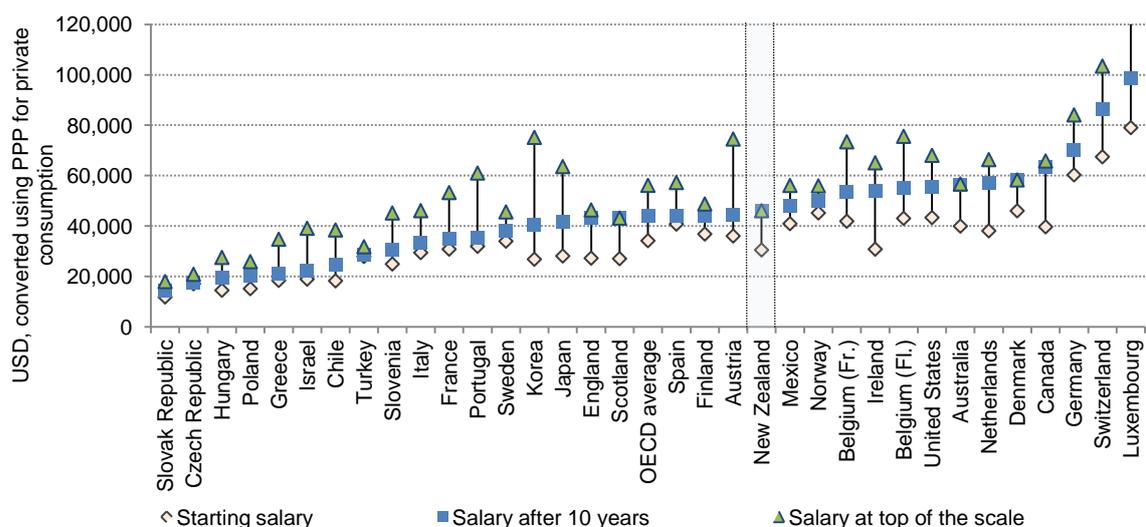
Teachers' salaries start lower but increase faster than their OECD counterparts

In terms of statutory (i.e. regulated or contracted base salaries), teachers at primary and secondary levels have slightly lower starting salaries than their respective OECD averages.

However, New Zealand teachers reach the top of the salary scale relatively quickly, in an average of seven years. At this point, the New Zealand salaries are above the OECD average, and after 10 years of experience New Zealand teacher statutory salaries are on average around 6% higher than their average OECD counterpart at this stage in their career.

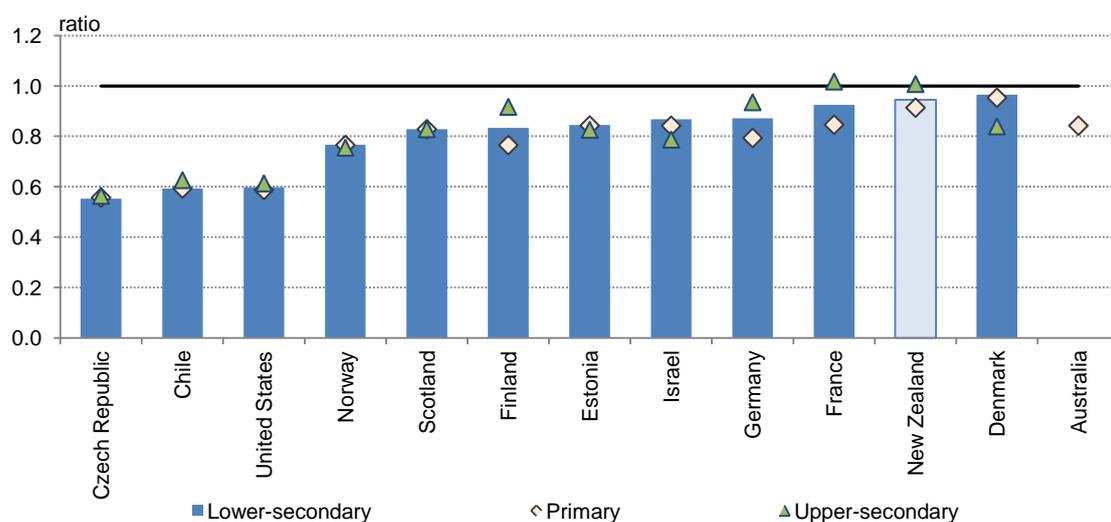
After 15 years, the salaries of New Zealand teachers are the same as their respective OECD averages. However, the average maximum salary that teachers can eventually earn across OECD countries is higher than that for New Zealand. This pattern holds at both primary and secondary levels.

Figure 17 Upper-secondary teachers' statutory salaries at different points in their careers (2014)



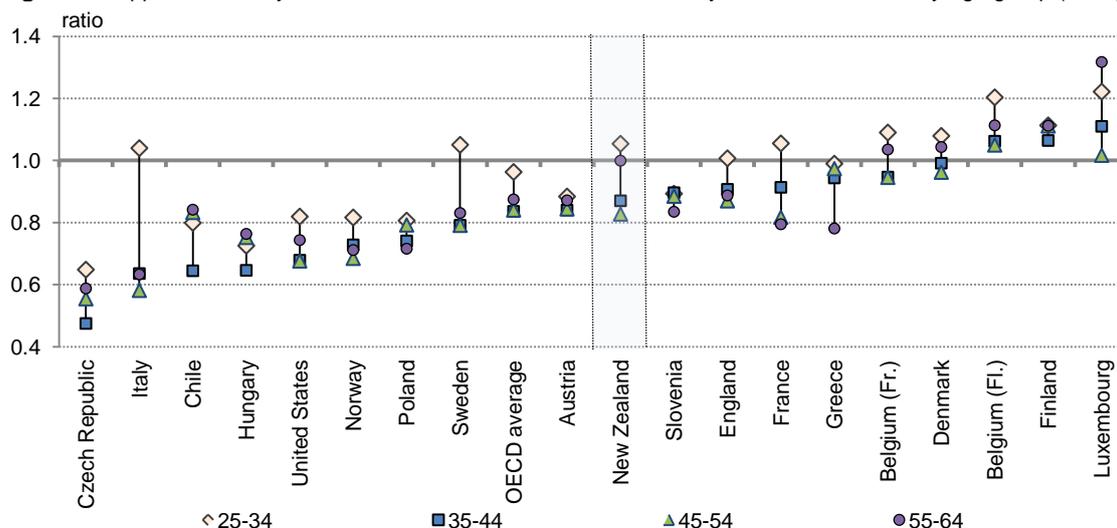
In terms of actual salaries, in most OECD countries teachers earn less than similarly educated workers in other jobs. In New Zealand, primary teachers on average earned about 90% of what similarly educated workers in other jobs earned, while upper-secondary teachers earned about the same. This was above the level in many other OECD countries, where, across countries with available data, teachers earned about 80% of what similarly educated workers earned.

Figure 18 Actual salaries for teachers working full-time for a full-year relative to similarly educated full-time full-year workers, 25 to 64 year-olds (2014)



For upper-secondary teachers aged 25 to 34, salaries are higher than similarly aged tertiary educated workers in many OECD countries, including in New Zealand. Teachers aged 55 to 64 also earn higher salaries in six OECD countries including New Zealand, over similarly aged tertiary educated workers. Female teachers earn more than other tertiary educated women in most OECD countries, including New Zealand.

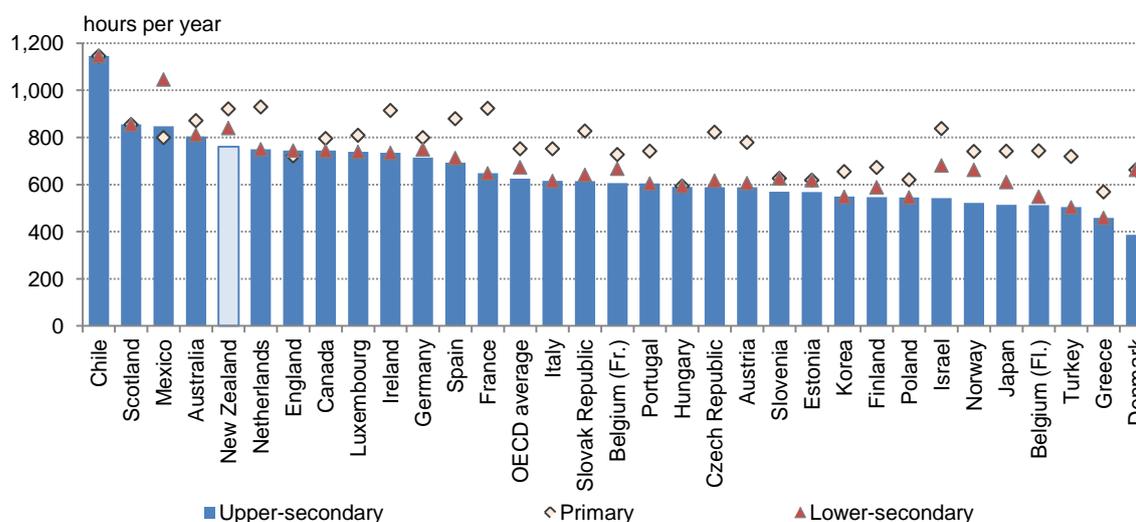
Figure 19 Upper-secondary teachers' actual salaries relative to tertiary educated workers, by age group (2014)



Note: full-time full-year workers only.

New Zealand teachers have more statutory teaching days and spend more hours teaching per year than the OECD average, across both primary and secondary levels. Teachers at the primary level are required to teach 922 hours per year, compared with 757 across the OECD. Teachers at upper-secondary level teach 760 hours a year, compared with 629 across the OECD.

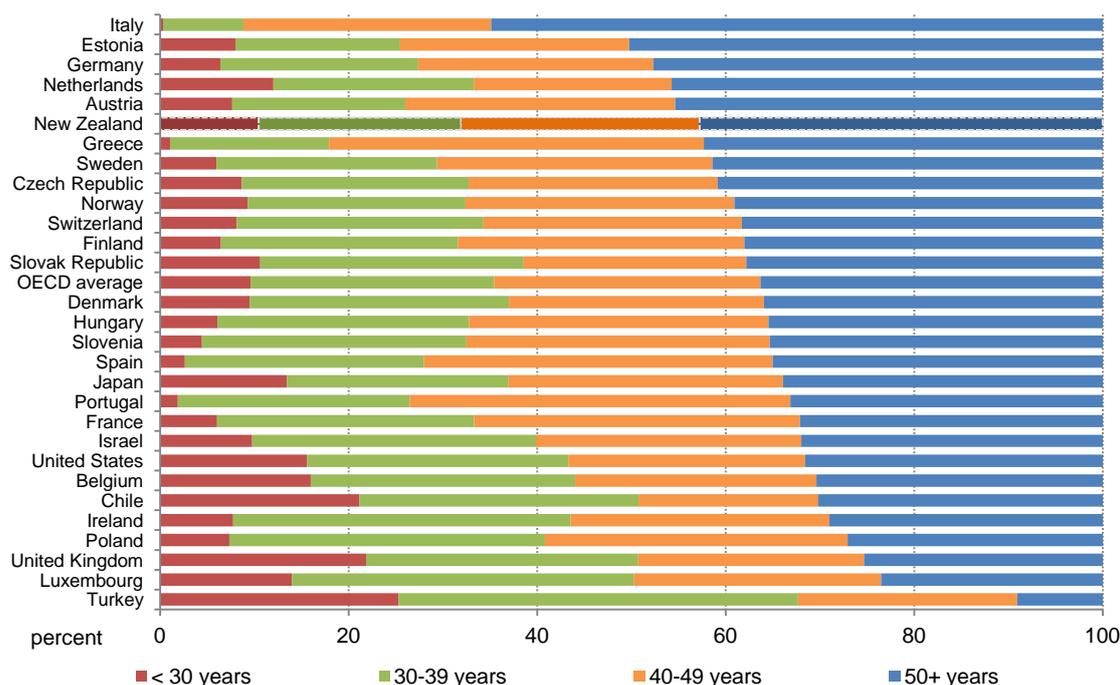
Figure 20 The number of net statutory teaching hours per year (2014)



School teachers across the OECD are more likely to be female. In New Zealand, the proportion of teachers who are female is similar to OECD averages: 84% at the primary level, 66% at lower-secondary and 60% at upper-secondary.

Teachers in New Zealand are a little older than teachers across most OECD countries. Over 40% are aged 50 or over compared with the OECD average of 36%. The 50-plus group has grown as a share of all teachers by 2% on average per year since 2005. Around 10% of New Zealand teachers are under the age of 30, a little higher than the OECD average.

Figure 21 Distribution of secondary school teachers, by age group (2014)



How school principals compare across OECD countries

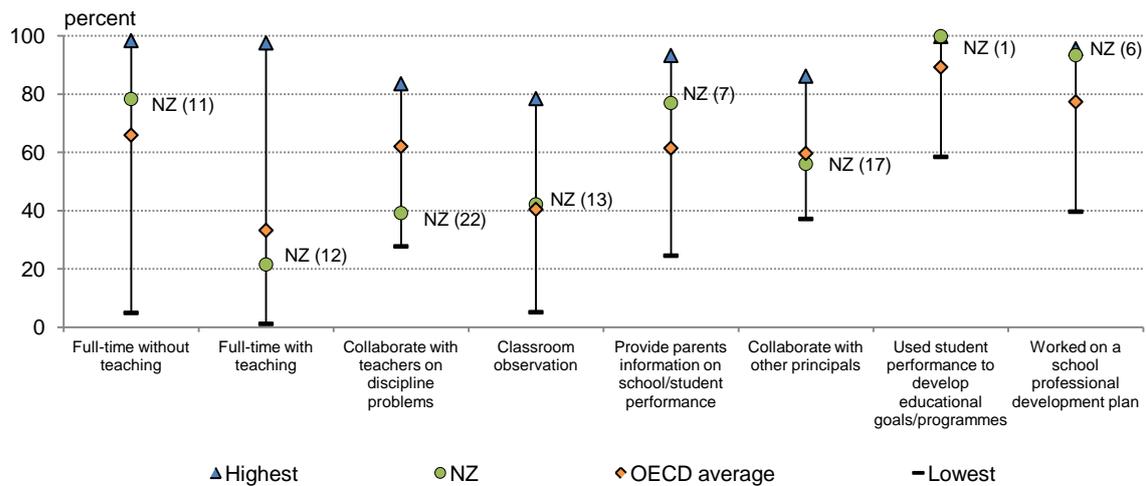
Education at a Glance 2016 has used the Teaching and Learning International Survey (TALIS) to compare school leaders, that is, who they are and what they do. TALIS covers teachers and principals in schools teaching at the lower-secondary education level (ISCED level 2), which for New Zealand covers Years 7 to 10⁵.

In countries participating in TALIS, principals had 21 years of experience on average, and the average age of principals was 52 years. Forty-four percent of principals were female. In New Zealand, principals were slightly older, with an average age of 55 years, and fewer principals were female, at 32%. Seventy-eight percent worked full-time without teaching obligations (about 11th highest on this measure, similar to Australia, and above the OECD average of 66%). Note that New Zealand TALIS data exclude schools in which there were fewer than four teachers of Year 7-10 children, which is likely to over-represent the number of male principals and their average age.

The following shows the percentage of principals who reported having engaged ‘often’ or ‘very often’ in leadership activities during the 12 months prior to the survey. For ‘used student performance to develop educational goals and programmes’ and ‘worked on a school professional development plan’ principals answered ‘yes’ or ‘no’ as to whether they were involved in these activities.

⁵ For New Zealand, therefore, results reflect the combined results of the last two years of primary and the first two years of secondary, and so care is needed in making inferences about primary or secondary principals separately. NZ TALIS data also excludes schools in which there were fewer than four teachers teaching Years 7 to 10 students. This is likely to impact some of the results presented here relating to principal demographics and practices.

Figure 22 Principals' leadership in schools teaching at the lower-secondary level (2013)



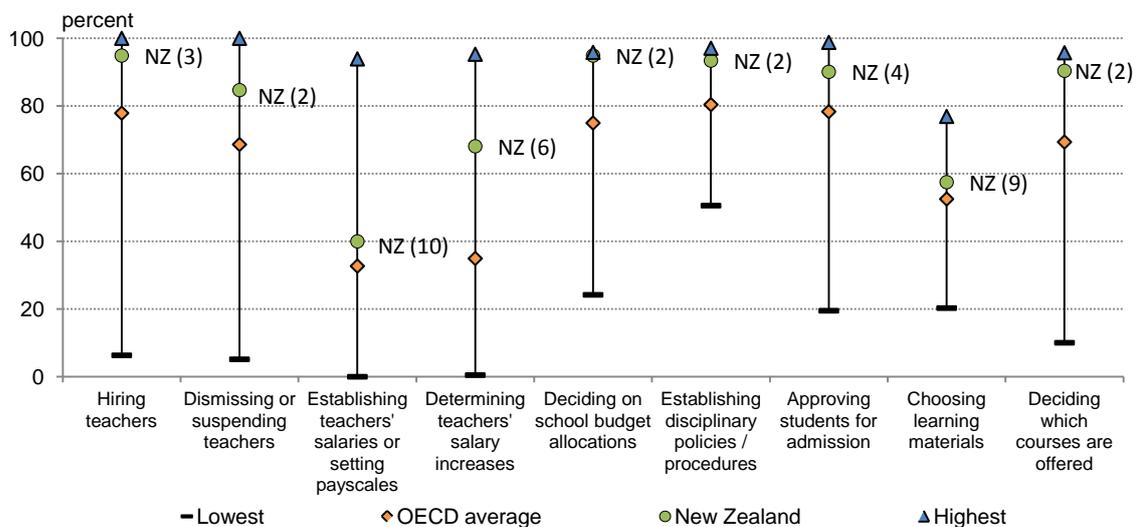
Note: The number in brackets is New Zealand's relative position amongst the 25 reporting countries

The chart above shows New Zealand ranked well (in terms of the proportion of principals involved) in a range of indicators measuring school leader tasks and practices. These included:

- Used student performance and student evaluation results to develop the school's educational goals and programmes
- Worked on a professional development plan for the school
- Provide parents or guardians with information on the school and student performance
- Take action to ensure that teachers take responsibility for improving their teaching skills.

New Zealand principals were less likely to be involved in collaborating with principals from other schools and collaborating with teachers to solve classroom discipline problems than their OECD counterparts. This may, in part, reflect the fact that New Zealand's data excludes principals in smaller schools (with fewer than four lower-secondary teachers).

Figure 23 Principals with significant responsibility in schools teaching at the lower-secondary level (2013)



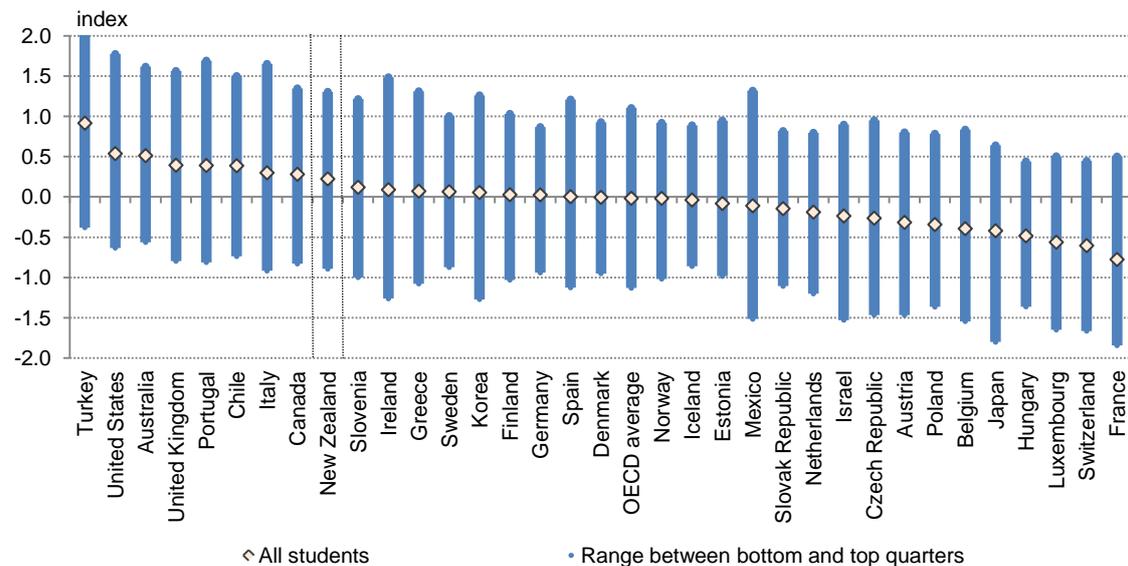
Note: The number in brackets is New Zealand's relative position amongst the 25 reporting countries.

The above graph shows the percentage of principals who had significant responsibility for certain tasks, and who also reported a shared responsibility for this task.

When a principal reports that the responsibility for a task is shared, this indicates that an active role is played in decision making by the principal and other members of the school management team, teachers who are not part of the school management team, a school's governing board or a local or national authority.

New Zealand had a very high level of shared responsibility for key decision making tasks. On average across nine tasks, New Zealand ranks fourth equal after the Netherlands, England and Denmark. This is supported by PISA 2012 (which relates to 15 year-olds rather than Year 7-10 students) showing relatively high teacher participation in school management tasks.

Figure 24 Index of teacher participation in school management (2012)



New Zealand principals of lower-secondary students have above average participation in professional development. In particular, New Zealand principals rank well in participation in a professional network, mentoring or research activity. The number of days per year that principals dedicate to professional development is about average.

TERTIARY EDUCATION

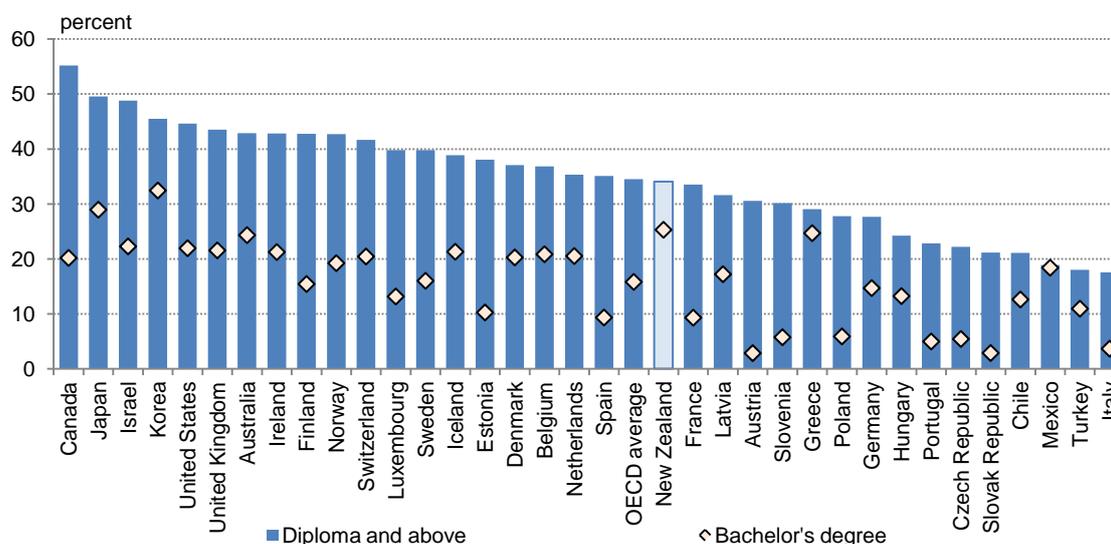
Education at a Glance uses the International Standard Classification of Education (ISCED) to define the levels of education. Under ISCED 2011, 'tertiary education' corresponds to diploma level and above. All post-secondary education at levels 1 to 3 on the New Zealand Qualifications Framework is grouped 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.

New Zealand has a relatively high proportion of adults with a level 4 or higher tertiary qualification, but only average levels with a degree or higher

New Zealand also has about average levels of tertiary attainment at degree level or higher, with 30% compared with the OECD average of 29%.

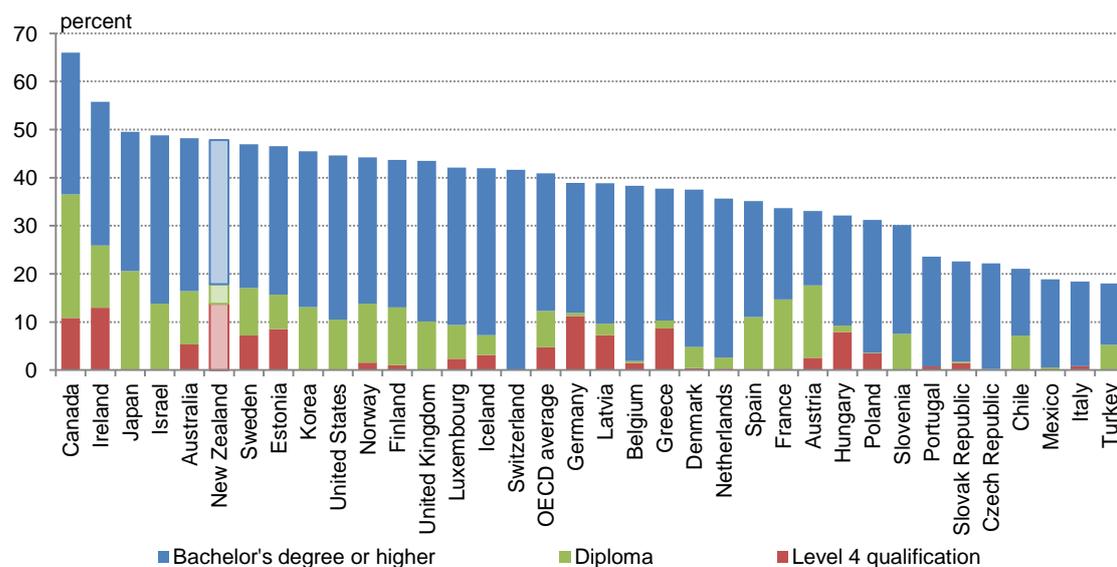
New Zealand has a slightly smaller proportion of adults with a diploma or higher qualification. Thirty-four percent of New Zealand adults aged 25 to 64 have a diploma or higher qualification compared with 35% across the OECD. Diploma or above attainment rates for New Zealand men and women are both slightly below their respective OECD averages.

Figure 25 Percentage of 25 to 64 year-olds with diploma and higher qualifications (2015)



When level 4 qualifications are included New Zealand has a relatively high attainment rate, and is in the top six countries. New Zealand has a large proportion of adults with post-secondary non-tertiary (level 4 certificates) qualifications at 14%, above the OECD average of 5%. The proportion of adults with at least a level 4 qualification is 48%, compared with the OECD average of 41%.

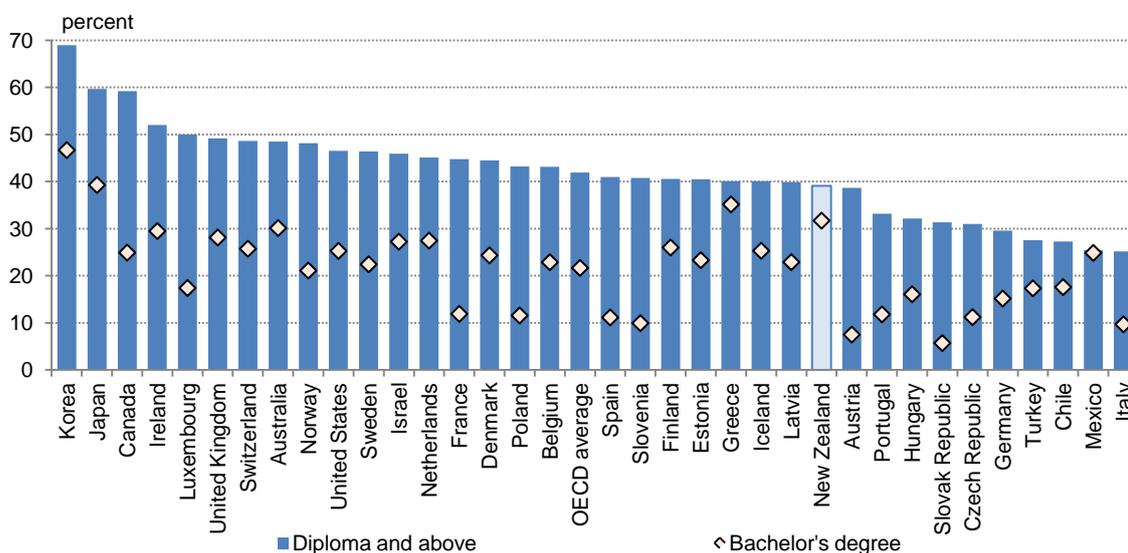
Figure 26 Percentage of 25 to 64 year-olds with level 4 and higher qualifications (2015)



It is less common for New Zealanders to hold a master's degree. New Zealand has comparatively more bachelor's degree qualified adults, 25% compared with the OECD average of 16%, but fewer master's degree qualified adults, 4% compared with 12% over the OECD.

Younger adults have higher levels of tertiary educational attainment in New Zealand and across the OECD. In New Zealand, 39% of 25 to 34 year-olds have a diploma or higher qualification compared with 34% of 25 to 64 year-olds.

Figure 27 Percentage of 25 to 34 year-olds with diploma and higher qualifications (2015)



Although a larger proportion of young New Zealand adults have a tertiary qualification, older New Zealand adults compare better with the OECD average. New Zealanders aged 55 to 64 have tertiary attainment at 27%, slightly above the OECD average of 26%. For younger adults aged 25 to 34, tertiary attainment is 3 percentage points below the OECD average.

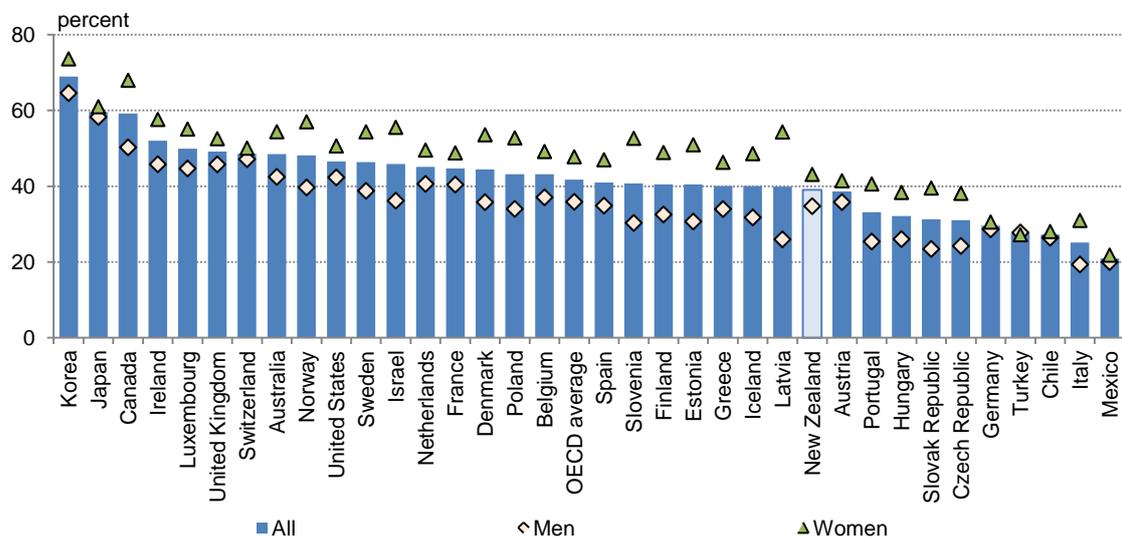
Women are more likely to have a tertiary qualification

Across the OECD, 37% of women aged 25 to 64 have a tertiary qualification, compared with 32% of men. In only eight OECD countries is the proportion of men with a tertiary qualification higher than that for women. This holds for all levels except doctorate level, where attainment rates for men remain a little higher than those for women.

In New Zealand, the proportion of women that have a diploma or higher-level qualification was 6.0 percentage points higher than that for men. The difference was higher than the average difference across the OECD at 5.3 percentage points.

Among young adults aged 25 to 34, the gender differences across the OECD are much larger, with women 12 percentage points higher than men for diploma or higher qualifications. In New Zealand the difference was smaller, at 8.4% in favour of women; that is, 43% of women aged 25 to 34 have a diploma or higher qualification, compared with 35% of men in the same age group.

Figure 28 Percentage of 25 to 34 year-olds with diploma and higher qualifications, by gender (2015)



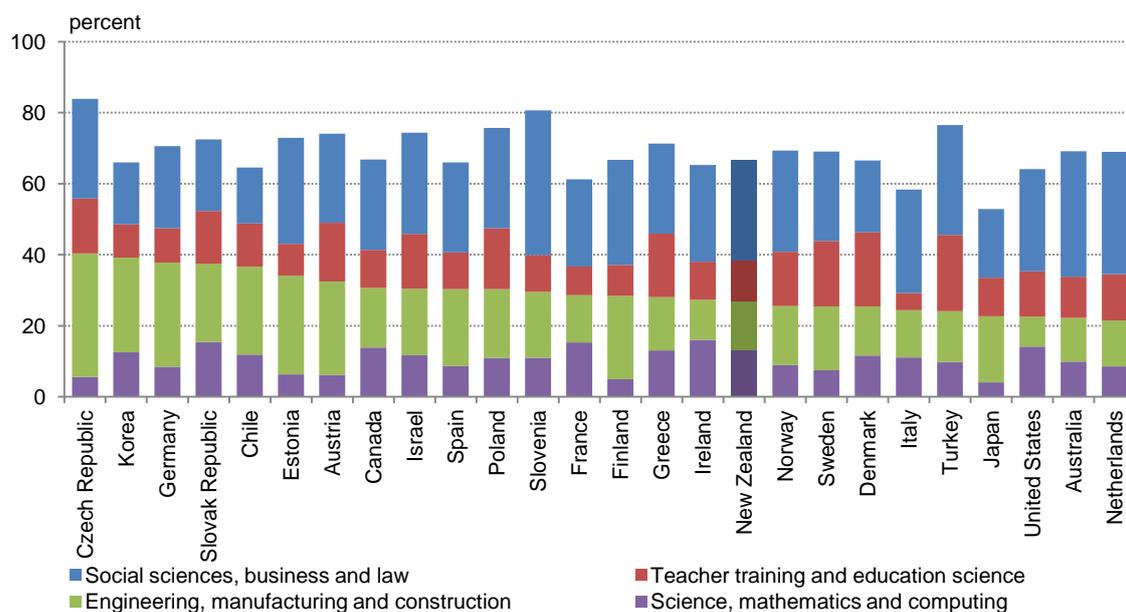
At the bachelor's degree level, the attainment rate for women aged 25 to 34 was 8.0 percentage points higher than that for men, compared with an average difference of 5.8 percentage points across the OECD.

New Zealand's distribution of tertiary fields of study

New Zealand has a fairly typical distribution of tertiary fields of study. However, New Zealand has a relatively large share of adults with a tertiary qualification in the science, mathematics and computing field. Around 13% had a qualification in science, mathematics or computing compared with the OECD average of 11%. The share of adults with tertiary qualifications in engineering however, remains comparatively low. Around 14% of tertiary qualified adults in New Zealand had a qualification in engineering, manufacturing or construction, compared with an average of 18% across OECD countries.

Including all science, technology, engineering and mathematics (STEM) fields, the share of tertiary-qualified adults with STEM qualifications remains below the OECD average share (27% compared to 29%), with New Zealand ranking 17 out of 26 OECD countries.

Figure 29 Percentage of 25 to 64 year-olds with diploma and higher qualifications, by field of study (2012 or 2015)



Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015.

New Zealand has above average levels of participation in education

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, along with Finland, Australia and Sweden, has tertiary enrolment rates of over 5% for ages 30 to 64.

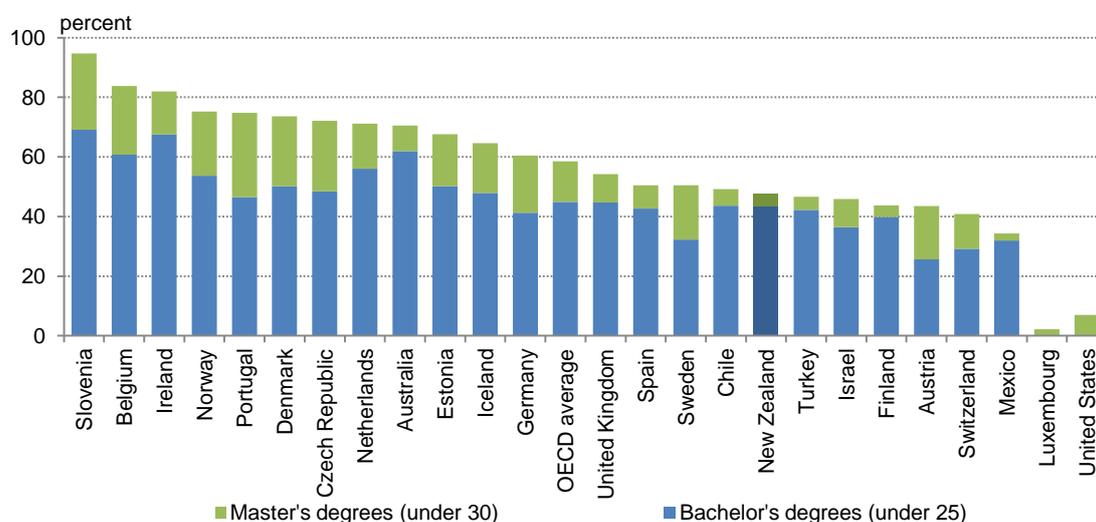
Around 29% of 20 to 29 year-olds were enrolled in education in 2014, around the OECD average. New Zealand's average participation in this age group in part reflects the fact that master's study is more common in some countries for gaining professional qualifications, whereas in New Zealand these are often delivered at bachelor's degree level.

New Zealanders spend a little more time in education on average. By age 39, New Zealanders will have completed an average of 17.9 years of education, above the OECD average of 17.4 years.

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 sits in the top two countries for enrolments in part-time study at all levels of tertiary education.

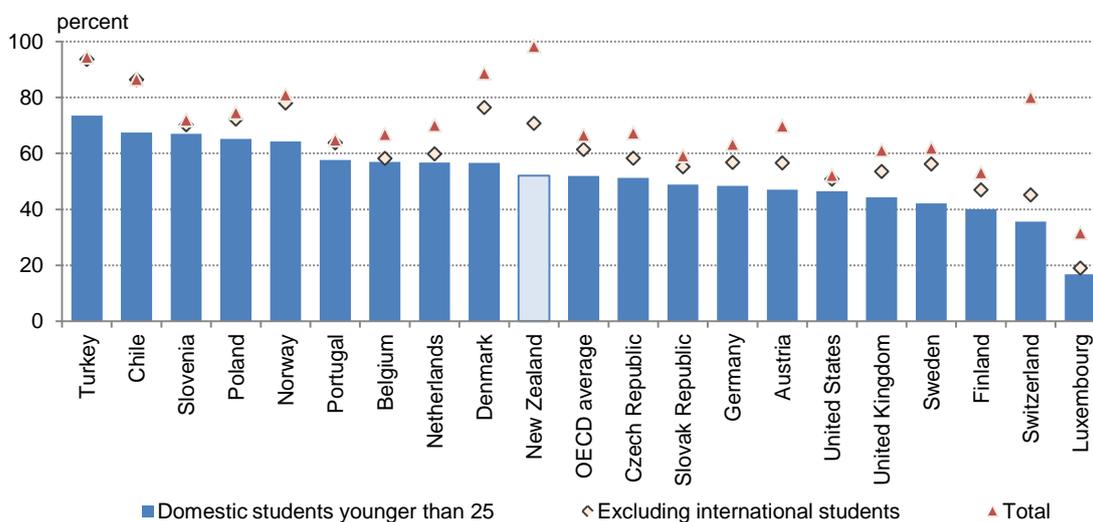
First-time entry into bachelor's and master's degrees varies widely across the OECD. New Zealand has a relatively low entry rate into master's degree programmes⁶.

Figure 30 First-time entry rates into bachelor's and master's degrees (excluding international students and older students) (2014)



The headline entry rates in *Education at a Glance* include both international students and students of all ages. New Zealand has a large proportion of international students and students over 25 and therefore the headline entry rate is artificially inflated. In New Zealand 25% of first-time tertiary entrants are over 25 years-old, compared with 18% across the OECD, and 31% are international students, compared with just 13% across the OECD.

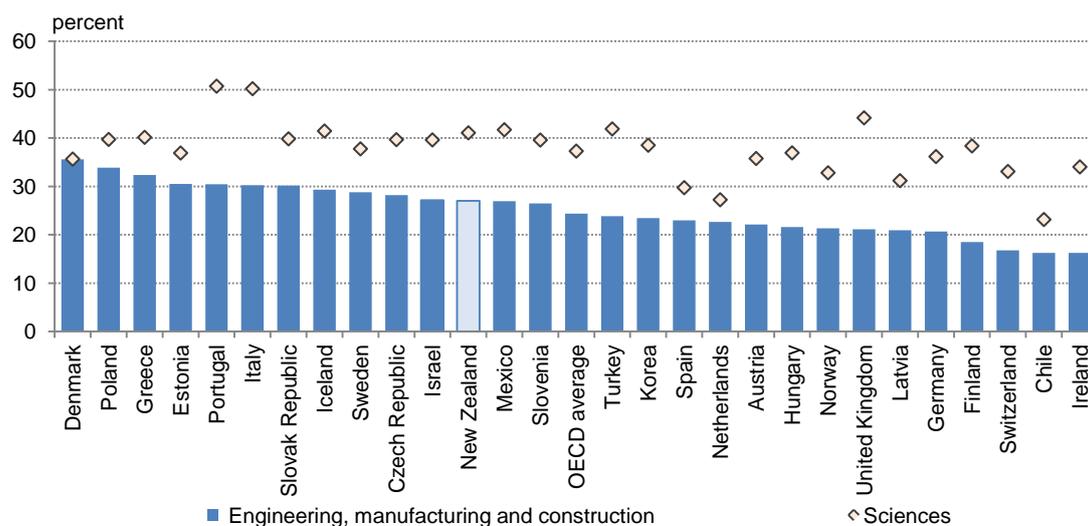
Figure 31 First-time entry rates into diploma or above programmes (2014)



Across the 27 OECD countries that have supplied data, 54% of first-time tertiary entrants are women; in New Zealand it is also 54%. 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 science and engineering programmes is 41% and 27% respectively, above the OECD averages of 37% and 24% respectively.

⁶ First-time entry rates are estimated probabilities, based on current entry patterns, that a young adult will enter tertiary education during their lifetime.

Figure 32 Percentage of female tertiary new entrants, by field of study (2014)



Lifelong learning - adults in formal and non-formal education

The Survey of Adult Skills shows that on average across the OECD around half of adults aged 25 to 64 participate in formal or non-formal education⁷, in New Zealand 68% participate, which is the highest rate across all OECD countries.

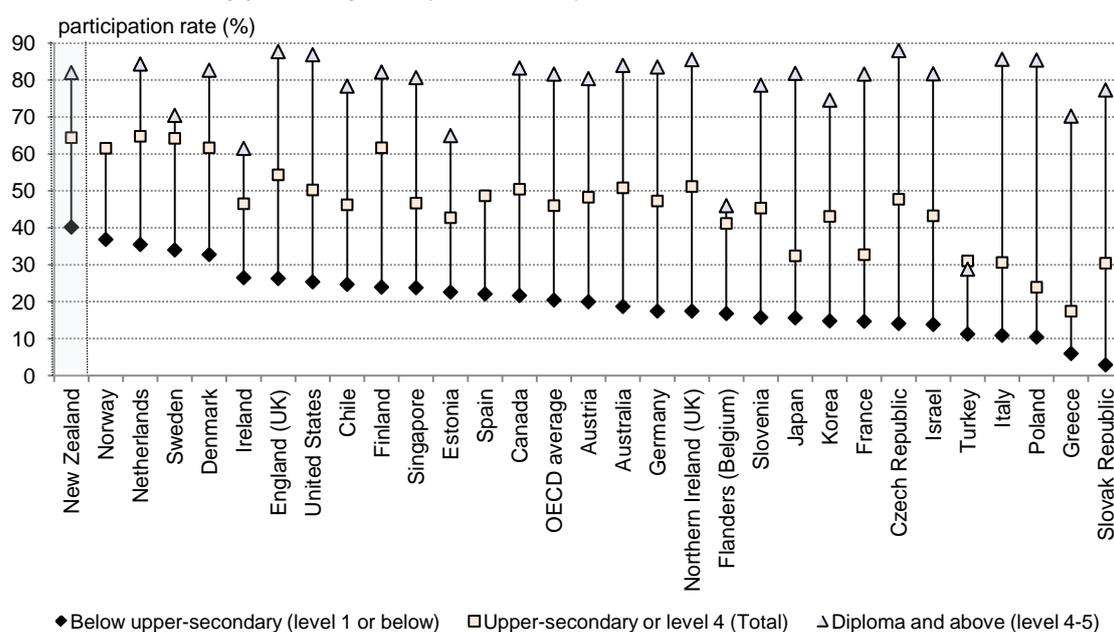
Participation in education also varies by educational attainment. In New Zealand, 78% of adults with a tertiary qualification participated in education in the past 12 months. This compares with 48% for those with no qualifications. These rates are both above their respective OECD averages.

Participation in non-formal education in particular, is relatively very high in New Zealand with 64% of adults participating, compared with 46% on average. Over all New Zealand adults, the average number of hours spent per year on non-formal learning is 71 hours, compared with 54 hours on average across the OECD.

Those adults with higher literacy, numeracy, reading in everyday life and higher problem-solving skills, are more likely to be engaged in either formal or non-formal education. The difference in education participation between those with the highest literacy scores and education and those with the lowest literacy can be large in many OECD countries. But in New Zealand, along with Sweden, the Netherlands and Denmark, there are high rates of participation amongst adults with both low and high skills, and relatively smaller differences in participation between these two groups.

⁷ Formal education is institutionalised, intentional and organised learning that is formally recognised by a relevant authorised body (such as the New Zealand Qualifications Authority). Non-formal education is institutionalised, intentional and organised learning that is not formally recognised. It can include for example, online or distance courses, organised on-the-job training, seminars or workshops, or other non-formally recognised courses.

Figure 33 Participation rates of 25 to 64 year-olds in formal and non-formal education, by educational attainment and literacy proficiency level (2012 or 2015)

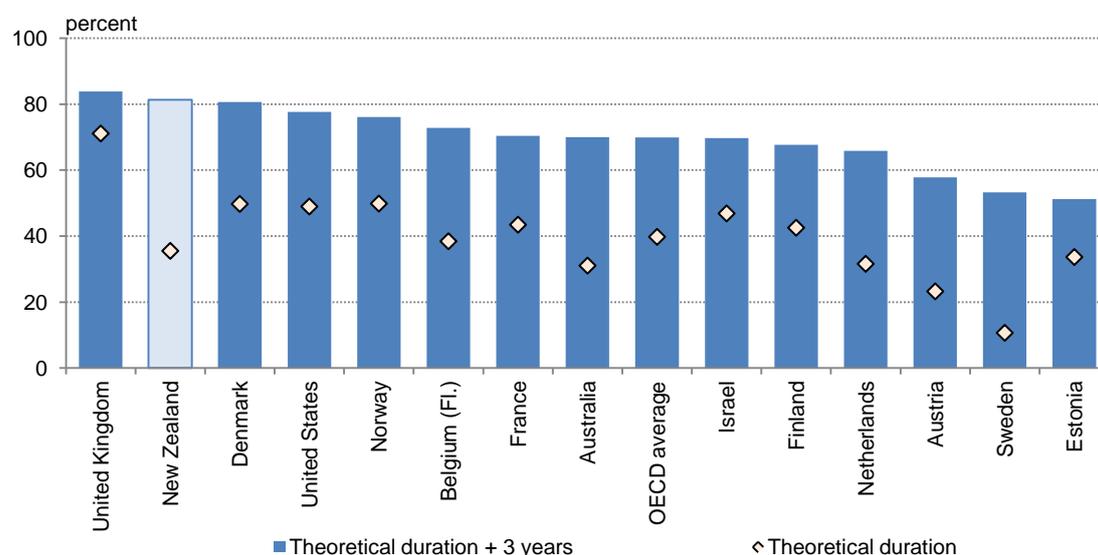


Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015. The level in brackets refers to the literacy proficiency level.

New Zealand has relatively high bachelor's degree completion rates

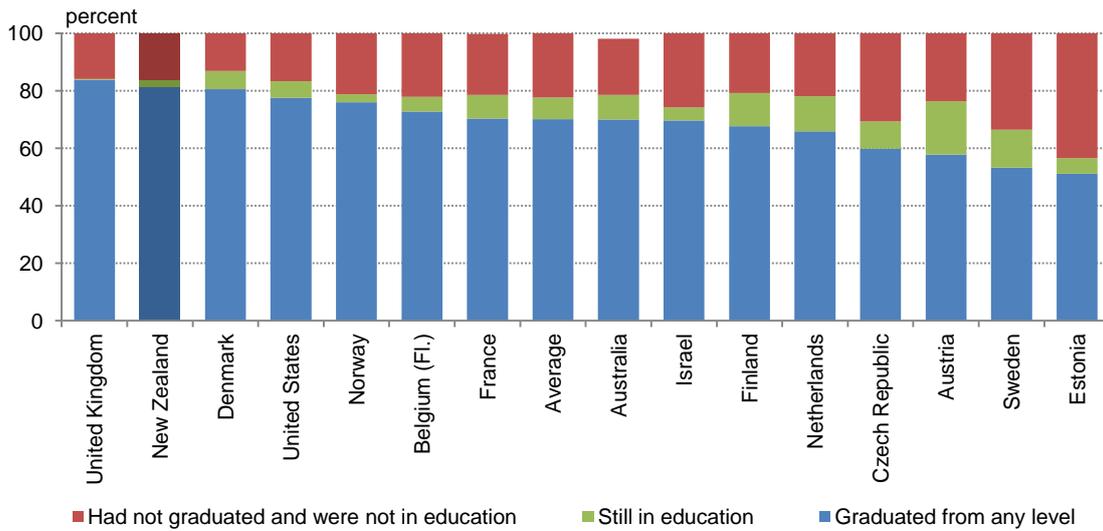
In 2014, 36% of New Zealand bachelor's degree students who had started their degree three years earlier had completed their degree. This was below the average rate for the 15 OECD countries that supplied data. However, 81% of students completed their degree after six years. This was the second highest rate behind the United Kingdom.

Figure 34 Qualification completion rates for students in full-time bachelor's degree programmes (2014)



Women on average had higher completion rates than men. In New Zealand 77% of men and 84% of women had completed their degree after six years. New Zealand had a relatively small proportion, 16%, of students who had not graduated from any level of study after six years.

Figure 35 Distribution of outcomes for bachelor's degree students, six years after starting study (2014)



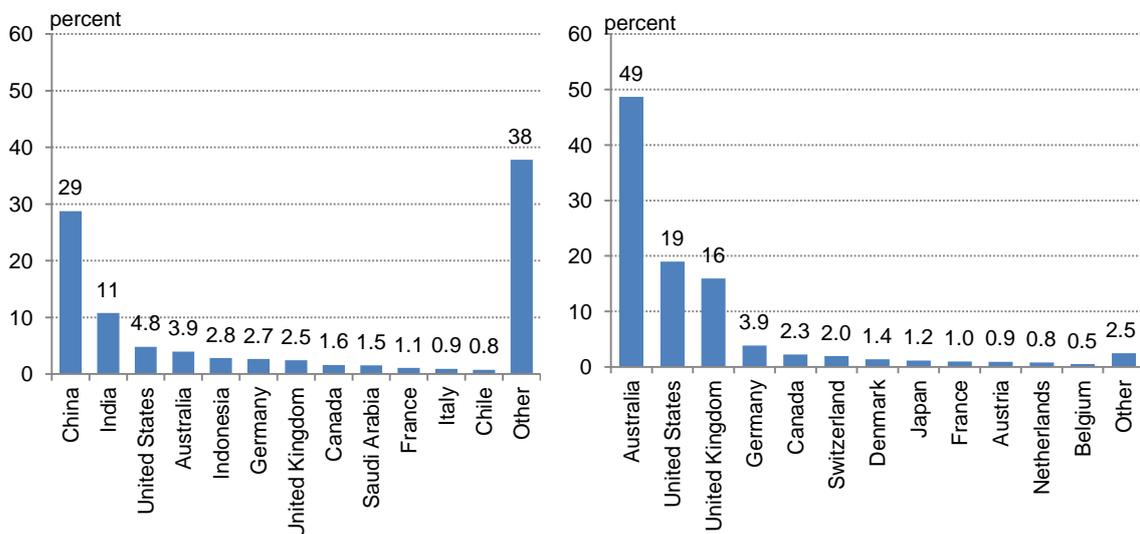
New Zealand has a relatively large share of international students

New Zealand has a relatively large proportion of international students. At diploma level and above, 19% of students were international students in 2014, compared with the OECD average of 6%. Only six countries had proportions over 15%, namely, Luxembourg, Australia, the United Kingdom, Switzerland, Austria and New Zealand.

At the diploma level, New Zealand had the largest proportion of international students, at 27%. At the doctoral level, 45% were international students, compared with 27% over the OECD. This was the third largest, behind Luxembourg and Switzerland. New Zealand's large proportion reflects New Zealand's policy that international PhD students pay the same fees as domestic students.

Over half of international students studying for a master's or doctoral degree in New Zealand come from just five countries. Twenty-nine percent come from China, 11% from India, and 4.8% from the United States. Australia remains the most popular country for New Zealanders to study in, with 49% of all New Zealanders who study abroad.

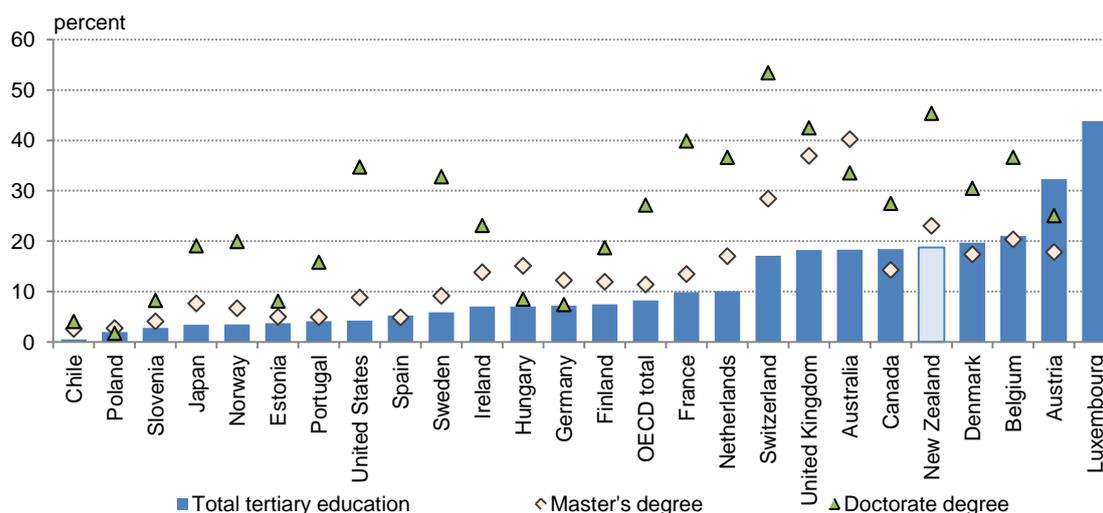
Figure 36 Country of origin for students studying in NZ Country of destination for NZ students overseas (2014)



Students who travel abroad to study are more likely to be doing postgraduate than undergraduate-level study. Across all OECD countries, 12% of master's students and 27% of doctoral students are international students. This compares to 3.0% and 4.9% for diploma and bachelor's degrees respectively.

While New Zealand's proportion of international students is large relative to other OECD countries, its overall share globally of international master's and doctoral students is around 0.5% of the total number of reported international students. This gives New Zealand the 23rd largest share in the OECD.

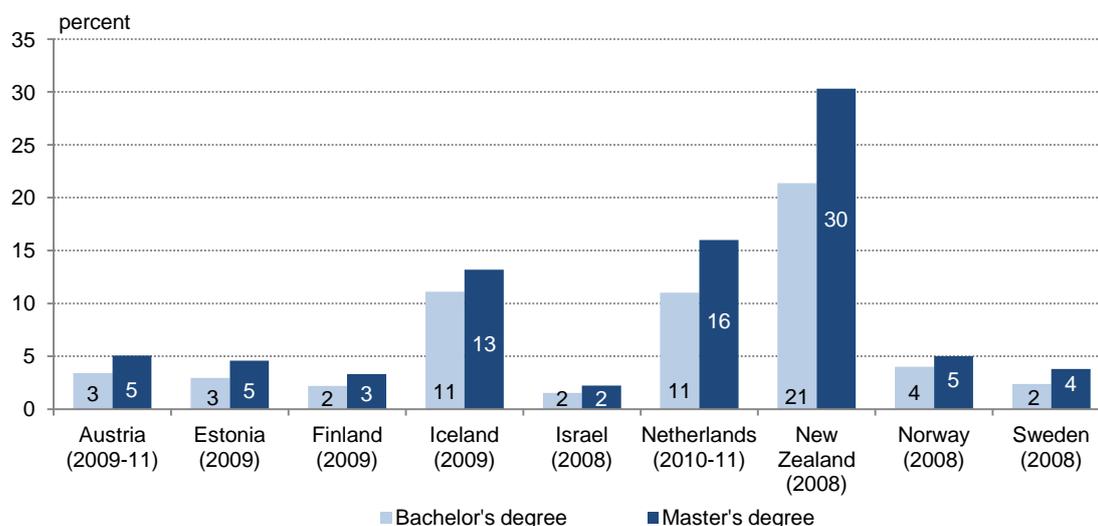
Figure 37 Percentage of international students by tertiary education level (2014)



Note: The shares of international students in master's and doctorate programmes in Luxembourg are 68% and 85% respectively.

Many young people travel to holiday or live overseas after they complete their studies. Some will return to their home country and bring valuable skills while others will leave permanently after graduation. Some loss of tertiary-qualified young people can be offset with immigration policies aimed to attract migrants with valuable skills and qualifications. New data for nine countries shows that in most countries few bachelor's and master degree graduates have left the country three years after their graduation. However, rates for New Zealand, Iceland and the Netherlands are much higher.

Figure 38 Young tertiary graduates who have left their home country three years after graduation

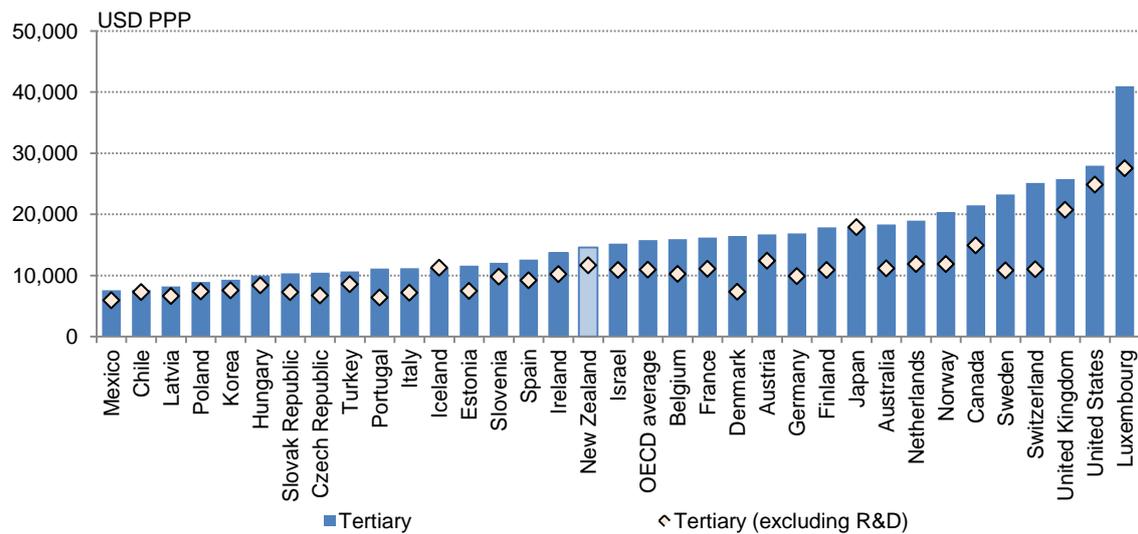


Note: The year(s) in brackets relate to the year(s) the cohort of graduates of typical first-time graduating age left study. The typical graduating ages for young graduates vary by level and countries.

Investment in tertiary education

Expenditure comparisons in *Education at a Glance 2016* relate to the 2013 reference year, which for New Zealand is the 2013/2014 financial year. Annual expenditure per student by tertiary education institutions for New Zealand was 18th out of 34 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 a little below average.

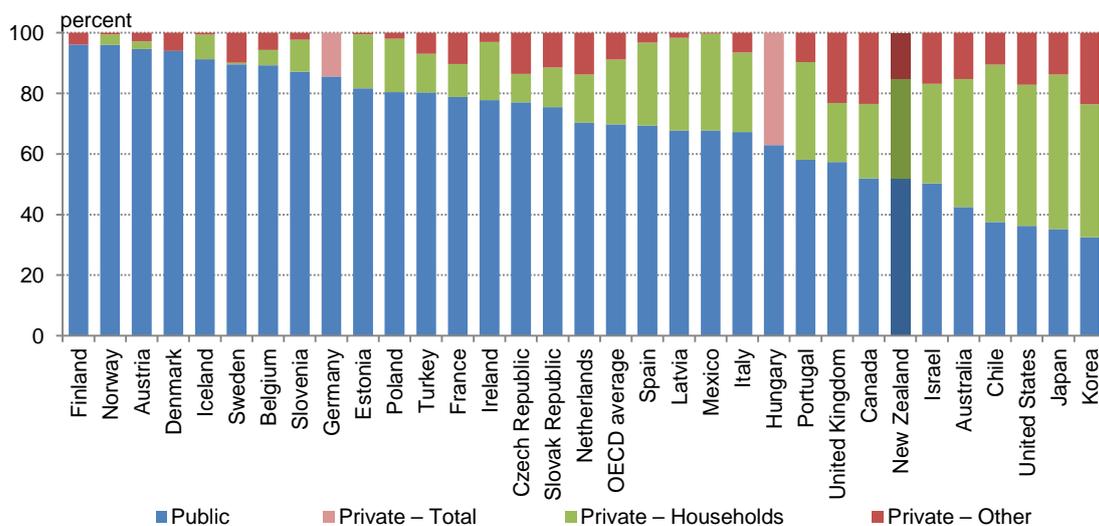
Figure 39 Annual expenditure per student by educational institutions for all services (2013)



Across the OECD, around 70% of expenditure on tertiary institutions comes from public sources. In New Zealand, tertiary institutions received 52% from public sources and 48% of their funding from private sources.

The split between public and private funding puts New Zealand in line with other Anglophone countries, including Australia, Canada and the United Kingdom. These countries support higher private tuition costs through well-developed government-subsidised financial support.

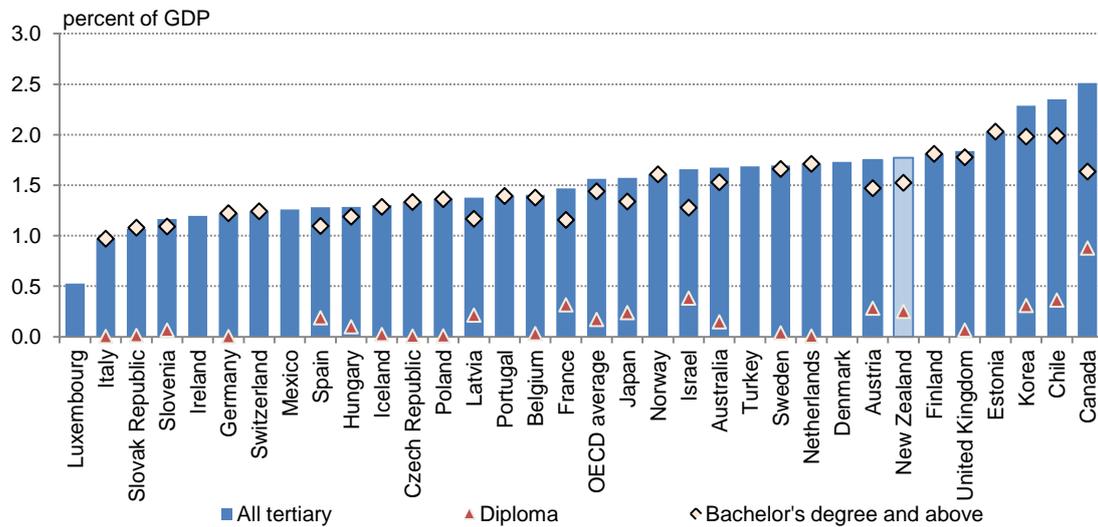
Figure 40 Sources of tertiary funding to educational institutions (2013)



New Zealand's economy is relatively small compared with other OECD countries. Therefore, expenditure indicators that are relative to the size of the New Zealand economy compare more favourably. The New Zealand economy grew strongly in the 2013/2014 year. This has had an effect on the expenditure as a percentage of GDP and GDP per capita measures.

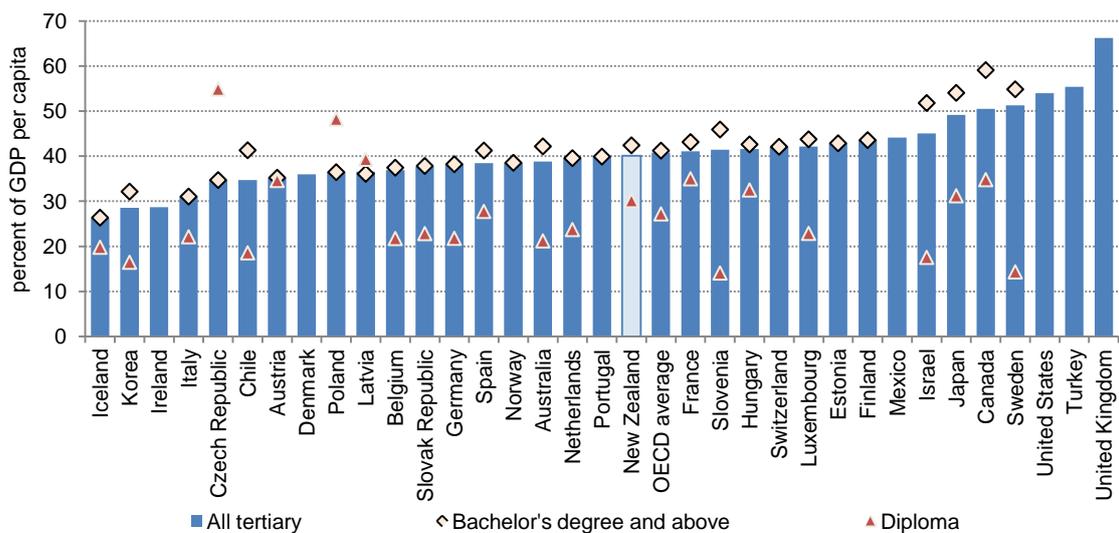
Expenditure from both public and private sources on tertiary education institutions as a percentage of GDP was in the top 10 in the OECD at 1.8%.

Figure 41 Annual expenditure on tertiary education institutions, as a percentage of GDP (2013)



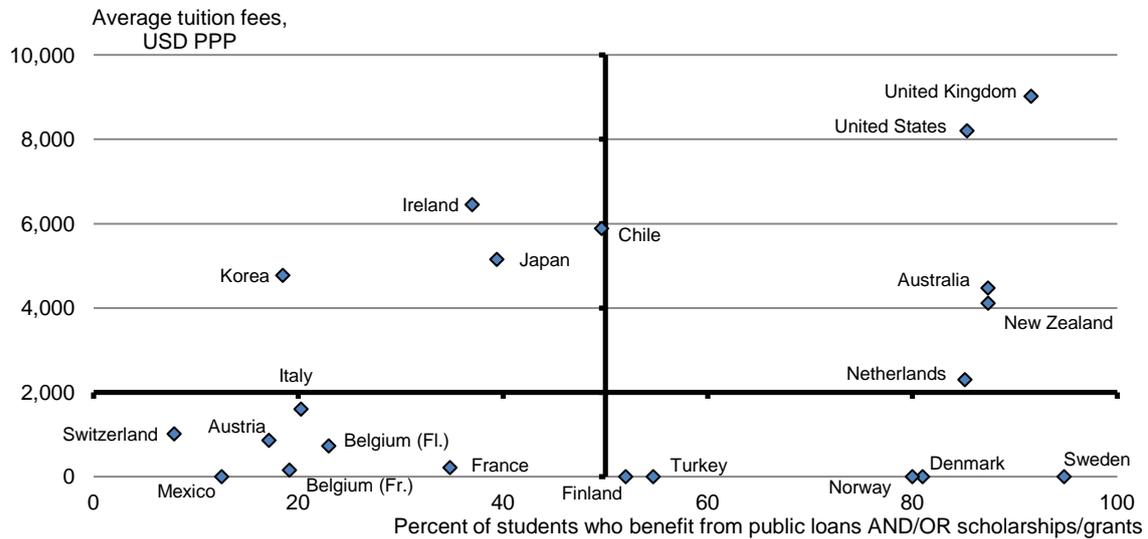
Spending per student relative to GDP per capita allows investment to be viewed after accounting both for differences in the size of economies, and for relative national demographic differences. Annual expenditure per student by tertiary education institutions as a percentage of GDP per capita for all tertiary was 40%, slightly below the OECD average, but in the top half.

Figure 42 Annual expenditure per student by tertiary education institutions, as a percentage of GDP per capita (2013)



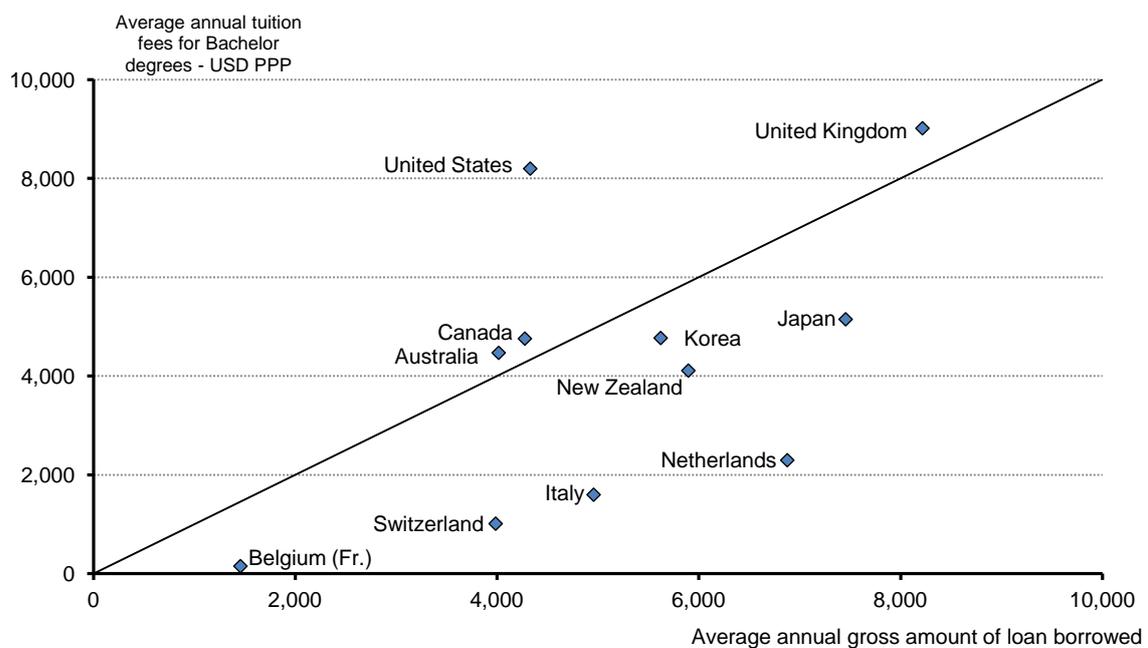
New Zealand is in a group of countries including Australia, the United States and the United Kingdom with relatively high tuition fees and high levels of financial support. Some of the Nordic countries form a group with low tuition fees and high financial support, and most of the other European countries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

Figure 43 Average annual tuition fees and public financial support for students (2013)



Of the 10 countries that reported data on student loan amounts, New Zealand's average student loan amount at graduation was around the middle. The New Zealand average repayment time of seven years was a little less than in most other reporting countries. Repayment times ranged mostly from 5 to 15 years, but were over 20 years in Norway and Sweden.

Figure 44 Average annual tuition fees and gross student loan amount (2013)

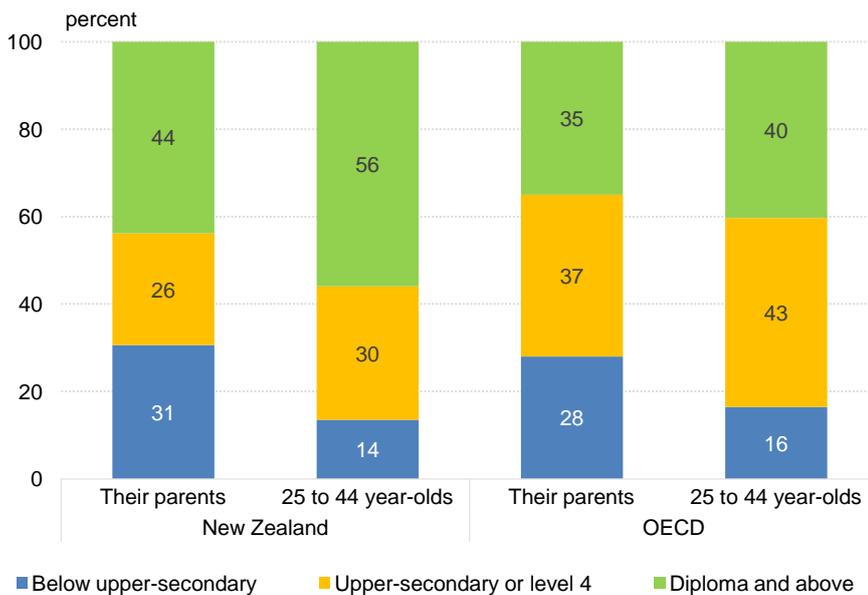


Intergenerational education mobility

Children of parents with lower levels of education are less likely to attain a higher level of education than children of parents with higher education levels. Similarly, if parents have higher levels of education, this is more likely to be passed on to their children.

However, many are beating the odds, and are 'upwardly mobile' in respect of intergenerational educational attainment. Education levels have improved steadily across the OECD. Eighty-four percent of adults aged 25 to 44 in the OECD have at least a basic upper-secondary qualification compared with 72% of their parents' generation. Tertiary attainment has increased from 35% to 40%.

Figure 45 Education attainment of 25 to 44 year-olds, and their parents' attainment



Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015. Columns may not add to 100% due to rounding.

New Zealand's upward mobility has been greater than the average change across the OECD. Eighty-six percent of people have at least an upper-secondary education, compared with 70% of their parents. Fifty-six percent of 25 to 44 year-olds have attained a tertiary qualification compared with 44% of their parents. Some 288,000 adults or 16% attained a higher education than their parents. This was above the average increase of 12 percentage points across the OECD.

While there has been an expansion of tertiary qualified adults globally, the growth in tertiary qualified adults in New Zealand has been ahead of that in other OECD countries. This partly reflects a series of policy changes over the last generation aimed at increasing participation, including the introduction of student loans in 1992. The mobility change in part reflects imported change as well as domestic system change. New Zealand (along with countries like Australia and Canada) also has immigration policies that favour immigrants with relevant qualifications and skills.

However, parental level of education is still associated with the level of education their children will get. About a quarter of 25 to 44 year-olds with parents with a lower level of education also have a lower education level, and over half of the people with a below upper-secondary education will be from parents from this level.

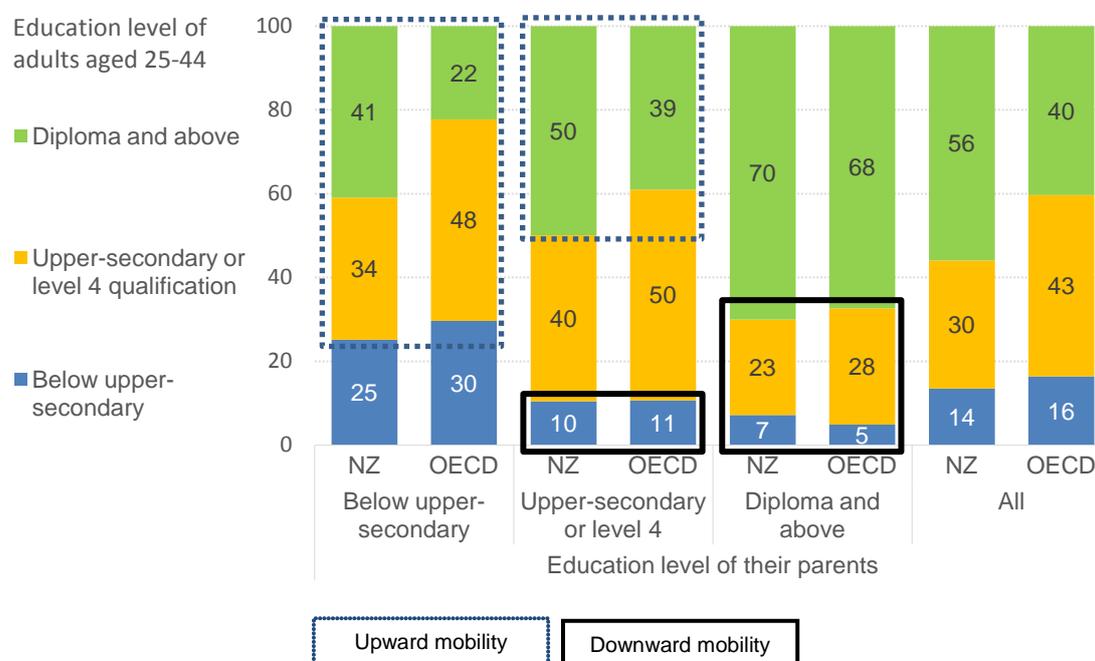
Figure 46 New Zealanders aged 25 to 44: Their education and their parents' education (2012 or 2015)

Education level of adults aged 25-44	Their parents' educational attainment			
	Below-upper secondary	Upper-secondary or level 4	Diploma and above	All levels
Below upper-secondary	8%	3%	3%	14%
Upper-secondary or level 4	10%	10%	10%	30%
Diploma and above	13%	13%	31%	56%
All levels	31%	26%	44%	100%

Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015. Columns may not add to the 'All levels' total due to rounding.

In New Zealand, some 8% of 25 to 44 year-olds (62,000) failed to reach upper-secondary like their parents, and a further 6% (47,000) failed to attain at least upper-secondary where their parents had.

Figure 47 Intergenerational education mobility of 25 to 44 year-olds (2012 or 2015)



Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015. Columns may not add to 100% due to rounding.

Across the OECD upward educational mobility to upper-secondary or above was 70%. Upper-secondary is increasingly considered a basic minimum benchmark for equipping citizens and societies to do well.

In New Zealand, 25% of those with below upper-secondary educated parents also had a below upper-secondary education while 75% moved up. This upward mobility was higher than the OECD rate of 70%. Fifty percent of New Zealand adults whose parents had an upper-secondary level of education themselves gained a tertiary qualification.

Our upward educational mobility is influenced by high levels of qualified and skilled migrants

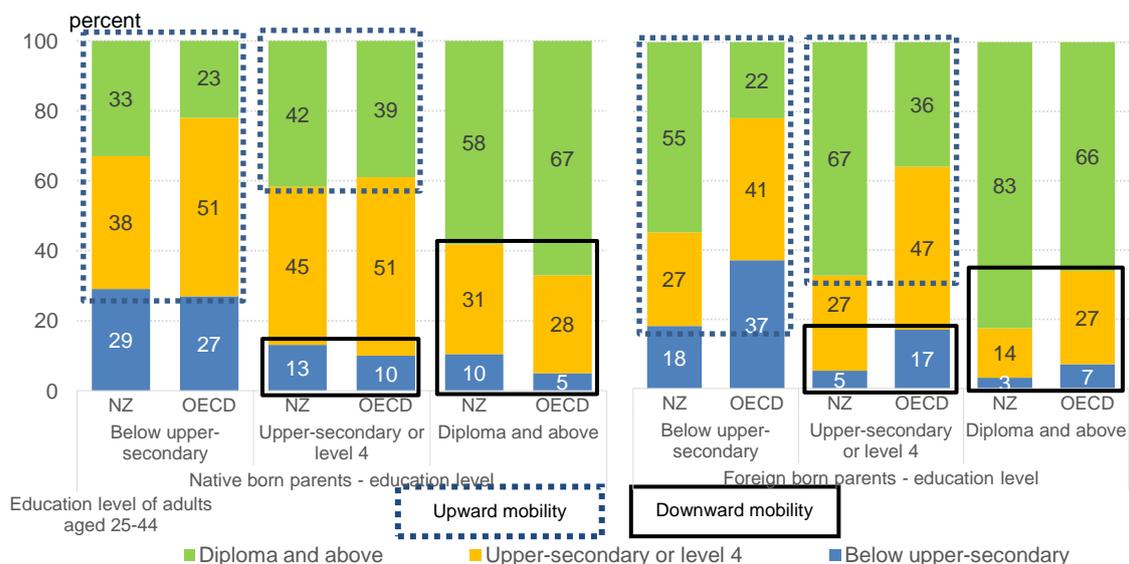
Across OECD countries, just 16% of tertiary qualified adults aged 25 to 44 had foreign-born parents. In New Zealand, 59% of tertiary qualified adults had at least one foreign-born parent, while the other 41% had native-born parents. This places New Zealand in a group with Australia, Israel and Canada, where the share of tertiary qualified adults is fairly evenly split between having foreign or locally born parents. New Zealand has relatively controlled migration, and therefore attracts migrants with high skills and qualifications.

Across the OECD, the share of adults with tertiary educated parents does not differ much between those with native-born or foreign-born parents. However, in New Zealand, Australia, the United Kingdom, Ireland, Israel, Chile, Finland and Greece, the share of adults with tertiary educated parents is higher for adults with foreign-born parents. In New Zealand, of adults with foreign-born parents, half had tertiary educated parents, compared with 38% for adults with native-born parents.

Over all OECD countries, of adults with foreign-born parents, around 40% had parents with a below upper-secondary education, compared with about 30% of adults with native-born parents. In New Zealand the share of adults whose parents had a below upper-secondary education, at around 30%, was about the same for those with foreign-born or native-born parents.

In OECD countries generally, adults with parents born in the country have better educational mobility than adults with foreign-born parents. That is, they are more likely to achieve an education level of upper-secondary or higher. However, a group of countries including New Zealand, Australia, England, Estonia, Ireland and Israel show the opposite. In these countries, adults with foreign-born parents had significantly better upward educational mobility.

Figure 48 Intergenerational education mobility of 25 to 44 year-olds (2012 or 2015)



Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015. Columns may not add to 100% due to rounding.

Of New Zealand adults aged 25 to 44 with foreign-born parents with a below upper-secondary education, 82% achieved a higher education level; across the OECD, 63% achieved a higher education level than their parents. Of New Zealand adults with parents born in New Zealand and had a below upper-secondary education, 71% achieved a higher education level, this compares with 74% across OECD countries.

How skilled are New Zealanders

Data from the Survey of Adult Skills allows us to compare the skill levels of similarly qualified adults across OECD countries. The survey assessed types of skills, namely, literacy, numeracy and problem solving in technology-rich environments. While New Zealanders have average levels of qualification attainment, they have higher skills than average. Literacy skills and problem-solving skills in technology-rich environments were noticeably higher than OECD averages across all levels of educational attainment, while numeracy skills are closer to the OECD average.

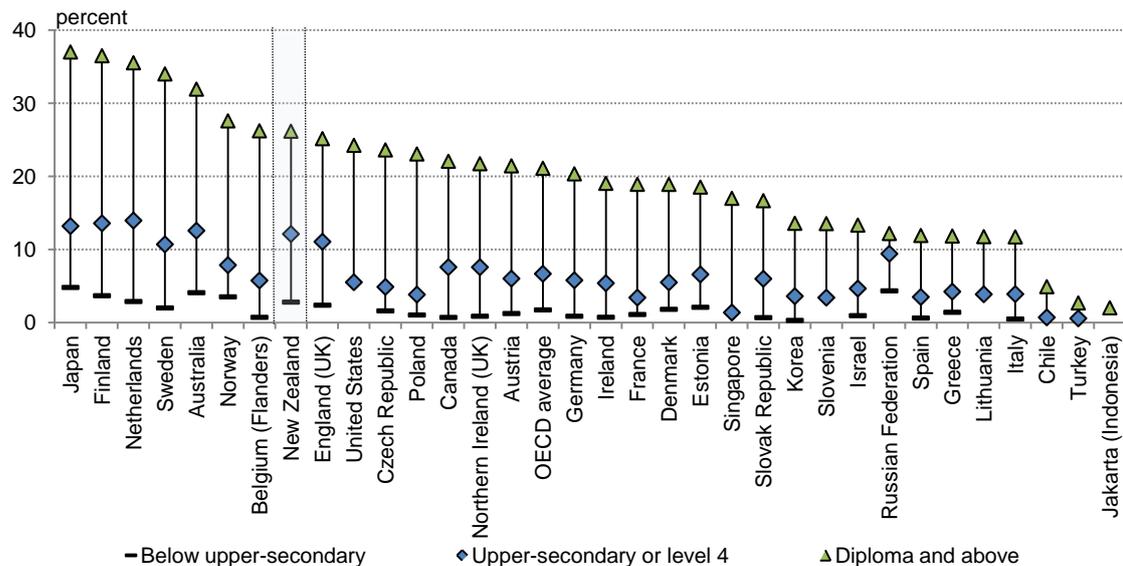
Literacy

Literacy skills were defined as the ability to understand, evaluate, use and engage with written texts to get everyday things done. This included: understanding words and sentences, comprehension of text in charts and diagrams and comprehension, interpretation and evaluation of complex text. Scores were put into six groups, ranging from below level 1 to level 5. People in level 4 or 5 were considered to have high literacy skills. People in level 1 or below were considered to have low literacy skills, but have basic vocabulary skills and could understand the meaning of sentences.

Literacy proficiency varies greatly by education level. The Survey of Adult Skills showed that across participating countries, 21% of tertiary qualified adults had high literacy proficiency (levels 4 and 5), while only 2% of adults with no qualifications did. In New Zealand, 26% of tertiary qualified adults had high literacy levels. New Zealand was in a group with Japan, Finland, the Netherlands, Sweden, Australia and England, where those with a tertiary education had high literacy skills, and those with an upper-secondary or level 4 education had comparatively high literacy levels.

Over all education levels, 12% of New Zealand adults had low literacy scores at level 1 or below, compared with 20% of adults across the OECD. Seventeen percent of New Zealanders had high scores at levels 4 to 5, compared with 11% across the OECD.

Figure 49 Percentage of adults scoring at the highest literacy proficiency level, by educational attainment (2012 or 2015)



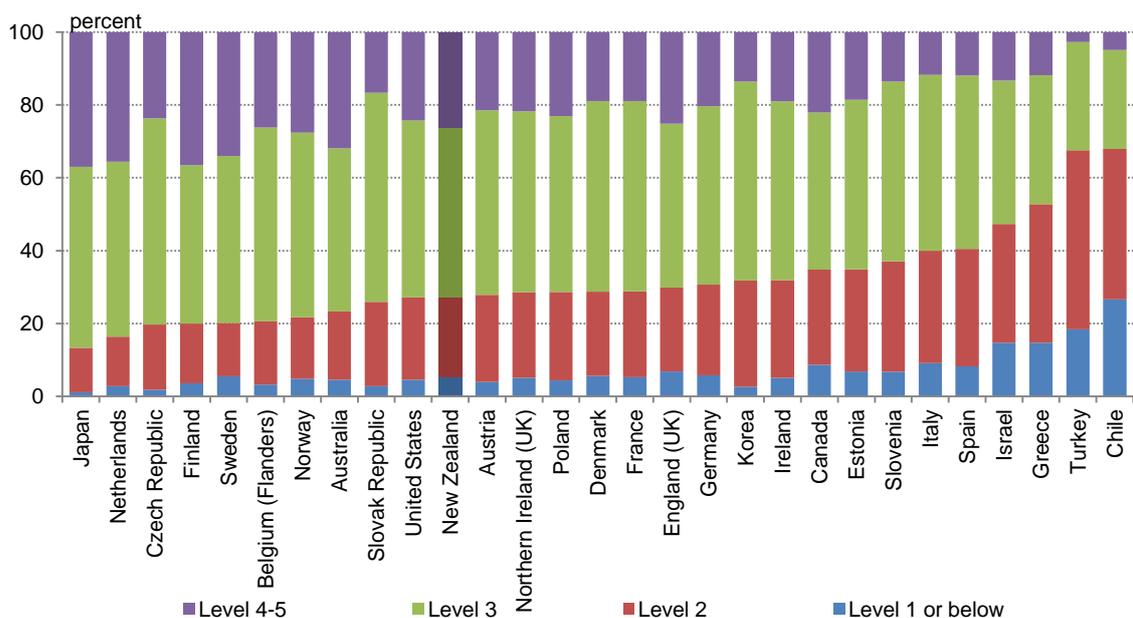
Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015.

Of those adults with a below upper-secondary education, 29% had a literacy level of 3 or above, compared with 19% across the OECD. This was the third highest with Finland and Netherlands after Japan and Australia. In part, this reflects our one-year upper-secondary school qualification (NCEA Level 1).

Across the OECD 42% of adults with a below upper-secondary education had a literacy skills at level 1 or below, while in New Zealand only 30% did, the fifth lowest.

Of tertiary qualified New Zealanders, 26% had high literacy scores, compared with 21% across the OECD, the eighth highest. Twenty-seven percent of New Zealand tertiary qualified adults had literacy scores at levels 2 or below, compared with 32% of adults across the OECD.

Figure 50 Distribution of tertiary qualified adults, by literacy proficiency level (2012 or 2015)



Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015.

Numeracy

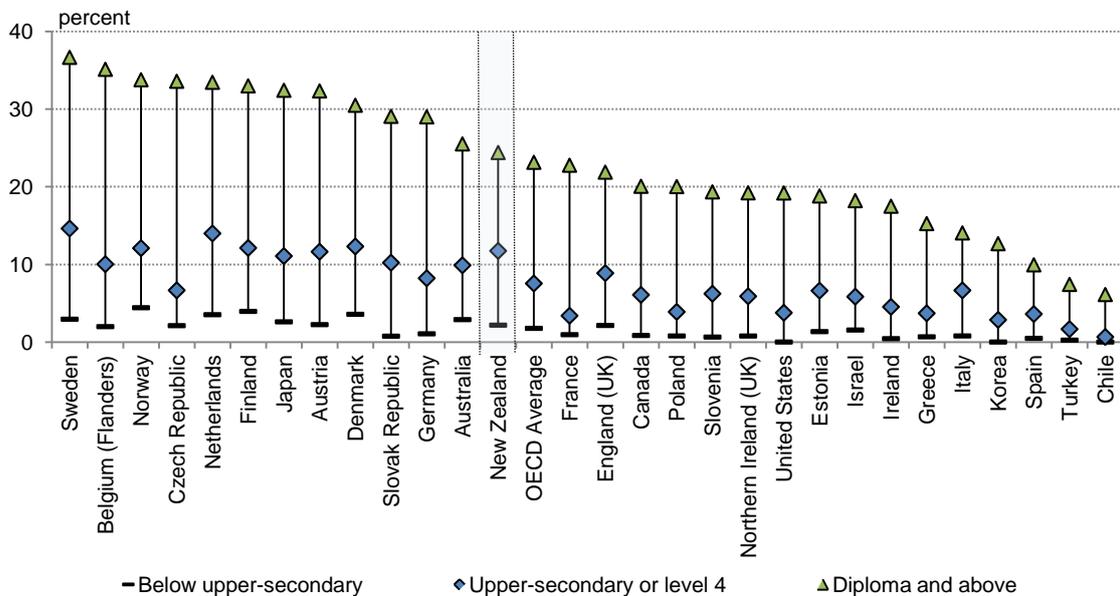
Numeracy skills were defined as the ability to use, interpret and communicate mathematical information and ideas in order to engage in and manage the mathematical demands of a range of situations. This included topics such as quantity, dimension and shapes, patterns, data and change, and visual displays. Numeracy scores were divided into six groups, from below level 1 to level 5. People in levels 4 and 5 were considered as having high numeracy skills. People in level 1 or below had low numeracy skills, but could still carry out basic mathematical tasks and understand basic mathematical content and basic percentages.

The countries with the highest levels of numeracy also tend to have those with the highest literacy skills, with Sweden, Finland, Norway and Denmark featuring with higher levels of numeracy. Germanic countries (where there is earlier tracking into vocational training), including Germany, Austria, the Netherlands and Belgium (Flanders), also perform better in numeracy. As a whole, New Zealand was above average and in the top half, but relative to literacy skills, New Zealand ranks lower, as do Canada, England, Australia and the United States.

Numeracy proficiency also varies with educational attainment. That is, a larger share of tertiary qualified adults had a high level of numeracy proficiency at 23%, compared with just 2% for those with below upper-secondary qualifications. In New Zealand the pattern was very similar to the OECD average. Over all education levels, 19% of New Zealanders have low numeracy skills (level 1 or below), compared with 24% of adults across the OECD.

Of New Zealanders with below upper-secondary education, 20% have good numeracy skills (levels 3 to 5), compared with 17% across the OECD; this was in the top 10. However, 42% of those adults have low numeracy skills (levels 1 or below), below the OECD average of 49%.

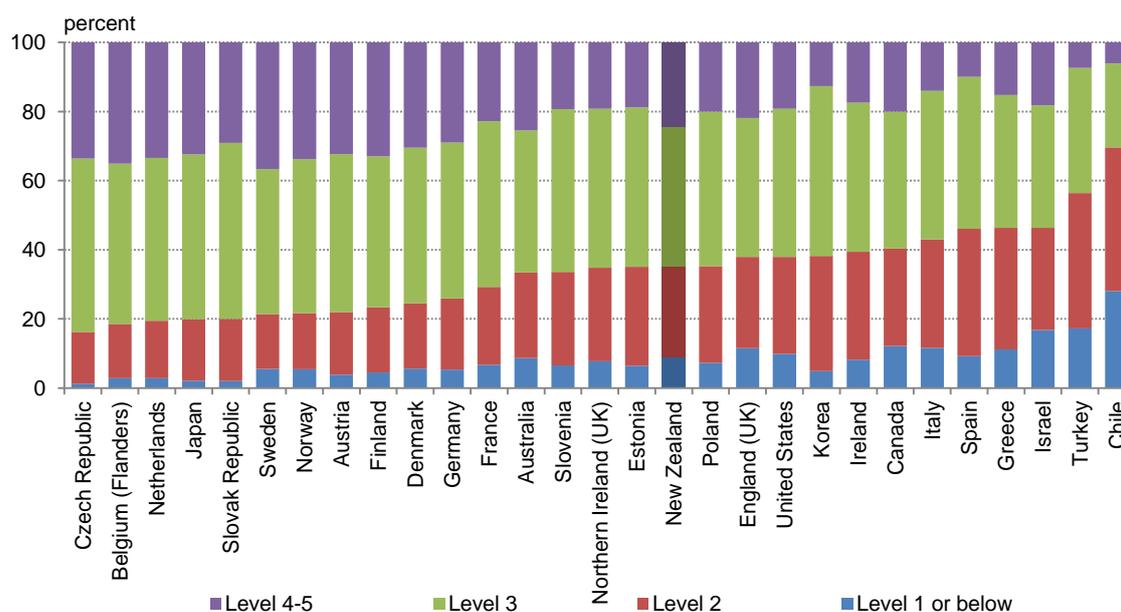
Figure 51 Percentage of adults scoring at the highest numeracy proficiency level, by educational attainment (2012 or 2015)



Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015.

Of tertiary qualified New Zealanders, 24% have high numeracy scores (levels 4 to 5), compared with 23% across the OECD, and 35% have lower scores, at levels 2 or below, compared with 33% across the OECD.

Figure 52 Distribution of tertiary qualified adults, by numeracy proficiency level (2012 or 2015)



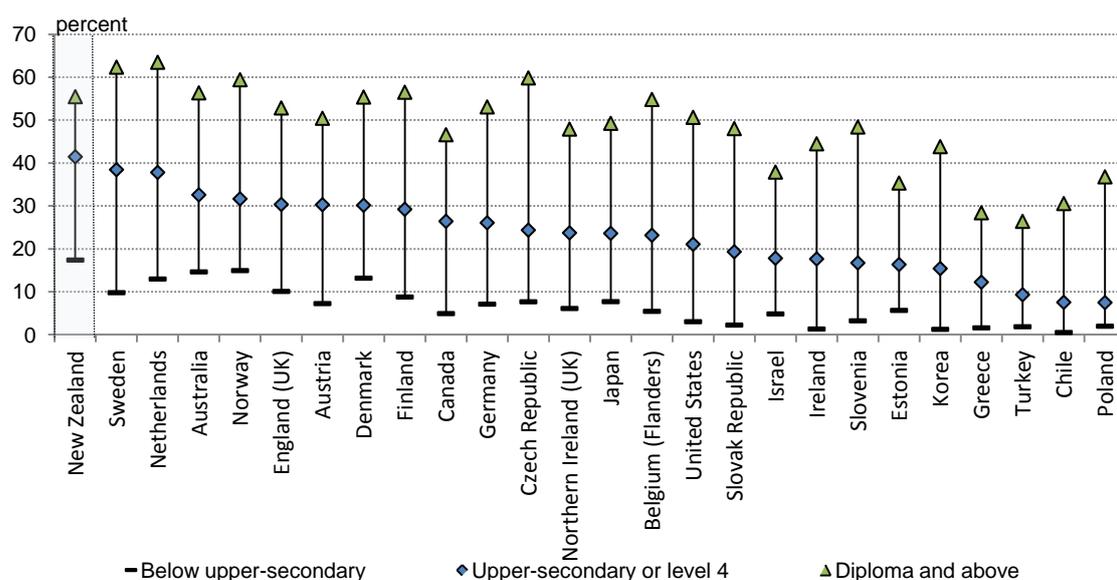
Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015.

Problem solving in technology rich environments

This skill is defined as the use of digital technology to acquire and evaluate information, communicate with others and perform practical tasks. All tasks are completed on a computer that simulates real-world tasks using standard applications. These tasks include: completing tasks using different software applications, finding specific information and using common functions.

Of the three skills measured in the Survey of Adult Skills, problem-solving in technology-rich environments was the most varied by education level. For adults with the highest problem-solving skills, New Zealand ranked at the top, and was in a group with Sweden, the Netherlands, Norway, Finland, Denmark and Australia. New Zealand also ranked highest for high problem-solving skills for those with below upper-secondary education and those with upper-secondary or a level 4 qualification.

Figure 53 Percentage of adults scoring at the highest problem solving level, by educational attainment (2012 or 2015)



Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015.

Of New Zealand adults with a below upper-secondary education, 17% had good problem-solving skills (highest performing group), compared with 7% of adults across the OECD; this was the highest in the OECD. However, 52% either had no computer experience, refused to take the test or failed the ICT core test or had minimal problem-solving skills. This compares with 76% for adults across the OECD⁸.

Of New Zealand adults with a tertiary education, 55% had good ICT and problem-solving skills, compared with 48% across the OECD. Fourteen percent either had no computer experience, refused to take test, or failed the ICT core test or had minimal problem-solving skills. This compared to 18% across the OECD.

⁸ Respondents were grouped as follows: Group 0: No computer experience, Group 1: Refused the computer-based assessment, Group 2: Failed ICT core test or had minimal problem-solving skills, Group 3: Moderate ICT and problem-solving skills, Group 4: Good ICT and problem-solving skills.

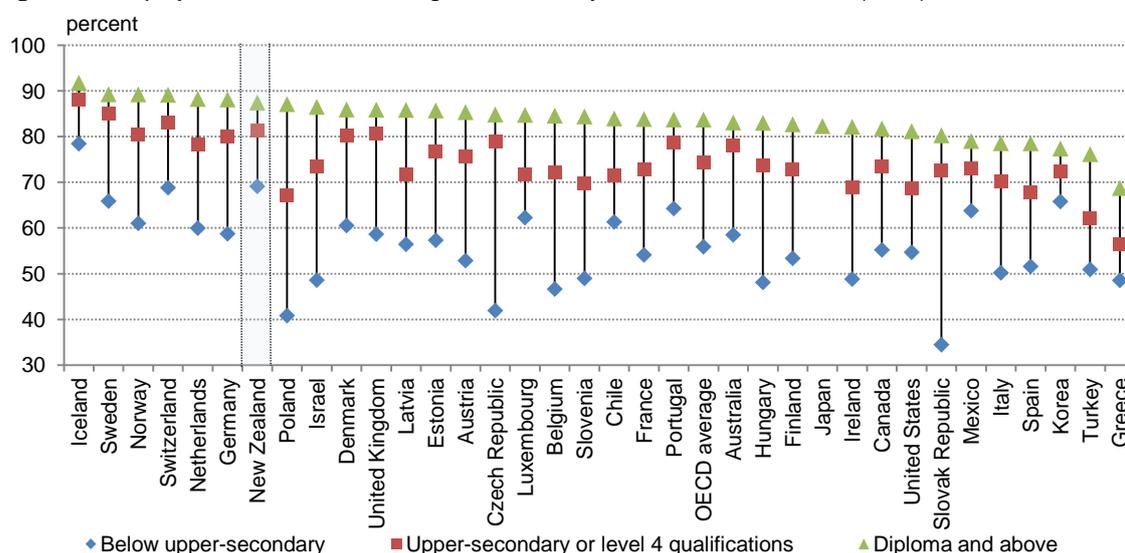
THE BENEFITS OF EDUCATION

Education and employment

In 2015, 80% of adults aged 25 to 64 in New Zealand were employed. This puts New Zealand in the top five in the OECD and above the average of 74%. In terms of gender, 87% of men were employed, which puts New Zealand in the top five in the OECD, while 74% of women are employed, which is in the top 10 and above Canada, the United Kingdom and Australia.

In every country, those with higher levels of education have higher rates of employment. However, 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 and Switzerland where employment rates are high and the difference between the most educated and the least educated is 20 percentage points or less.

Figure 54 Employment rates for adults aged 25 to 64, by educational attainment (2015)



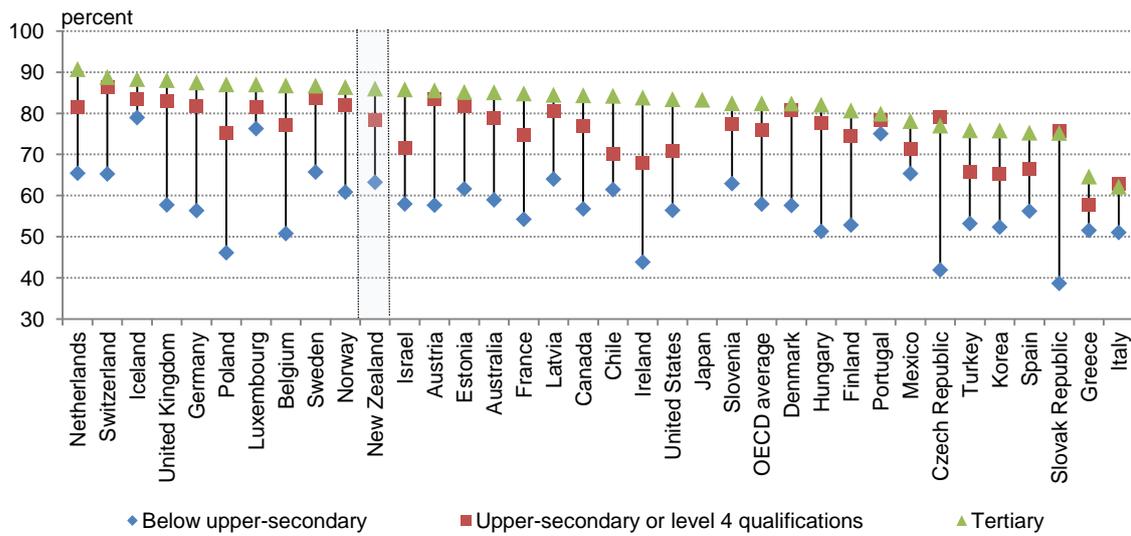
New Zealand men have employment rates above the OECD average at every level of tertiary education. For New Zealand women, employment rates are above OECD averages at all levels except master's degree level.

Employment is correlated with literacy proficiency. Those with higher literacy proficiency are more likely to be employed and less likely to be unemployed or inactive in the labour market. In New Zealand the differences in employment by literacy proficiency level are close to the average, with 65% of those with the lowest literacy levels in employment and 90% of those with the highest literacy proficiency in employment.

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, 63% 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.

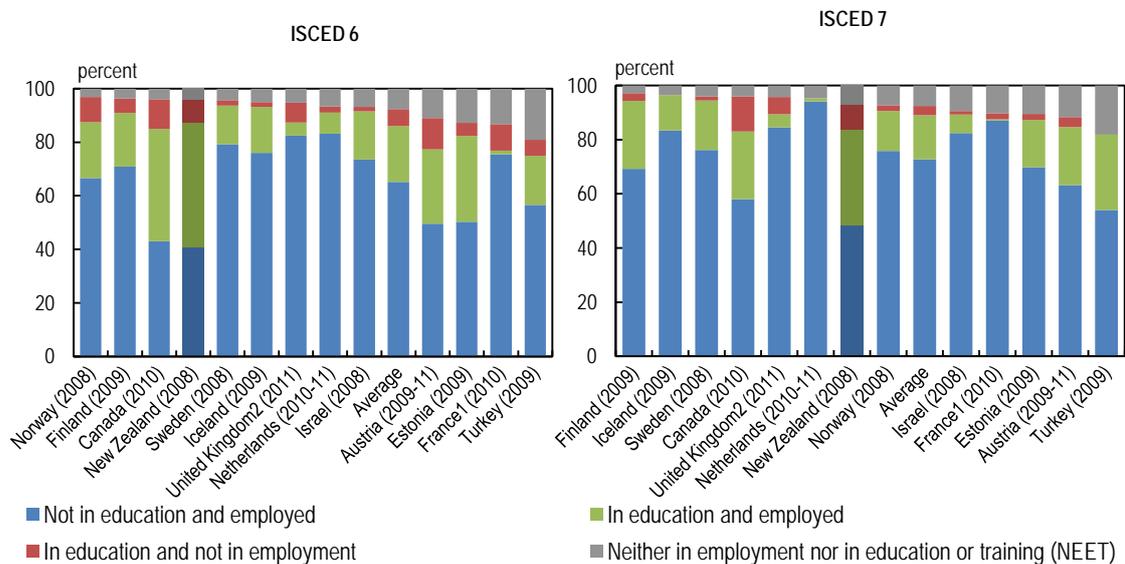
New Zealand is one of only six countries where the employment rate for young tertiary educated workers is over 85% and the employment rate of those with below upper-secondary is less than 25 percentage points lower.

Figure 55 Employment rates for adults aged 25 to 34 by educational attainment (2015)



New data from 13 OECD countries with available data shows that about one in four young bachelor's degree graduates and one in five young master's degree graduates were still in education three years after graduation. On average, over 85% were employed. In New Zealand, young graduates were more likely to be in education, and employment rates were around the average.

Figure 56 Labour market outcomes for young bachelor's and master's degree graduates three years after completing their degree

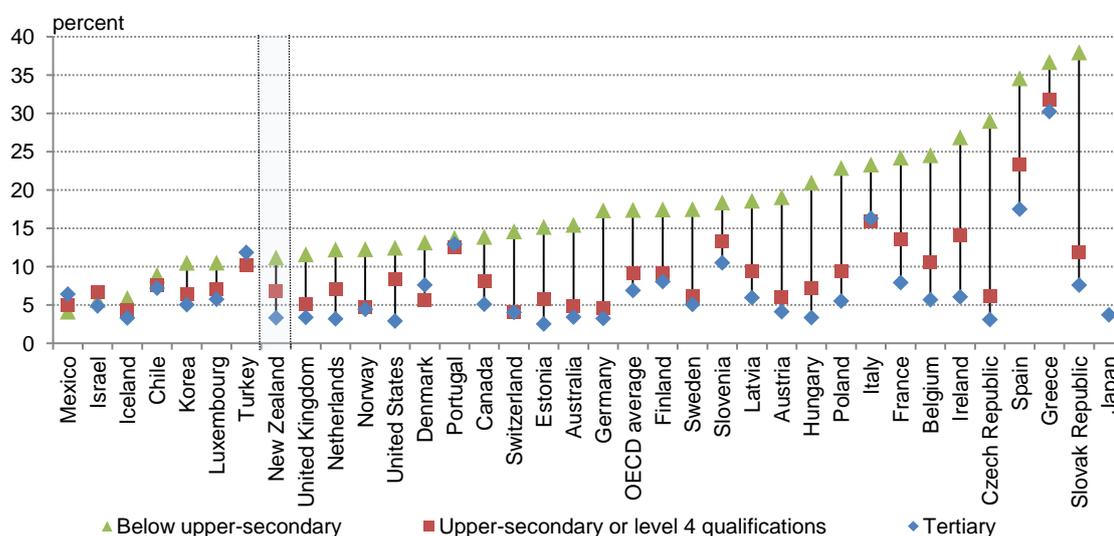


Note: The year(s) in brackets relate to the year(s) the cohort of graduates of typical first-time graduating age left study. The typical graduating ages for young graduates vary by level and countries.

New Zealand had relatively good labour market outcomes in terms of employment, unemployment and earnings compared with the OECD where there can be some large differences between educational attainment levels. For example, the average difference in unemployment between those with the highest qualifications and those with the lowest across the OECD is 10.5%. In New Zealand, the difference was 7.9%.

New Zealand is in a group of countries including Iceland, the United Kingdom, the Netherlands, Norway and the United States where the unemployment rate for workers with diploma or above qualifications is low, at less than 5% and the unemployment rate for those with no formal qualifications is also comparatively low.

Figure 57 Unemployment rates for adults aged 25 to 34 by educational attainment (2015)



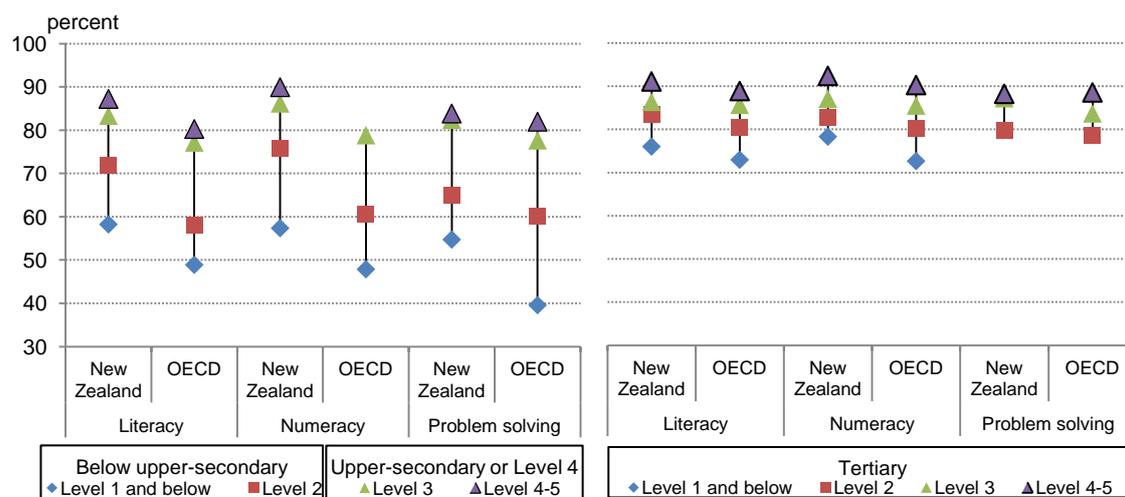
New Zealand does have relatively high rates of employment and low rates of unemployment in general. However employment does differ when taking into account educational qualifications and skill level, that is, the level of literacy and numeracy proficiency and problem-solving ability.

For those with below upper-secondary education, higher levels of literacy, numeracy and problem solving can be highly correlated with employment. For example, for New Zealand adults aged 25 to 44 with level 1 or below numeracy skills, the employment rate is 57% compared with 82% for those with moderate numeracy skills⁹.

Adults with an upper-secondary or level 4 education see similar improvements in employment with increasing skill level. Problem solving in particular improves the rates of employment by over 30 percentage points. All adults with a tertiary qualification have employment rates over 70% regardless of skill level.

⁹ Low numeracy skills refer to level 1 and below; moderate numeracy skills refer to level 3. A fuller explanation of numeracy skill levels is given on page 40.

Figure 58 Employment rates of 25 to 44 year-olds, by education level and literacy proficiency level (2012 or 2015)



Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015.

The Survey of Adult Skills shows that New Zealand has above average rates of employment for tertiary qualified workers across all fields of study, except for humanities, languages and arts, which is just below average.

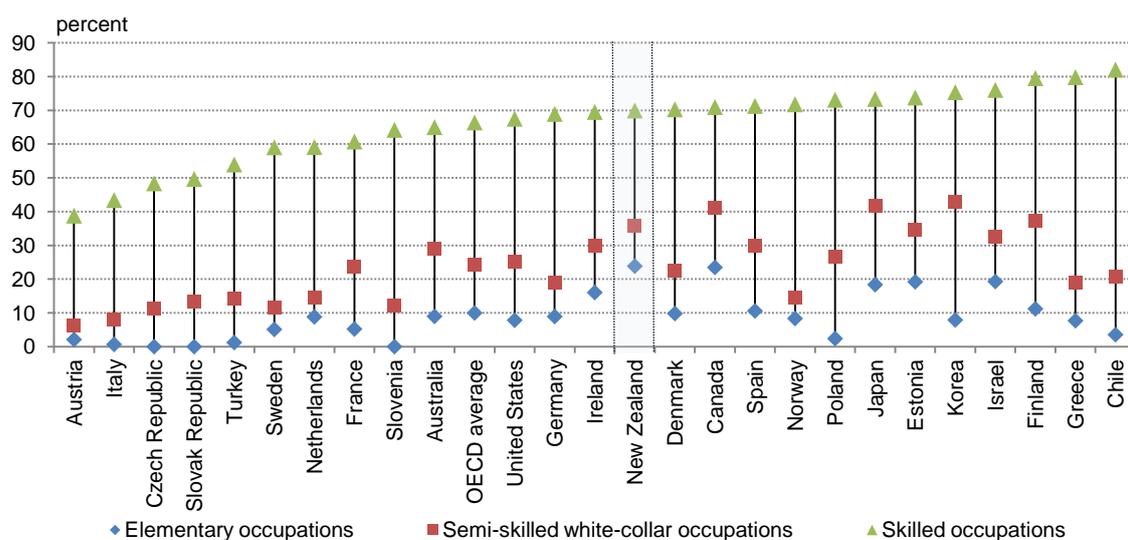
Across participating countries, education qualification level correlates with occupation skill level. Skilled occupations tend to be staffed by tertiary educated workers, while unskilled (or 'elementary') occupations are dominated by workers with below tertiary qualifications.

In New Zealand, around 70% of skilled occupations were staffed by tertiary educated workers, above the OECD average of 66%. There was also a larger share of tertiary qualified workers in elementary and semi-skilled occupations. This is similar to the pattern seen in Canada, Israel, Estonia and Japan.

In New Zealand, 97% of tertiary educated workers aged 25 to 44, were working in either skilled or semi-skilled occupations. Across all workers aged 25 to 44, 94% worked in either skilled, or semi-skilled occupations.

Elementary occupations make up about 6% of all jobs in New Zealand. Both domestic and foreign-born workers are equally represented in this group; that is, about 6% of domestic and foreign-born workers are employed in elementary occupations. However, foreign-born workers tend to have higher qualifications; that is, for those workers in elementary occupations, 44% of the foreign-born workers have a tertiary qualification, compared with just 16% of workers born in New Zealand.

Figure 59 Educational attainment of adults aged 25 to 64, by occupation (2012 or 2015)

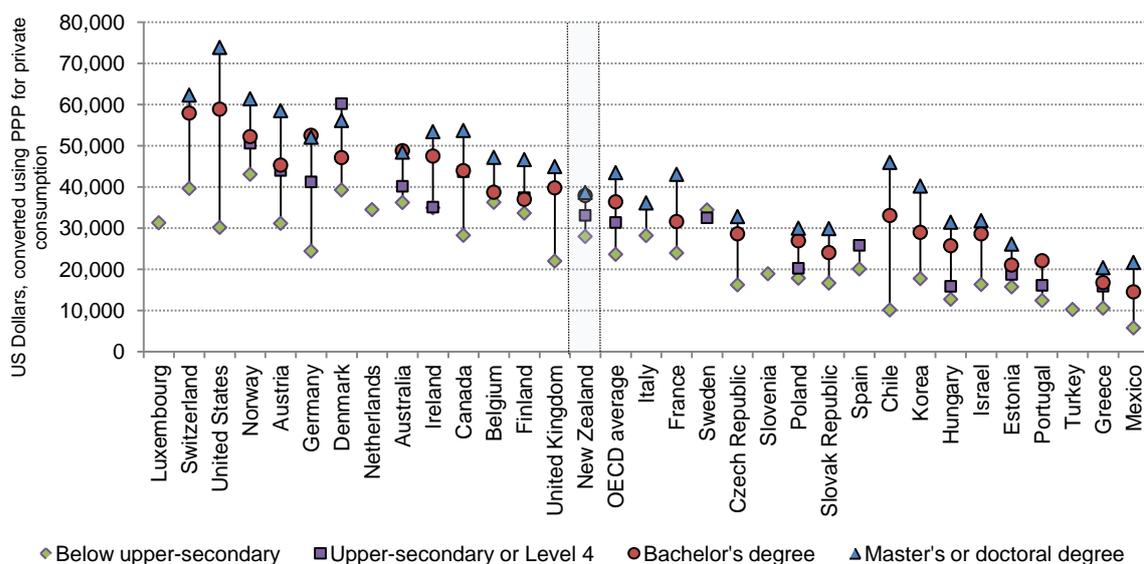


Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015.

New Zealand has above average earnings across most education levels, but earnings premiums by education level remain smaller

This edition of *Education at a Glance* includes actual earnings data by educational attainment level. This data shows that New Zealand workers compare fairly well against workers in other OECD countries. Actual earnings for workers aged 25 to 64 were above the OECD average at all education levels, except at the master's and doctoral level where New Zealand was below average. Younger workers also compare well, with the same pattern as above.

Figure 60 Actual earnings for full-time full-year 25 to 34 year-olds, by educational attainment level (2014)



Across all OECD countries, those with higher levels of education earn more than those with less education. In New Zealand, for 25 to 64 year-olds, the earnings premium for full-time, full-year workers with a diploma or above was 46% higher than the earnings of workers whose highest qualification was at upper-secondary level. This earnings premium was smaller than the OECD average of 55%.

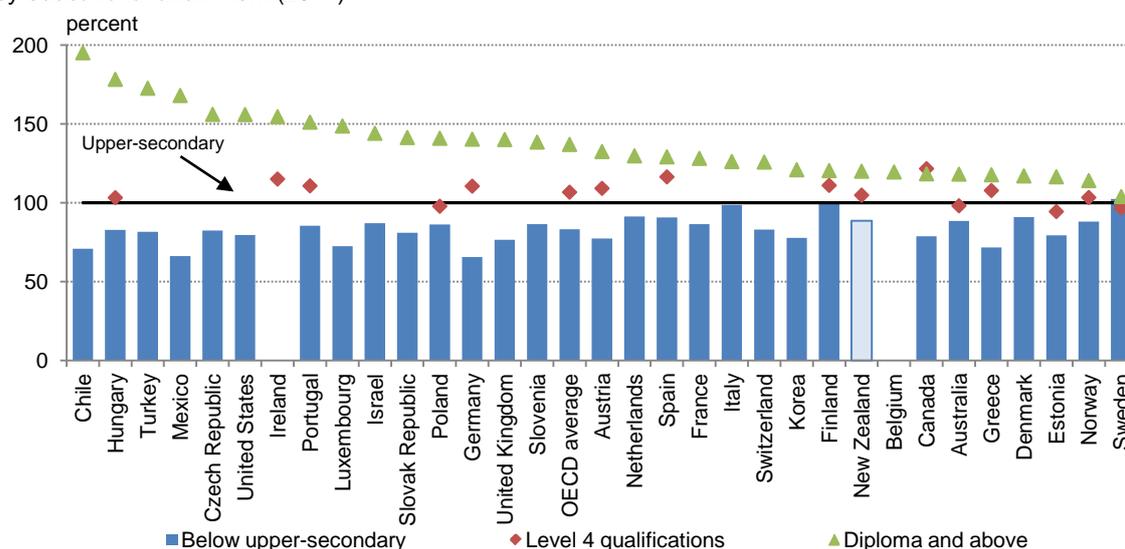
Younger adults with diploma or above qualifications attract smaller premiums in New Zealand and across the OECD. Adults aged 25 to 34 earn about 37% above those with upper-secondary qualifications across the OECD. In New Zealand, young adults earn 20% more.

Earnings premiums are much larger for older workers (aged 55 to 64) with a master's or doctorate qualification, at 107% across the OECD and 78% in New Zealand.

Young New Zealand workers with level 4 certificates earn 5% more than those with an upper-secondary education. This compares with 7% across the OECD. Young workers with below an upper-secondary education earn 89% on average of what someone with an upper-secondary education earns; this compares with 83% across the OECD.

New Zealand is in a group along with some Nordic countries and Australia where there are smaller differences in earnings for young adults between the least and most educated. In these countries the difference in earnings between the most and least educated is around 30 percentage points or less. Including all adults aged 25 to 64, New Zealand also has a relatively small difference in earnings between the most and least educated.

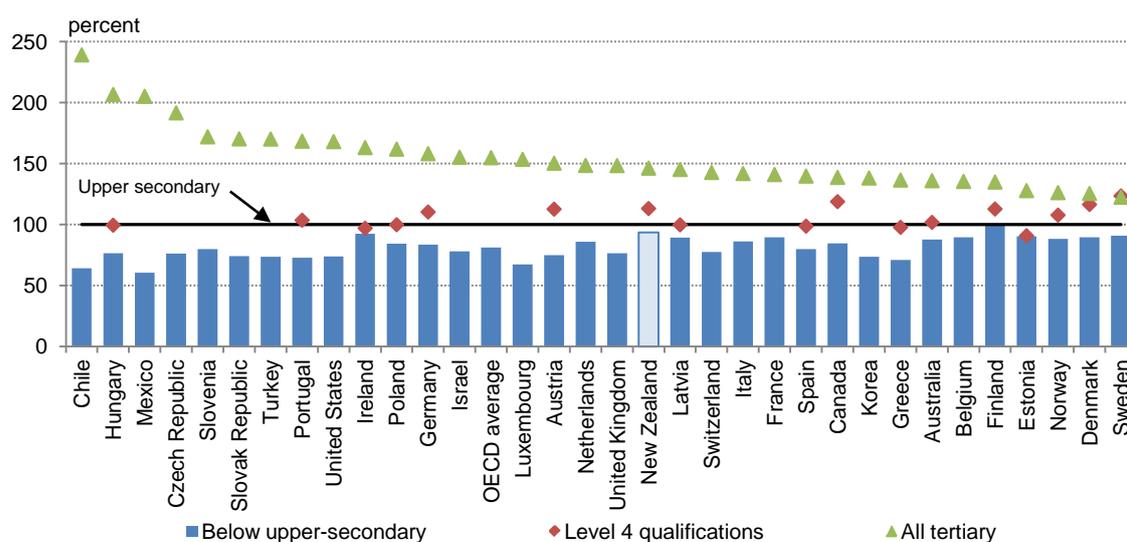
Figure 61 Relative earnings of full-time full-year workers aged 25 to 34 over those with upper-secondary, by educational attainment (2014)



Across the OECD, 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 with a bachelor's degree is much smaller for younger workers.

Figure 62 Relative earnings of full-time full-year workers aged 25 to 64 over those with upper-secondary, by educational attainment (2014)



Across the OECD, women with a tertiary qualification earn 73% of what a man with a tertiary qualification earns. In New Zealand, women earn 74% of what the average tertiary educated man earns.

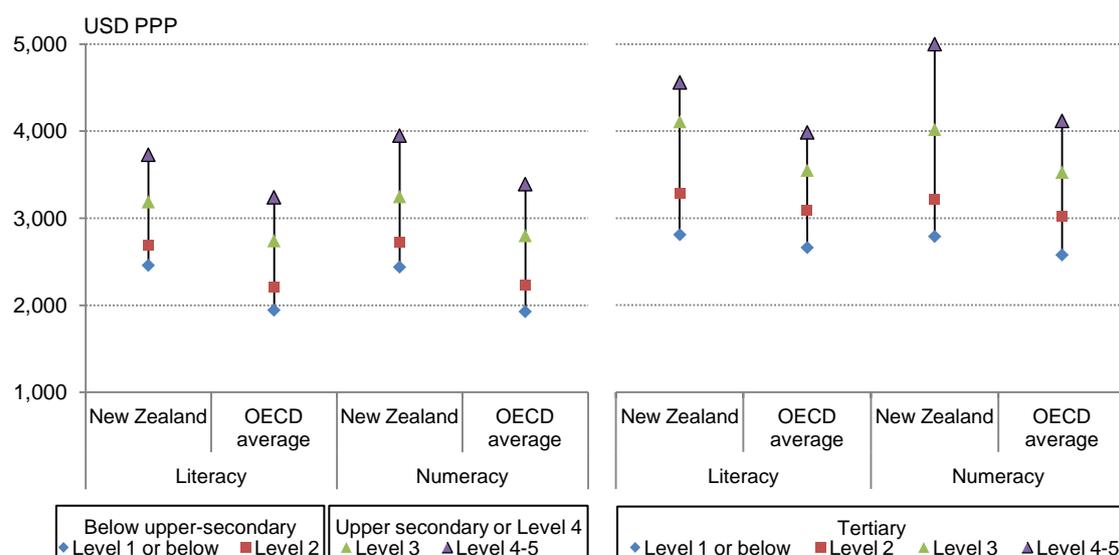
Both education and skills matter

The Survey of Adult Skills shows that average monthly earnings differ by both level of education and level of literacy and numeracy proficiency.

In general across OECD countries, those with the lowest levels of literacy and numeracy have the lowest average monthly earnings, and their earnings improve moderately with higher levels of education. At education levels below tertiary, the impact of literacy and numeracy skill levels on earnings in New Zealand was about the same as the average across OECD countries.

At tertiary levels, the differences in monthly earnings are greater in New Zealand than other OECD countries. Those with high numeracy skills earn about 80% more than those at level 1 or below. Those with the highest literacy levels earn about 60% more than those at level 1 or below. Adults with high skill levels earn more if they gain a tertiary qualification. For example across the OECD, adults with literacy or numeracy level 4 or 5 and a tertiary qualification earn over 20% more than those with the same literacy or numeracy level but with an upper-secondary or level 4 qualification.

Figure 63 Average monthly earnings for 25 to 44 year-olds, by field of study (2012 or 2015)



Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015.

In general, across all education levels, those with the highest literacy levels (levels 4 to 5) earn about 70% more per month on average than those with the lowest levels (levels 1 and below) of literacy proficiency. In New Zealand the difference is also 70%. The difference between men and women was the same across participating countries, but in New Zealand women benefited more from having higher literacy proficiency, earning 76% more than women with the lowest literacy levels.

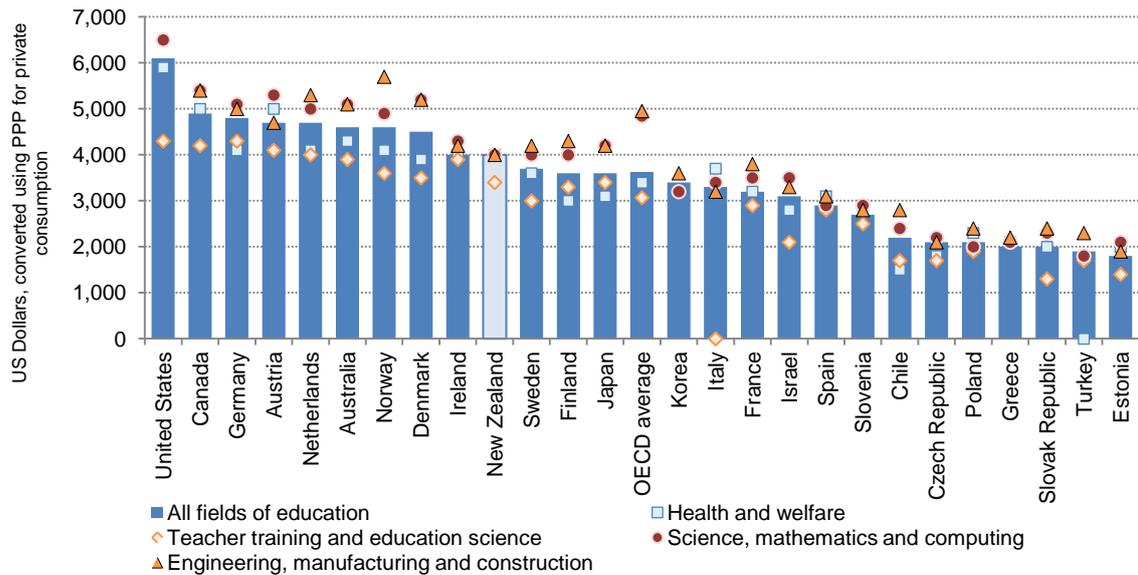
Earnings were also correlated with numeracy proficiency. Those with the highest levels earned 76% more than those with the lowest numeracy levels. In New Zealand this difference was 86%, and was similar for both men and women.

Earnings differ by field of tertiary study

Data from the Survey of Adult Skills shows that, across participating countries, earnings for tertiary qualified adults differ by broad field of study. Tertiary educated adults who studied in the engineering, manufacturing and construction field of study had the highest monthly earnings on average. Adults with tertiary qualifications in humanities, languages and arts had the lowest average earnings across the OECD.

In New Zealand, the difference in earnings by field of study was relatively small. Compared with other OECD countries, earnings in New Zealand were above average for all fields of study, except in humanities, languages and arts.

Figure 24 Mean monthly earnings of tertiary-educated adults, by field of education studied (2012 or 2015)



Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015.

New Zealand has relatively low financial returns on investment in education

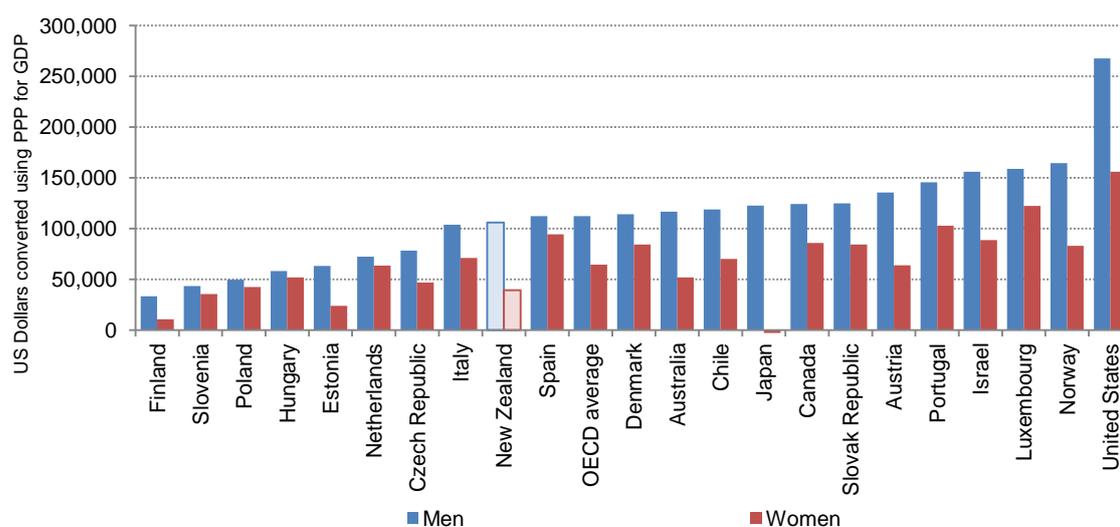
Across OECD countries, investment in education has positive financial returns for both public and private investment. Actual earnings for New Zealanders with a diploma or bachelor’s degree are above the OECD average and similar at postgraduate levels. However, the earnings advantage of tertiary qualified adults over those with low education levels is smaller than in most other OECD countries; this lowers the return on investment in education. This reflects the comparatively higher earnings for New Zealand adults with lower educational attainment.

The financial return on education is the present day value of all the net financial benefits of attaining a qualification relative to the reference educational qualification. For example, 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.

In 2012, the present day value of obtaining an upper-secondary or a level 4 qualification was about US\$112,000 for men and US\$65,000 for women on average across the OECD. New Zealand had below average returns, with these qualifications valued at US\$106,000 for men and \$39,000 for women.

The public costs and benefits for someone gaining upper-secondary or level 4 education are the costs associated with public subsidisation of education, and the benefit of increased tax revenue and lower probability of providing welfare benefits. The present day value for governments across the OECD was US\$67,000 for men and US\$46,000 for women. In New Zealand the present day value was US\$40,000 for men and US\$8,000 for women.

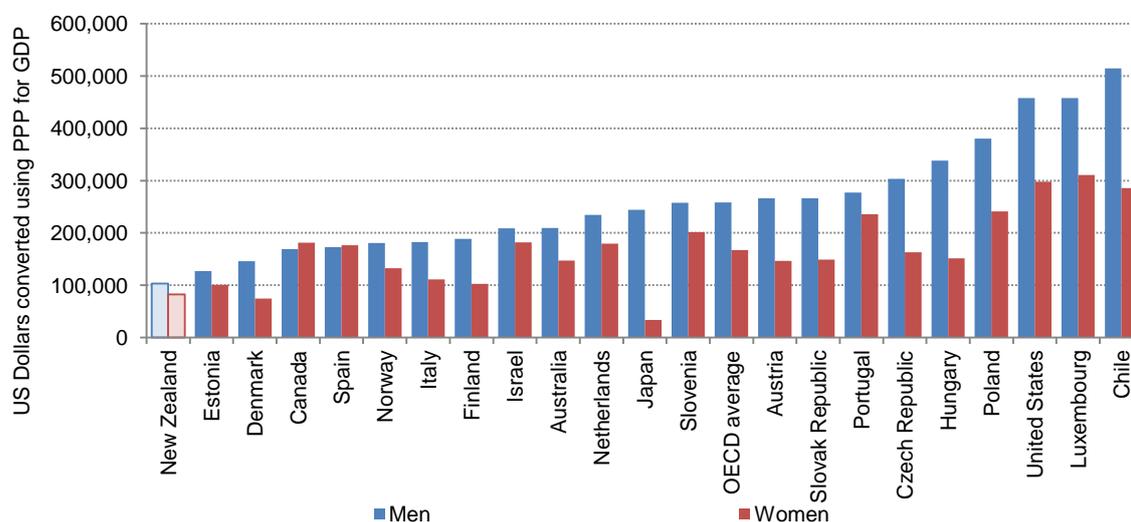
Figure 65 Private financial returns for an upper-secondary or level 4 education (2012)



Those who complete a diploma or above qualification gain an additional benefit over those with an upper-secondary or level 4 qualification. In 2012, the present day value of a tertiary qualification for New Zealand men was US\$103,000 and US\$87,000 for women. This was the lowest in the OECD for men and the third lowest for women. The OECD average was US\$258,000 for men and US\$168,000 for women.

Across the OECD, the financial returns to tertiary education for women are 65% of those for men. In New Zealand the financial returns for women are 80% of those for men. In Canada and Spain, the returns for women were greater than those for men.

Figure 66 Private financial returns to tertiary education (2012)

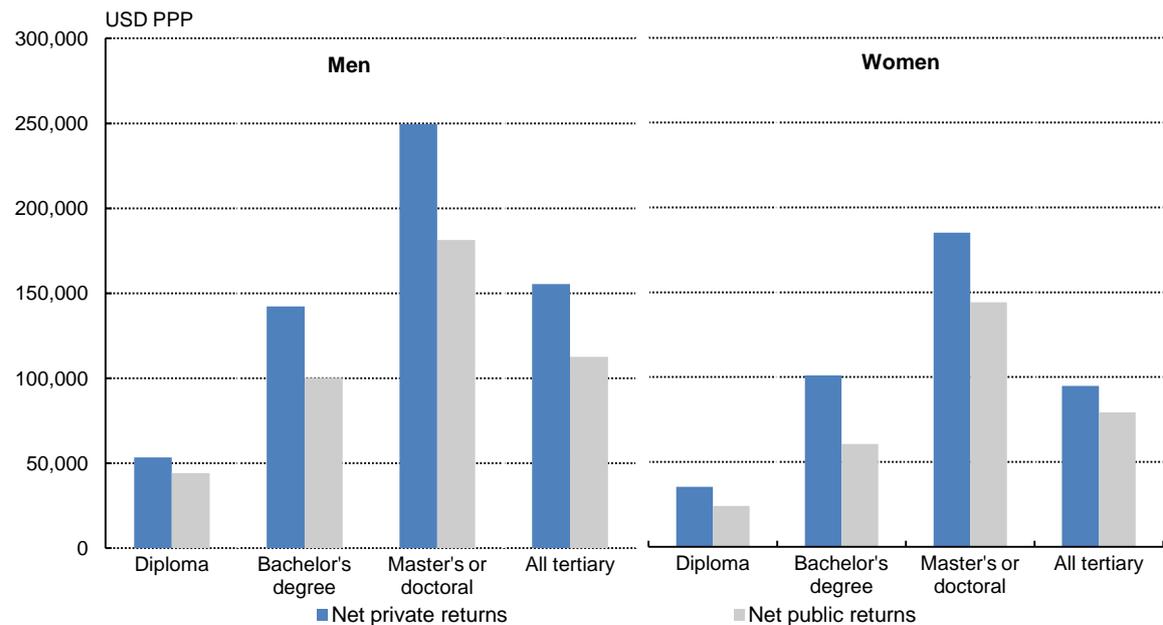


The primary factor behind the relatively low returns to education in New Zealand is the relatively small earnings premiums between workers with different levels of educational attainment, which in turn is due to the relatively higher earnings of those whose highest level of education is upper-secondary. 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 an upper-secondary or level 4 qualification, is about half the OECD average.

Benefits of tertiary education also differ greatly by level. People with diploma level qualifications have lower earnings over time compared with a worker with a master's degree, for example. Some countries were able to supply data that separated out tertiary level qualifications and an analysis of this data showed that a master's or doctoral degree is worth about five times as much as a diploma level qualification.

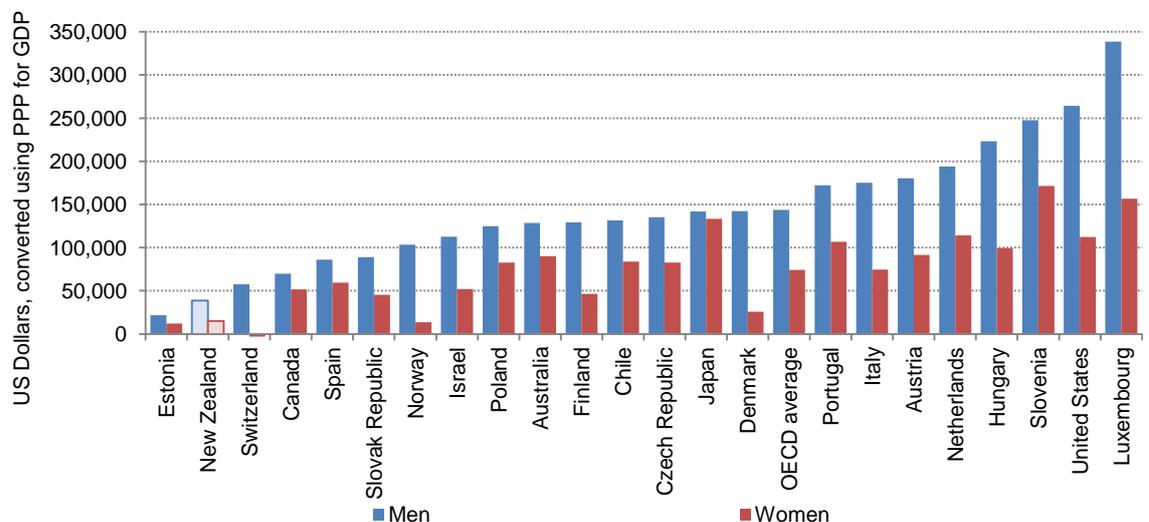
New Zealand has a higher proportion of workers with bachelor's degrees and far fewer with either a master's or doctoral degree. This acts to lower the overall value of a tertiary education as reported in *Education at a Glance*.

Figure 67 Private financial returns, by tertiary education level and gender – 11 country average (2012)



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 68 Public financial returns to tertiary education (2012)



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 2016* uses the 2012 year for the financial returns indicator. In 2012, many OECD countries still faced large economic risks and high unemployment, especially for young people and those with lower education levels.

New Zealand has high rates of employment, and relatively flat earnings across education levels. This is the main driver behind the relatively low financial returns to tertiary education.

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 (NCEA Level 1), which under international definitions does not count as upper-secondary. 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.

Another factor is student loans, which are not explicitly considered in the OECD's calculation of rates of return. Including student loans would act to increase returns, since the student repays the costs of the qualification over time, often at a below market rate of interest or interest is written off entirely. This means the student effectively pays less than the initial cost of the qualification, in real terms.

There is also a range of social benefits associated with education

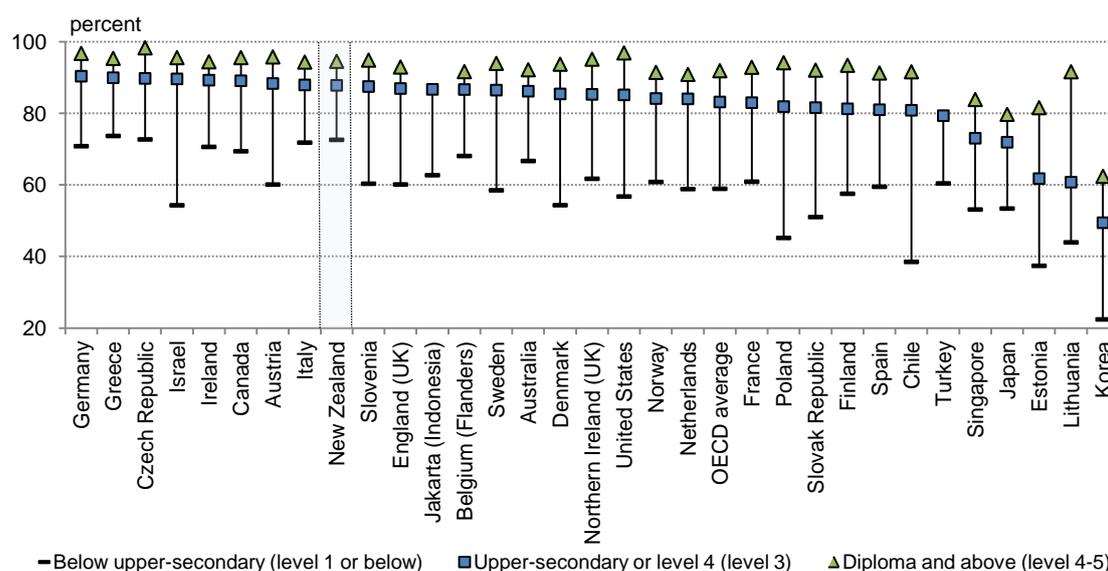
Data from the Survey of Adult Skills shows a positive correlation between education level and a range of social indicators. In New Zealand, social outcome indicators are above OECD averages and the gap between the least educated and the most educated was often smaller than it was in other OECD countries.

Life satisfaction is correlated with both education and skill levels. In New Zealand, people at all education levels reported high levels of life satisfaction. Overall, 95% considered themselves satisfied with their life today.

The Survey of Adult Skills shows that across participating countries the proportion of adults aged 25 to 64 years reporting they are in good health also correlates well with educational attainment level and level of literacy proficiency. In New Zealand the difference in self-reported health between those with the highest levels of education and literacy levels and those with the lowest level of education and literacy skill was small at 22 percentage points. The average difference across the OECD was 33 percentage points.

Relative to the least educated and least skilled in other countries, New Zealand reported comparatively good health, with 73% reporting that they were in good health, the third highest in the OECD and higher than the 59% OECD average.

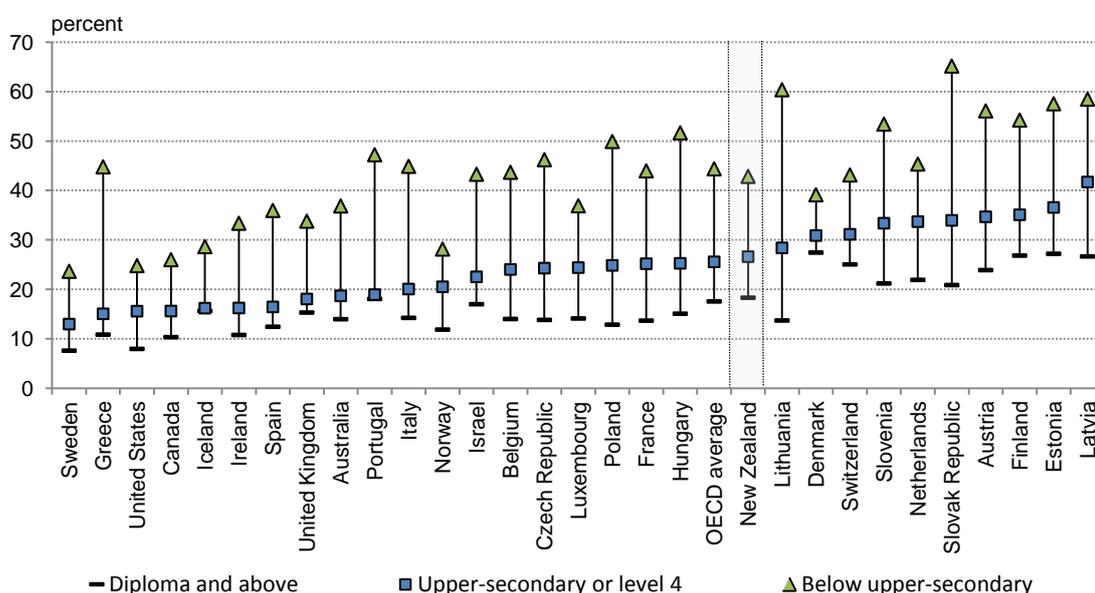
Figure 69 Percentage of adults reporting they are in good health, by education and literacy proficiency level (2012 or 2015)



Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015. The level in brackets refers to the literacy proficiency level.

Higher education levels are also associated with lower activity limitation due to health problems¹⁰. Eighteen percent of adults with a tertiary education had a health-related activity limitation, compared with 44% of adults with no qualifications. In New Zealand, the difference was similar.

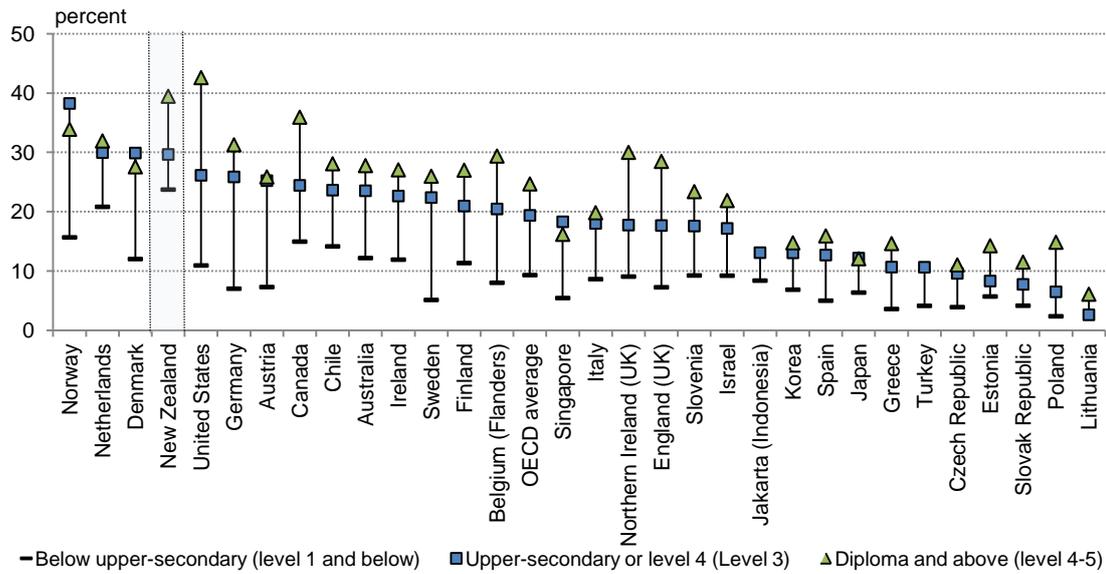
Figure 70 Percentage of adults reporting an activity limitation, by education level (2014)



Adults with a tertiary qualification reported higher levels of volunteering, having trust in others, and having a say in government compared with adults with lower qualifications. In New Zealand, over all levels of education, the proportions of adults reporting that they volunteer, have trust, and have a say in government were above average.

¹⁰ A health-related activity limitation is a condition that limits an individual from participating in activities they would usually do, and this has continued for six months or more.

Figure 71 Percentage of adults reporting they volunteer at least once per month, by education and literacy proficiency level (2012 or 2015)



Note: Source is the Survey of Adult Skills. The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015. The level in brackets refers to the literacy proficiency level.