How does New Zealand’s education system compare?

OECD’s Education at a Glance 2017
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Early Childhood Education (ECE) and Schooling

- As in previous years, New Zealand has performed well in early childhood indicators – participation and expenditure are in the top third of OECD countries and teacher-child ratios are among the lowest in the OECD.

- Enrolment rates for 15 to 19 year-olds have grown in recent years, but flattened since 2014. New Zealand remains in the bottom half of OECD countries, a little below the OECD average.

- Employment rates for youth have 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 for employment purposes, go on to further education, or enter further education when they are older.

- The number of young New Zealanders (15 to 29 years old) not in employment, education or training (NEET) is now back to pre-recession levels and is lower 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. The time it takes to complete upper-secondary education is, however, similar to the OECD average, with 80% completing within five years of enrolment.

- 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 that 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, and female teachers earn more on average than other similarly qualified women.

- New Zealand teachers have longer working hours than in most OECD countries, and also spend a higher proportion of this time engaged in teaching activities compared with the OECD average.

- 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 remains about the same as the OECD average. Across the OECD, teachers are more likely to be female. This is also the case in New Zealand.

- The ratio of students to teachers in Years 7 to 10 is around 16 students per teacher, compared with the OECD average of 13.

- As many OECD countries require upper-secondary teachers to hold master’s degrees (or above), teachers in New Zealand tend to be qualified at a lower level than in other OECD countries. However, they have high salaries relative to their qualification level.

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

- The proportion of New Zealand adults with a degree or above (at 32%) is above the OECD average of 29%. The proportion with a level 4 qualification or higher (at 51%) places New Zealand in the top three countries.

- Across the OECD, women are more likely than men to enrol in, and graduate from, tertiary education. The rates of female enrolment and graduation in New Zealand are similar to the OECD average.

- New Zealand has above average levels of participation at core tertiary ages (18 to 20) and average participation at ages 20 to 29. In New Zealand, first-time students tend to be older than across the OECD. The average age of new entrants to bachelor’s degrees in New Zealand is 24, compared with the OECD average of 22.

- New Zealand has the highest rate (68%) of participation in formal and/or non-formal education in the OECD. While caring for children is a major barrier to participation across the OECD, in New Zealand the participation gap between those who have children and those who do not, is smaller than in most countries.

- 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 diploma and doctoral level, where 32% and 46% of students respectively are international students.

- Compared with the OECD in general, New Zealand appears to be a more attractive option for international students wanting to study business administration and law, ICT, or services. Conversely, it is a less attractive option for international students in arts and humanities, engineering, or health and welfare.

- New Zealand has a relatively high international student inflow compared with other countries across the OECD, where the number of students coming to study in New Zealand is much greater than the proportion of New Zealand residents choosing to study overseas.

- Total expenditure on tertiary education is equal to 1.8% of GDP in New Zealand, compared with 1.5% on average for OECD countries. While just over half of tertiary education funding comes from public sources in New Zealand, the OECD average is slightly below 70%. Uniquely among OECD countries, all public education funding for tertiary education, as well as all other levels, is provided by New Zealand’s central government.

- Across all OECD countries, educational attainment levels are increasing for those who have parents without tertiary qualifications, particularly at diploma level and above. Intergenerational mobility in New Zealand is higher than the OECD average, with 32% of 30 to 44 year-olds and 23% of 45 to 59 year-olds whose parents did not obtain a tertiary degree, going on to obtain one themselves.

- Relative to other OECD countries, employment rates in New Zealand remain high, and New Zealand has had one of the largest increases in employment for tertiary educated workers since 2005. New Zealand also has one of the smallest differences in employment rates between the most and the least educated.

- 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 upper-secondary 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.

- There remains a persistent gap in earnings between men and women who have the same levels of educational attainment across the OECD. In New Zealand, among people with a bachelors degree or higher, men earn about 35% more than women.

- Across OECD countries with available data, people with higher levels of education have a lower prevalence of depression. However, women are more likely to have been diagnosed with depression in the previous 12 months, regardless of their level of educational attainment.
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 25th edition of *Education at a Glance*. This year's report reflects 2016 data on educational attainment and labour market outcomes, and 2015 data for other non-financial indicators. Financial indicators are for 2014 data (which for New Zealand is the 2014/2015 financial year). The report includes over 160 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, demographics and teacher tasks and duties
- Student financial support and tertiary tuition fees
- How early childhood systems differ around the world
- Adult learning.

For 2017, *Education at a Glance* presents information on several education system features that were not included in the 2016 edition. This includes data on completion rates at upper secondary levels, and descriptive tables that cover differences and similarities in tertiary admission systems across the OECD. This edition of *Education at a Glance* also reports on progress towards the Sustainable Development Goal to "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". This goal is measured through the achievement of 10 targets, which together are the most comprehensive and ambitious agenda for global education that has ever been attempted.

*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](http://www.oecd.org/education/eag.htm).

The hardcopy version of *Education at a Glance* 2017 has been reduced in size, with some content moving to the OECD's online resources. In total, 58 tables, over a third of the published tables, will be available online only. The OECD has also expanded its data offering on [OECD.stat](http://www.oecd.org/education/eag.htm) and the [OECD EDUCATION GPS](http://www.oecd.org/education/eag.htm). This allows users to access data at a more granular level and therefore provides deeper insights. These resources enable further comparisons of New Zealand with specific countries and indicators.
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. Participation in these levels is typically distinguished by age, with pre-primary participation 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 2015, 94% of 4 year-olds and 89% of 3 year-olds were enrolled in ECE. Participation at younger ages is also relatively high, with 65% of 2 year-olds in ECE.¹ This puts New Zealand in the top half of OECD countries for enrolments of children aged up to 4 years.

**Figure 1 Enrolment rates in early childhood education at ages 2 to 5 years (2015)**

While participation in schooling is compulsory in New Zealand from age 6, most children enter compulsory education 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 are in primary school. In most OECD countries, ECE continues at age 5, whereas in New Zealand less than 3% of 5 year-olds are enrolled in ECE.

¹ New Zealand figures for this year cannot be compared with pre-2016 editions of EAG. Results have been improved by removing the effect of double counting of children who were enrolled in more than one ECE service.
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 2014, total ECE expenditure per child from public and private sources was in the top third of OECD countries. At the pre-primary level (ages 3 and above), New Zealand is one of seven countries that spend more than US$10,000 per child.\(^2\)

In New Zealand, 87% of expenditure in pre-primary education (typically ages 3 and over) comes from public sources, compared with 83% across the OECD. At younger ages, 73% of early childhood expenditure is from public sources, compared with 71% across the OECD.

Almost all early childhood education in New Zealand is delivered by private providers, with these providers receiving a majority of their funding as government subsidies. Across the OECD, on average 67% of pre-primary ECE institutions are publicly owned, and 21% are private but receive some funding from the government. Independently funded private institutions make up the remaining 12%.

\(^2\) US$ PPP: purchasing power parity. This is used to compare incomes between countries, factoring in the different purchasing power of the countries’ currencies due to different relative costs of living.
In terms of ECE expenditure, in 2014 New Zealand was in the top third of countries as a percentage of gross domestic product (GDP), at 0.9%. This was above Australia and the United Kingdom (both 0.5%). These comparisons can vary greatly depending on what ages and duration are typical across ECE systems in OECD countries. For example, 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. Conversely, ECE expenditure in New Zealand includes ages from 0 years, whereas in many countries, ECE starts at older ages.

**Figure 4** Expenditure on early childhood educational institutions as a percentage of GDP (2014)$^3$

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<tr>
<th>Country</th>
<th>EC (if no breakdown)</th>
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<td>Sweden</td>
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$^3$ The number in parentheses corresponds to the theoretical duration of early childhood educational development (EC) and pre-primary (PP).

$^4$ Note that ratios 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 all OECD countries, pre-primary teachers were more likely to be female in 2015. In New Zealand, 98% of pre-primary teachers were female, compared with 97% on average across the OECD. All countries apart from the Netherlands had proportions of female teachers over 90%.

While most OECD countries offer integrated ECE programmes, where both education and childcare are delivered, some countries separate these functions out. New Zealand offers only integrated programmes.
The level of 15 to 19 year-olds in education has grown in recent years, but this growth has flattened since 2014, while employment rates for youth have increased.

In New Zealand, 82% of 15 to 19 year-olds were enrolled in education in 2015. New Zealand is still in the bottom half of OECD countries, below the OECD average 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 following the 2013 Census. 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.

In New Zealand, students tend to transition to post-secondary education earlier than many of their OECD counterparts; 32% of 18 year-olds were enrolled in tertiary education (diploma level or above), compared with the OECD average of 17%, and 7% were enrolled in a level 4 certificate compared with the OECD average of 2%. A similar pattern is observed in Ireland, 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 post-secondary education.
In 2016, 83% of 25 to 34 year-olds had attained an education equivalent to a National Certificate of Educational Achievement (NCEA) Level 2 qualification or higher. This was similar to the OECD average of 85%. A two-year upper-secondary qualification (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 well.\(^5\)

Attainment rates for 25 to 34 year-olds won’t yet reflect the gains in achievement taking place at ages below 25. As reported in EAG 2016, the proportion of 20 to 24 year-olds that attained NCEA Level 2 or equivalent, for example, was at the OECD average of 84% for 25 to 34 year-olds. Since 2009, there has also been a steady increase in the number of school leavers with NCEA Level 2 or above\(^6\) - in 2015, 79% of people left school having attained NCEA Level 2 or above, compared with 68% in 2009.

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\(^5\) *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 includes levels 1 to 3 post-secondary education. In terms of attainment, upper-secondary attainment only includes those with at least a Year 12 equivalent school qualification (at level 2 or above). People with Year 11 qualifications, such as NCEA Level 1 or another level 1 certificate, or those with the older School Certificate are included in the ‘below upper-secondary’ group.

Of all adults aged between 25 and 64, 77% had at least an upper-secondary qualification as their highest qualification. This places New Zealand in the bottom half of countries and below the OECD average of 81%. 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 OECD international comparisons, some 8% of 25 to 34 year-olds held a recognised NCEA Level 1 or equivalent qualification as their highest qualification in 2013, while 11% held no qualification at all.\(^7\) Over the period 2009 to 2015, there was a decrease in the number of people leaving school with achievement below NCEA Level 1, from 19% of school leavers in 2009 to 13% in 2015.\(^8\)

**Completion of upper-secondary education is similar to the OECD average**

For OECD countries with available data to follow students through their study, 73% of students who enter upper secondary education graduate within the normal theoretical duration of the programme in their country. A further 18% are still enrolled in upper-secondary education, while 9% have not graduated and are no longer enrolled.

Graduating from upper-secondary in New Zealand means successfully completing NCEA Level 2 or an equivalent level qualification. In New Zealand, 75% of students entering upper secondary have successfully graduated within three years, while a further 12% are still in education. Thirteen percent of the original entrants to upper secondary education are no longer enrolled, and have not graduated, after three years.

After two further years of study, upper secondary completion rates across the OECD increase from 73% to 81%. For New Zealand, completion rates increase from 75% to 80% after five years, with a further 3% still in education, and 18% who have left school with less than an NCEA Level 2 or equivalent qualification. These rates are very similar to the average rates of countries that reported data.

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\(^7\) Statistics New Zealand – Census 2013 Highest qualification by age group and sex.

In all countries, girls have higher upper-secondary completion rates than boys, though the gender gap tends to decrease when looking at completion rates two years beyond the theoretical end of the programme. This means that boys on average tend to take longer to graduate than girls.

In New Zealand, completion rates for both boys and girls are higher than the OECD averages. For boys, the OECD average completion rates are 64% at the theoretical duration and 72% two years later. In New Zealand, these rates are 72% and 77% respectively. For girls, the OECD average completion rates are 72% at the theoretical duration and 79% two years later. In New Zealand, these rates are 78% and 83% respectively.

While upper-secondary completion rates remain modest, since 2000 the proportion of 25 to 34 year-olds in New Zealand who have not attained at least an upper-secondary education has decreased at a faster rate than across OECD countries. Attainment data for 2016 shows that the proportion of people in this age group without an upper-secondary qualification reached the OECD average of 16%. While the proportion of 25 to 34 year-olds in New Zealand with below upper-secondary education almost halved over the period 2000 to 2016, the decrease was not as dramatic as in Australia or the
United Kingdom, both of which had similar rates of below upper-secondary attainment to New Zealand in 2000.

**Figure 12** Percentage of 25 to 34 year-olds with below upper-secondary education (2000-2016)

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.

Compared with other OECD countries, New Zealand has fairly high youth employment and a one-year upper-secondary qualification (i.e. NCEA Level 1) that provides an early, credentialed pathway to the labour market for young people. In 2016, New Zealand had a relatively large proportion of young people aged 18 to 24 years who were not in education, but were in employment; at 42% this was the fourth highest in the OECD and compared with the OECD average of 32%. New Zealand’s youth employment profile was fairly similar to those of Canada, the United States, and the United Kingdom. Some countries with very high levels of employment for young people, such as Israel and Turkey, have compulsory military service for one-year or more.

As well as high employment rates, New Zealand had a level of 18 to 24 year-olds not in employment, education or training (NEET) that was below the OECD average NEET rate and in the bottom half of countries. The 2016 New Zealand NEET rate for 18 to 24 year-olds was 13%, compared with the OECD average of 15%.
The NEET rate for the wider 15 to 29 year-old age group improved steadily since peaking at 15% in 2010, and in 2016 was back to pre-recession levels of 11%, where it was below the OECD average of 14%. While the proportion of New Zealanders aged 15 to 29 in education dropped below the OECD average over this period, there was also a higher than average increase in employment rates for this age group in New Zealand.

Although average NEET rates for 20 to 24 year-olds across the OECD did not change much from 2000 to 2016, there were some significant fluctuations over time within individual countries. In Portugal and Spain, for example, NEET rates were higher in 2016 than they were in 2000. The 2016 NEET rate for New Zealanders aged 20 to 24 was 13%, below both the observed rate of 18% in 2010 and the 2016 OECD average of 16%.
The impacts of negative economic shocks can often affect the youngest and least qualified first, in terms of reduced employment and earnings, encouraging many to stay on in, or return to, education as a means of increasing skill levels. OECD data suggests that there is a strong relationship between the share of low-skilled 15 year-old students and the percentage of NEETs among 15 to 19 year-olds. The share of NEETs is lowest in countries with a small share of young adults with literacy proficiency below level 2, such as Estonia, Finland and Japan, and highest in countries with the highest share of low-skilled students, such as Costa Rica, Mexico and Turkey. Compared with other countries in the OECD, New Zealand has a relatively low share of 15 to 19 year-old NEETs, as well as a low share of 15 year-olds with low literacy skills.
New Zealand spends less than average per student, but relative to national wealth, public investment is high

In the 2014/2015 financial year, New Zealand’s expenditure per student from both public and private sources at primary level was $7,400, below the OECD average of $8,700, while expenditure at the secondary school level ($10,300) was slightly above the OECD average of $10,100.

Figure 17 Annual expenditure per student by educational institutions (2014)

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 provides a further understanding of how much a country spends given its relative resources.

Total public and private expenditure on educational institutions (i.e. primary and secondary 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 2.8% of GDP, above the OECD average of 2.1%.

Figure 18 Expenditure on educational institutions as a percentage of GDP (2014)

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 data, but not in that of other countries where they are accounted for in ECE expenditure. 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 23rd and 12th respectively.

Figure 19 Annual expenditure per student by educational institutions relative to GDP per capita (2014)

EAG 2017 also includes the relative proportions of primary and secondary school funding coming from public sources. The proportion of public expenditure in New Zealand in 2014 was 92% for primary education and 76% for upper secondary education, compared with the OECD averages of 93% and 88% respectively.10

Public expenditure as a percentage of GDP in New Zealand was relatively high, with 1.5% of GDP invested at the primary level, and 1.2% invested at the lower-secondary level.11 This compared with 1.4% and 0.9% respectively across the OECD. With total public expenditure on non-tertiary education equivalent to 3.8% of GDP, New Zealand investment in non-tertiary education was in the top 10 in the OECD.

For expenditure on education as a percentage of total government expenditure, New Zealand was one of the highest ranking countries. Expenditure on primary education, at 4.9% of total government expenditure, placed New Zealand in the top third of OECD countries, where the OECD average was 3.5%. At secondary level, New Zealand

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10 “Upper Secondary” as used in EAG includes programmes done both as part of the initial compulsory school system, and programmes done in post-schooling institutions. Post-school ISCED 3 relates to qualifications at levels 1-3 on the New Zealand Qualification Framework, and while these programmes are at the same ISCED level as school-based qualifications, they are not part of the upper secondary school system in New Zealand. Initial school-based upper secondary education is generally-oriented, while the large majority of post-school study at ISCED 3 is vocational. Both systems have different funding and regulatory arrangements, and different types of students. Care is therefore needed when making inferences about New Zealand’s initial upper secondary schooling system from “total upper secondary” results in EAG, as they reflect an average of these two different systems. While general and vocational education at ISCED 3 level is not exclusively split between initial and post-initial schooling in New Zealand, to better help policy makers and other readers interpret and use EAG ISCED 3 comparisons, all New Zealand results relating to New Zealand’s initial schooling upper secondary system have been reported as “upper secondary general” (ISCED 34), while all results relating to New Zealand’s post-schooling ISCED 3 system (level 1-3 qualifications on the NZQF) have been reported as “upper secondary vocational” (ISCED 35). This is reflected in the public share of expenditure, where 83% of expenditure on general programmes comes from public sources, compared with only 57% for vocational programmes. The total reported for ‘upper-secondary’ in EAG is the share from public sources for both.

11 EAG 2017 does not provide data on public expenditure as a percentage of GDP at upper secondary level only. Post-secondary non-tertiary levels are included.
expenditure as a percentage of total government expenditure was 7.8%, higher than the OECD average of 4.6% and making it the highest ranked country in the OECD.

**Figure 20** Public expenditure on primary and secondary education institutions as a percentage of total public expenditure, and total expenditure as a percentage of GDP (2014)

Student-teacher ratios are a little higher in New Zealand

Student-teacher ratios, as reported in *EAG 2017*, take the number of full-time equivalent (FTE) students and divide by the number of full-time equivalent teachers. As such, this measure is more one of resource allocation than an indication of average class size.

At the primary level in New Zealand, 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 13 FTE students per FTE teacher, compared with 13 across the OECD. These rates are similar to those seen in Ireland and Canada, and for upper-secondary are below those observed in Ireland and the United States.

The OECD average ratio of students to teaching staff for all secondary programmes in public schools was around 13 students, while in New Zealand the average was 15 students. For private schools at this level, New Zealand’s average ratio of 11 students was below the OECD average of 13 students.

Teachers’ salaries in New Zealand start lower but increase faster than those of their OECD counterparts, and for women are higher than tertiary educated workers in other jobs

In terms of actual salaries, teachers in most OECD countries earned 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 94%. This was above the level in many other OECD countries with available data, where teachers earned about 80% of what similarly educated workers earned.
Figure 21 Actual salaries for teachers working full-time for a full-year relative to similarly educated full-time full-year workers (2015)

When teacher salaries are compared against other full-time, full-year workers with tertiary qualifications, the pattern remained similar.

For upper-secondary teachers aged 25 to 34 years, salaries were higher in many countries than similarly aged tertiary educated workers who work full-time for a full-year in other occupations, including in New Zealand. This earnings advantage tends to change however as teachers get older. Nevertheless, teachers aged 55 to 64 earn higher salaries in six OECD countries than similarly aged tertiary educated workers.

Figure 22 Upper-secondary teachers’ actual salaries relative to tertiary educated workers, by age group (2015)

Across the OECD, male teachers earn a salary on average between 75% and 85% of what other male tertiary educated full-time full-year workers receive. Only in Portugal and Luxembourg do male teachers earn more than other tertiary educated men at all teaching levels. In New Zealand, male teachers in primary schools earn 75% of tertiary educated men in other occupations, and 83% at the upper-secondary level.
On the other hand, in most OECD countries, including New Zealand, female teachers tended to earn more than tertiary educated women who work full-time for a full-year in other occupations. Female upper-secondary teachers in particular received salaries that were higher than those of tertiary educated women in other occupations, with actual salaries that are about 11% higher. In New Zealand, female teachers in primary schools receive the same salary as tertiary educated women in other occupations, and 10% more at the upper-secondary level.

In terms of statutory salaries (e.g. regulated or contracted base-salaries as contained in collective agreements), teachers at primary and secondary levels in New Zealand had slightly lower starting salaries than their respective OECD averages. However, New Zealand teachers reach the top of the statutory salary scale relatively quickly, on average within seven years, and New Zealand statutory salaries were above the OECD average after 10 years of experience.

After 15 years, the statutory salaries of New Zealand teachers were the same as the OECD average. However, the average maximum salary that teachers can eventually earn across OECD countries is around 25% higher than that in New Zealand. This pattern holds at both primary and secondary levels.
New Zealand teachers had more statutory teaching days and spent more hours teaching per year than the OECD average, across both primary and secondary levels. Teachers at the primary level were required to teach 922 hours per year, compared with 794 across the OECD. Teachers at upper-secondary level were required to teach 760 hours a year, compared with 662 across the OECD.

As a proportion of required working time, however, New Zealand secondary school teachers spent more of their time engaged in teaching than the OECD average. Upper-secondary teachers in New Zealand spent 80% of their working time in the classroom, compared to the OECD average of 60%. For lower-secondary teachers, the proportion was 68% compared with the OECD average of 63%. On the other hand, primary school teachers spent a lower proportion of their time teaching – 60% in New Zealand compared with 69% across the OECD.
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 older and require lower qualifications than teachers in other OECD countries**

Teachers in New Zealand are a little older than teachers across most OECD countries. More than 40% are aged 50 or over compared with the OECD average of 35%. The 50-plus group has increased as a share of all New Zealand teachers from 36% in 2005. Around 11% of New Zealand teachers were under the age of 30 in 2015, just above the OECD average of 10%.
Teachers in New Zealand were relatively less qualified than teachers in other OECD countries. In Denmark and Germany, for example, all upper-secondary teachers were qualified above bachelor’s level, compared with only 9% in New Zealand. Of the countries that reported data, only five – one of which was New Zealand - had a proportion of upper secondary teachers with educational attainment at bachelors or lower that is below 50%. The pattern was the same for primary and lower-secondary school teachers, with New Zealand teachers being less likely to have a degree above bachelor’s level than teachers in many other countries.

Figure 29 Distribution of upper secondary school teachers, by educational attainment (2016)

While New Zealand teachers on average had qualifications at a lower level than teachers in other OECD countries, they were relatively well-paid in comparison. For example, across OECD countries with available data on both qualification level and actual salaries, the average proportion of upper secondary teachers with qualifications higher than a bachelor’s degree was 68%. New Zealand had a much lower proportion of upper secondary teachers with very high qualifications – but while their average salary of US$46,375 was slightly below the OECD average salary of US$46,928, New Zealand teachers had a higher salary than teachers in many countries that had a higher proportion of teachers with qualifications above bachelor’s level, such as Sweden and the United Kingdom.

Non-teaching tasks and duties for New Zealand teachers are similar to those observed across the OECD

Non-teaching tasks are a part of teachers’ workload and working conditions. The non-teaching activities required by legislation, regulations or agreements between stakeholders (e.g. teachers’ unions, local authorities and school boards) do not necessarily reflect the actual participation of teachers in non-teaching activities, but they provide an insight into the breadth and complexity of teachers’ roles.

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12 In New Zealand the minimum qualification required to be a teacher at either primary or secondary level is a three-year Bachelor of Teaching (ISCED 6), whereas many other countries require that teachers hold a qualification at ISCED 7. There are teachers in the workforce with historical initial teaching qualifications such as a Trained Teachers Certificate or Diploma of Teaching which are below ISCED 6. However typically today, a teacher at secondary level (years 9-13 covering the last two years of ISCED 2 and ISCED 3) will hold a subject or specialist qualification (at ISCED 6 or New Zealand Qualifications Framework Level 7) in addition to their one-year Graduate Teaching Diploma (again at ISCED 6, or New Zealand Qualifications Framework Level 7). At primary level (years 1-8, covering ISCED 1 and the first two years of ISCED 2, the typical qualification is more likely to be a Bachelor of Teaching (ISCED 6 about 50% of ITE graduates) although the pattern is increasingly shifting more towards that of secondary teachers. For graduate secondary teachers (years 9-13) the minimum and typical qualifications are the same (i.e. subject content qualification (usually a Bachelors) and a Graduate Diploma of Teaching).
According to regulations, individual planning or preparing lessons, marking/correcting student work, general administrative communication and paperwork, and communicating and co-operating with parents are the most common non-teaching tasks required of lower-secondary teachers during their statutory working time at school or statutory total working time. These tasks are required in at least 27 of the 36 countries and economies with available data, including New Zealand.

Teamwork and dialogue with colleagues and supervising students during breaks are also required in around half of the countries with available data. While teamwork is a mandatory requirement in New Zealand schools, student supervision during breaks is a requirement that is set at the discretion of individual schools. In a quarter of countries, lower secondary teachers are required to take on various additional responsibilities, such as counselling students, teaching more classes or hours than required in the full-time contract, or being class teacher/form teacher. In New Zealand, these are required at the discretion of individual schools, although student counselling is mandatory at primary level.

Teachers not only perform tasks that are required by regulations; they often perform voluntary tasks such as engaging in extracurricular activities, training student teachers, offering guidance counselling and participating in school or other management activities. In almost half of the countries, it is individual teachers who decide whether or not to perform these tasks. While engaging in extracurricular activities is voluntary for teachers in New Zealand, other activities are largely required at the discretion of individual schools.

13 For New Zealand, data on lower secondary teacher tasks and duties refers to a combination of the tasks and duties that both primary and secondary teachers may engage in. The organisation of these activities is similar at both levels.
**TERTIARY EDUCATION**

*EAG 2017* uses the International Standard Classification of Education (ISCED) to define 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 2011, while education at level 4 is classified as ‘post-secondary non-tertiary’. While the term ‘tertiary education’ as commonly used in New Zealand can cover any qualification attained in a post-school setting, in *EAG* 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**

At 32% of adults aged 25 to 64, New Zealand had above average levels of tertiary attainment at degree level or higher, compared with the OECD average of 29%.

However, New Zealand had a slightly smaller proportion of adults with a diploma or higher qualification. Thirty-six percent of New Zealand adults aged 25 to 64 have a diploma or higher qualification compared with 37% across the OECD.

**Figure 30** Percentage of 25 to 64 year-olds with diploma and higher qualifications (2016)

When level 4 qualifications are included, New Zealand had a relatively high attainment rate, and was in the top three countries. New Zealand had a large proportion of adults with post-secondary non-tertiary qualifications (i.e. level 4 certificates), which at 14% was well above the OECD average of 5%. The proportion of adults with at least a level 4 qualification was 50%, compared with the OECD average of 42%.
It was less common for New Zealanders to hold a master’s degree. New Zealand had comparatively more bachelor’s degree qualified adults, 27% compared with the OECD average of 16%, but fewer master’s degree qualified adults, 4% compared with 12% across the OECD. Around 1% of New Zealanders were qualified at doctorate level, identical to the OECD average.

Younger adults had higher levels of tertiary educational attainment, both in New Zealand and across the OECD. In New Zealand, 43% of 25 to 34 year-olds had a diploma or higher qualification, compared with 36% of 25 to 64 year-olds. The percentage with a diploma or higher increased from 39% in 2015, and had reached the OECD average.

Women are more likely to enter and graduate from tertiary study

Across the OECD in 2015, 54% of new entrants to tertiary education were female. This proportion was the same as in New Zealand. Only three countries, Switzerland, Mexico and Turkey, had a share of female new entrants to tertiary education that was below 50%.
The share of women entering tertiary education was higher still for ages below 25, where 57% of new tertiary entrants in New Zealand were female, compared with the OECD average of 55%.

This pattern was repeated in graduation rates. In New Zealand, 54% of first-time tertiary graduates were women, compared with the OECD average of 57%. Only Turkey and Switzerland had a share of female first-time tertiary graduates less than 50%.

New Zealand has above average levels of participation in tertiary education, especially at older ages

New Zealand has above average levels of participation in tertiary education at core tertiary enrolment ages (18 to 20 years of age). In 2015, 32% percent of 18 year-olds in New Zealand were enrolled in tertiary education, compared with the OECD average of 17%. At age 20, New Zealand had an enrolment rate of 44%, compared with the OECD average of 38%.
While New Zealand had higher than average tertiary participation rates among young people, this should be seen in the context of lower than average overall participation rates in education among young people. In many OECD countries, most 18 year-olds are still enrolled in secondary level courses. In New Zealand, only 28% of the 18 year-old population were in secondary education, compared with the OECD average of 56%.

First-time tertiary students in New Zealand tend to be older than across the OECD. In New Zealand, the average age of new entrants to bachelor’s degrees was 24, compared with the OECD average of 22. New entrants to master’s and doctorate degrees in New Zealand were aged 31 and 32 years respectively, compared with 28 and 31 years across the OECD.
The higher than average age of new entrants is reflected in the enrolment rates for students aged 25 and over. While enrolment rates for students aged 20 to 24 were slightly lower in New Zealand than across the OECD (39% compared with 42%), they were higher than average for older age groups. For example, in New Zealand 5% of people aged 40 to 65 were enrolled in education, compared with the OECD average of 2%. This was the third highest in the OECD, behind only Australia and Finland.

Natural sciences, mathematics and statistics are driving STEM enrolment in New Zealand, while the overall distribution of fields of study is in line with the OECD

New Zealand students were on average more likely to study natural sciences, mathematics and statistics at tertiary level (10% of all tertiary entrants, compared with 6% across the OECD) but the opposite is true for engineering, manufacturing and construction (8% and 16% respectively). With enrolment in information and communication technologies (ICT) at 7%, just above the OECD average of 5%, overall science, technology, engineering and mathematics (STEM) enrolment rates in New Zealand were ultimately in line with most OECD countries (see Figure 40). The share of
female entrants into STEM programmes in New Zealand was 37%, above the OECD average of 30%.

**Figure 39** Distribution of new entrants to tertiary education, by STEM field of study and share of women in these fields (2015)

Differences between the shares of tertiary entrants and graduates within certain fields of education may signal shifting enrolment patterns among new students. In New Zealand, one of the main differences occurs in natural sciences, mathematics and statistics: despite 10% of all tertiary entrants choosing these fields in 2015, they accounted for just 6% of tertiary graduates. This may in part reflect the fact that natural sciences, mathematics and statistics sometimes form core main subject areas taken by first year entrants as pre-requisites for later graduation in a more specialised field outside of this area, such as health or engineering.

**Figure 40** Distribution of new tertiary entrants and graduates, by field of study (2015)

In all countries except Hungary and Austria, more than 40% of 15-year-old students expecting to pursue a career in science-related fields are girls, and the average among OECD countries with available data achieves near male-female parity at 48%. However

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14 The number in parentheses corresponds to the share of female new entrants in STEM (science, technology, engineering and mathematics) fields of study.
the gender imbalance widens when students are actually confronted with the selection of a field of study upon entry to tertiary education. The share of women actually entering a science-related field of study is 5 percentage points lower on average across OECD countries than the share of girls with career expectations in the same fields. This difference reaches a maximum of 35% in Indonesia. While the difference in New Zealand is 9%, New Zealand has a relatively large share of girls who expect to work as science and engineering professionals (56%) and a share of women entering a science or engineering field of 47%, higher than the OECD average of 42%.

Figure 41 Career expectations of 15-year-old girls and share of female first entrants in science and engineering

Tuition fees vary moderately across fields of study at the tertiary level. The average annual tuition fee at bachelor’s level for full-time national students at public institutions in New Zealand is US$4,295, which is comparable with Australia and Canada (US$4,763 and $4,939 respectively) but fees range from approximately US$3,800 for programmes in education, arts and humanities, social sciences, and services to US$6,100 for health and welfare; this level of variation is broadly consistent with other countries.
New Zealand has very high participation in adult 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 education.\(^\text{15}\) New Zealand has a participation rate of 68%, the highest across all OECD countries. At 14%, New Zealand also has the highest proportion of people who participate in both formal and non-formal education.

In 2015, 38% of adults in New Zealand stated that they wanted to participate in more learning activities, but were unable to. This is higher than the average across participating countries of 24%. The main barrier to further participation in most countries

\(^{15}\) 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.

\(^{16}\) The reference year is 2012 for all countries, except for six countries including New Zealand, for which the reference year is 2015.
was being too busy at work, and was the reason given in New Zealand by 30% of people. This is similar to the average of 29%. However, more New Zealanders perceived child care or family responsibilities as a barrier to further participation than in many other countries, with 19% giving this reason compared with the average of 15%.

**Figure 44** Barriers to participating in formal and/or non-formal education (2012 or 2015)

![Barriers to participating in formal and/or non-formal education](image)

Having childcare responsibilities as a barrier to undertaking further learning activities is evident in participation rates among young adults. In all countries, 25 to 34 year-olds without children in the household were more likely to participate in formal and/or non-formal education than those who lived with children. This gap ranged from only 4% in Denmark to 26% in Italy. The participation gap in New Zealand was relatively small, with 9% more people without children in the household participating in learning activities than those who lived with children.

**Figure 45** Participation in formal and/or non-formal education among young adults with or without young children in the household (2012 or 2015)

![Participation in formal and/or non-formal education](image)

In most countries, men with young children in the household were more likely to participate in learning activities than women with young children in the household. The only countries where this was not the case are the Russian Federation, Flemish Belgium and Chile. The difference between male and female participation was most

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17 Percentages in brackets refer to the proportion of people who wanted to undertake further training but did not start.
pronounced in Japan, where men who had children in the household 53% were more likely to participate in learning activities than women in the same situation. In New Zealand, the participation gap was 13%.

**Figure 46** Young children in the household and relative participation in formal and/or non-formal education, by gender (2012 or 2015)

For all countries, people who volunteered at least once a month were more likely to participate in formal and/or non-formal education. Sixty-two percent of people who volunteered at least once a month also participated in learning activities, compared to only 47% of non-volunteers. In many countries this was particularly true for people aged 55 to 64. The relationship between voluntary work and participation in formal and/or non-formal education was weakest in New Zealand, with 72% of people who volunteered also undertaking learning activities, compared with 66% of non-volunteers.

**Figure 47** Volunteering and relative participation in formal and/or non-formal education, by age group (2012 or 2015)

New Zealand has a relatively large share of international students

New Zealand had a relatively large proportion of international students. At diploma level and above, 21% of students were international students in 2015, 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 diploma level, New Zealand had the largest proportion of international students, at 32%, compared with 3% across the OECD. At doctoral level, 46% were international students, compared with 26% across the OECD. This was the third largest, behind Luxembourg and Switzerland. New Zealand’s large proportion of international doctoral students reflects its policy that international PhD students pay the same fees as domestic students.

While New Zealand’s proportion of international students was large relative to other OECD countries, its overall share globally of international students was around 1.7% of the total number of reported international students. This gave New Zealand the 11th largest share in the OECD. The United States, the United Kingdom and Australia were the top three destinations for international students, with 28%, 13% and 9% respectively of the total international student market.

Figure 48 International and foreign students enrolled, as a percentage of all students (international plus domestic) (2015)\(^{18}\)

Students who travel abroad to study were more likely to be doing postgraduate than undergraduate-level study. Across all OECD countries, 12% of master’s students and 26% of doctoral students were international students. This compares with 2% and 4% for diploma and bachelor’s degrees respectively.

Compared with the OECD in general, New Zealand appears to be a more attractive option for international students wanting to study business administration and law, ICT, or services. Conversely, it is a less attractive option for international students in arts and humanities, social sciences, engineering, or health and welfare. One possible explanation for this is that international students often tend to choose subjects that are more likely to have consistent concepts and knowledge across countries, and which might therefore require less country-specific or English-specific knowledge, and are more likely to give globally transferable skills, knowledge and credentials that they can use in their country of origin or in other countries.

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\(^{18}\) The shares of international students in Master’s and Doctorate programmes in Luxembourg are 71% and 87% respectively.
The growth in international student mobility, and its impact on national talent pools, varies significantly across countries. Some countries experience an outward flow of students, measured by the percentage of all national students studying abroad. This is the case for several Eastern European countries, such as the Slovak Republic (15%), Lithuania (8%), Estonia (8%) and Latvia (7%), as well as for small European countries, such as Ireland (7%) and Norway (7%). Luxembourg is a particularly stark example, with three-quarters of its students enrolled in foreign tertiary programmes. In these countries the percentage of national students enrolled abroad significantly exceeds the share of international students enrolled in national institutions. In New Zealand, only 2% of all national students are studying abroad.

In other countries, large cohorts of international students outnumber their own national talent. This inflow of students is measured by the number of international (or foreign) students on a country’s soil for every 100 national students enrolled in tertiary education programmes across the OECD area. The top destination countries for international students are mainly English-speaking countries: Australia (18%), New Zealand (26%) and the United Kingdom (22%) top the list, followed by small innovation leaders, such as Switzerland (20%), Austria (18%) and Belgium (12%).
Investment in tertiary education

Expenditure comparisons in EAG 2017 relate to the 2014 reference year, which for New Zealand is the 2014/2015 financial year. At US$15,088, annual expenditure per student by tertiary education institutions for New Zealand was 17th out of 34 reporting countries (when research and development activities are included), slightly below the OECD average of US$16,143. Spending per student at diploma level was above average and in the top half, while spending at the bachelor’s degree level and above was slightly below average. When research and development activities are excluded, New Zealand ranks 8th out of 30 countries with reported data.

Across the OECD, around 70% of expenditure on tertiary institutions came from public sources. In New Zealand, tertiary institutions received 51% of their funding from public sources and 49% from private sources, most of which was household expenditure. The split between public and private funding puts New Zealand in line with other Anglophone countries, especially Australia and Canada. These countries support

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19 Luxembourg not shown – student inflow is 33%, student outflow is 73%.
higher private tuition costs through well-developed government-subsidised financial support.

**Figure 52** Sources of tertiary funding to educational institutions (2014)

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 can compare more favourably. Annual GDP growth in New Zealand was relatively strong in the 2014/2015 year. At 1.8%, combined expenditure from public and private sources on tertiary education in New Zealand institutions as a percentage of GDP was in the top 10 in the OECD, ranking 7th for expenditure at diploma level and 10th at bachelor’s level and above.

**Figure 53** Annual expenditure on education institutions at diploma level and above, as a percentage of GDP (2014)

Spending per student relative to GDP per capita allows investment to be viewed after accounting for both differences in relative national wealth, as well as national demographic differences. Annual expenditure per student on tertiary education institutions as a percentage of GDP per capita for all tertiary was 41%, slightly above the OECD average, and in the top half.
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, while most of the other European countries have relatively low tuition fees and low financial support. Of the nine countries that reported data on both tuition fees and available student loan amounts at bachelor level, New Zealand has relatively lower average fees than other countries, with a relatively higher level of public loan availability.

Figure 54 Annual expenditure per student by education institutions (including R&D) at diploma level and above, as a percentage of GDP per capita (2014)

Figure 55 Average bachelor level tuition fees in public tertiary education institutions and available public financial support (2014)
The average loan repayment time in New Zealand of eight to nine years was a little less than in most other reporting countries, and similar to Australia. Repayment times ranged mostly from 5 to 15 years, but were over 20 years in Norway and Sweden. While New Zealand has very similar remission conditions to Australia (death or bankruptcy), some countries reduce the amount repayable in the event of childbirth, strong academic performance, financial difficulty, or chronic illness.

**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.

The Survey of Adult Skills showed that educational attainment levels are increasing across all OECD countries, including for those who have parents without tertiary qualifications. This was particularly true for younger age groups. For example, across the OECD, 20% of 30 to 44 year-olds with parents who did not attain a tertiary qualification had gone on to gain one themselves, compared to only 14% of 45 to 59 year-olds. In New Zealand, these rates were even higher, with 32% of 30 to 44 year-olds and 23% of 45 to 59 year-olds whose parents did not attain a tertiary degree going on to gain one themselves. For 30 to 44 year-olds in New Zealand, this was one of the highest rates of intergenerational upward mobility, behind Singapore and Norway and equal with Finland.

**Figure 56** Share of 30 to 44 and 45 to 59 year-olds (not in education) with no tertiary-educated parent who completed a bachelor’s degree or above (2012 or 2015)

A larger share of 30 to 44 year-olds completed tertiary education compared with 45 to 59 year-olds, regardless of the level of education of their parents. In all countries with available data, high parental educational attainment appears to positively influence the likelihood of completing a tertiary-type A programme (bachelor’s degree or higher) or an advanced research programme. This means that those who are born into families where parents have a high level of education are more likely to attain this level of qualification.

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20 The percentage in parentheses represents the share 30-44 year-old non-students whose parents both have less than tertiary educational attainment. Data on educational attainment are based on ISCED-97.

21 * The sample for the Russian Federation does not include the population of the Moscow municipal area. The data published does not represent the entire resident population aged 16-65 in the Russian Federation but rather the population of the Russian Federation excluding the population residing in the Moscow municipal area.
The likelihood of a person aged 30 to 44 completing a tertiary-type A programme increases significantly if they have just one parent who has studied at that level themselves. While the increased likelihood of someone in New Zealand doing so is not as high as the average (20% of people with a non-tertiary educated parent compared with 55% of people who have at least one parent who has a tertiary qualification), the increase from 32% to 58% is still significant. Along with Singapore, Norway and Finland, New Zealand has relatively high levels of educational attainment at type A or above, regardless of parental attainment levels.

Figure 57 Share of 30 to 44 year-olds who completed a bachelor’s degree or above, by parents' educational attainment (2012 or 2015)

Figure 58 looks at the same age group of 30 to 44 year-olds, but focuses on those who completed a tertiary-type B programme, equivalent to diploma level qualifications in New Zealand. It shows that, for this group, the educational attainment level of the parents is not as great a determinant of the level of education. In Austria, Denmark, the Flemish community of Belgium, Germany, Japan and Slovenia, 30 to 44 year-olds who have at least one tertiary-educated parent were more likely to complete a tertiary-type B programme than those whose parents both have less than tertiary educational attainment. The opposite situation was observed in the Russian Federation and Singapore, where those whose parents both have less than tertiary educational attainment were more likely to complete a tertiary-type B programme.

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22 The percentage in parentheses represents the share of 30-44 year-old non-students who have at least one parent who attained tertiary education.
By comparing Figures 57 and 58 it is seen that the attainment of tertiary-type B qualification is less frequent than the attainment of tertiary-type A or advanced research qualification, regardless of parents’ educational attainment. On average across countries, 16% of 30 to 44 year-olds who have at least one tertiary-educated parent completed a tertiary-type B programme and 55% completed a tertiary-type A or advanced research programme. Among those whose parents both have less than tertiary educational attainment, 12% completed a tertiary-type B programme and 20% completed a tertiary-type A or advanced research programme.

New Zealand’s tertiary admissions system is similar to those used across the OECD

Over half of OECD countries, including New Zealand, have open tertiary admissions systems (meaning all applicants with the minimum qualification level required are admitted) to both public and private institutions. Access to certain fields of education and/or institutions may still be restricted, based on some selection criteria within these countries. In New Zealand, for example, there is a fixed number of places for certain subjects such as dentistry, aviation, veterinary science, and medical degrees. Individual tertiary education organisations (including universities, institutes of technology and polytechnics, wānanga, and private training establishments) who deliver first degrees may also set particular caps within their own organisation.

Centrally administered national examinations, taken towards the end of upper secondary education, and entrance examinations administered by tertiary institutions, are the most widely used prerequisites for entry into first-degree tertiary programmes across the OECD. In New Zealand, university entrance is the minimum requirement for entry into a university. To qualify for university entrance, a student needs to have achieved NCEA Level 3 in three approved subjects. They also need to meet the literacy requirement of 10 credits at NCEA Level 2 or above, made up of 5 credits in reading and 5 credits in writing. They need to meet the numeracy requirement of 10 credits at NCEA Level 1 or above, made up of specified achievement standards available through a range of subjects, or through a unit standards package of three numeracy unit standards. Universities admission requirements for domestic students may also be met at entrance level by special admission for persons over 20 years of age who are New Zealand citizens or residents.

23 The percentage in parentheses represents the share of 30 to 44 year-old non-students who have at least one parent who attained tertiary education.
Zealand or Australian citizens or permanent residents, and by discretionary entrance regulations for students who have not continued secondary education beyond Year 12.

Factors beyond the results of national/central examinations are also taken into account by selective institutions in most countries, although these are used to differing extents. The criteria most used for admission to public tertiary institutions include grade point averages, candidate interviews and work experience. In New Zealand, there is no formal admission requirement for non-university tertiary institutions. Any requirements for entry to non-university degree programmes or other tertiary programmes are established at programme level by the individual education organisation.

In around half of countries with available information, the government sets the minimum academic performance requirements for entry into first-degree programmes, in addition to the usual qualification requirements. These performance requirements are most often based on secondary school certificate/report cards, including students' grades or results of upper secondary national/central examinations. In New Zealand, the Record of Achievement is the official transcript of all the national qualifications and standards that a person has achieved since the implementation of the national qualifications framework. School reports and testimonials can also be used to support applications for admission to tertiary institutions.

Students are required to apply directly to public tertiary institutions in nearly half the countries, while roughly an equal number of countries use a centralised system, or a combination of both approaches, for admission to public institutions. Applications to private tertiary institutions are less frequently processed through a centralised application system. In New Zealand, students apply directly to the tertiary education organisations they wish to enrol with.

Application and admission systems to first-degree tertiary programmes are similar for national and non-national/international students in about half the countries. To study at degree level in New Zealand, prospective students need to meet a degree entrance standard (such as New Zealand university entrance, or an overseas qualification recognised by the New Zealand Qualifications Authority or Universities New Zealand). International students must also fulfil minimum English language requirements for enrolment. If entry requirements are not met, international students may be able to enrol in foundation education studies as a pathway to university entrance. International students are also required by Immigration New Zealand to fulfil health requirements and provide proof of sufficient funds.

Funding systems for first-degree tertiary programmes are largely reliant on a mixture of central allocation (government funding) and market distribution (tuition fees). Only one-third of countries have public tertiary institutions that are financed only by the central allocation of public funds. New Zealand has a mixed-model funding system that combines these two approaches. The government allocates funding to each organisation while taking into account the broad priorities of tertiary education, past performance, and requests for funding (central allocation model). Students are eligible to enrol at any organisation, provided they meet entry requirements (market distribution model). Individual institutions may set their own fees; however, there are limits on how much an institution may increase their fees and course costs. The level is set by government each year, and from 2011 to 2015 it was 4%. It was set at 3% in 2016 and 2% for 2017. The objective of the policy is to allow institutions to make reasonable increases while ensuring that government subsidies are reflected in lower fees for students.

Almost all OECD countries have some government policies, measures or campaigns in place to support or increase participation in first-degree tertiary programmes. These are most often related to tuition fees (including free or capped tuition and decreased tuition for certain fields of study) and financial support to tertiary students (through student
loans, scholarships and grants or through taxation policies). In New Zealand, the
government has invested to encourage training in science, engineering, agriculture and
trades. The government aims to increase the proportion of 25 to 34 year-olds with
advanced trade qualifications, diplomas and degrees (at level 4 or above). Extra
funding has also been provided for tuition at degree level and above - tuition subsidy
rates have been adjusted over recent budgets to address areas of relative under-
funding. The Government also has Science, Technology, Engineering and Mathematics
initiatives and scholarships to support growth in target areas, for example ‘Engineering
to Employment’, which supports the transition from education to employment for the
increasing number of engineering graduates.
THE BENEFITS OF EDUCATION

Education and employment

In 2016, 82% of adults aged 25 to 64 in New Zealand were employed. This put New Zealand in the top five in the OECD, and above the average of 75%. In every OECD 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 those with the highest and the lowest levels of educational attainment. New Zealand is in a group with Iceland, Korea and Denmark where employment rates are high, and the difference in employment rates between the most educated and the least educated is 20 percentage points or less.

Figure 59 Employment rates for adults aged 25 to 64, by educational attainment (2016)

Between 2005 and 2016, New Zealand had one of the largest increases in employment for tertiary educated workers aged 25 to 34 years in the OECD. Over the period, the employment rate for people in New Zealand with tertiary education increased by 5%, the second highest in the OECD after Japan. This compares with the OECD average decrease of 2% over the same period.

Figure 60 Change in employment rates for tertiary educated 25-34 year-olds (2005-2016)
Across the OECD in 2016, tertiary educated workers aged 25 to 34 years were more likely to be in employment than those with lower educational attainment. However, those who obtained upper-secondary or post secondary non-tertiary qualifications (i.e. level 4 certificates) were more likely to be employed if they had studied in vocational rather than general programmes. Across the OECD this difference was 10 percentage points, with 80% of people with vocational qualifications in employment compared with 70% of those who had studied in general programmes. In New Zealand the difference was only 4%, with 81% of people with vocational qualifications in employment compared with 77% of those who studied in general programmes.

Figure 61 Employment rates of 25 to 34 year-olds, by educational attainment and programme orientation (2016)

New analysis in EAG 2017 assesses the labour market demand for education across countries. Labour market demand for education is defined as the share of people employed with a specific level of educational attainment, compared with the share of people unemployed with the same level of educational attainment. The value of this approach is that the comparisons attempt to adjust for labour market cycle differences across countries.

Figure 63 shows that on average across the OECD, the index for 25 to 34 year-olds with below upper-secondary education is 0.5, 1.0 for those with upper-secondary or level 4 education, and 1.5 among those with diploma level and above. This means that, on average across the OECD, the share of young adults with no qualifications among young employed adults is half their respective share among unemployed young adults. For young adults with upper-secondary or level 4 education, their share among the employed and unemployed population is equal, and for diploma level or above educated young adults their share among the employed population is 50% higher than their respective share in the unemployed population. In 37 out of the 41 countries with available data, the share of tertiary-educated 25 to 34 year-olds is greater among the employed population than among the unemployed population.

The results for New Zealand were very similar to the OECD average, showing a clear relative employment advantage for people with higher qualifications. The share of the employed population aged 25 to 34 with no qualifications is about half of the share of the unemployed population, while the share of the employed population with school or level 4 qualifications is roughly equal. Younger tertiary qualified people on the other hand have a greater share of the employed population than their tertiary qualified but unemployed counterparts.
Despite these differences, New Zealand has relatively good labour market outcomes for people with less than a tertiary education, in terms of employment, unemployment and earnings, compared with other OECD countries, where there can be some large differences between educational attainment levels. For example, across the OECD the average difference in unemployment rates for 25 to 34 year olds with the highest qualifications and those with the lowest was 10%. In New Zealand, the difference was only 7%.

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

EAG 2017 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 full-time full-year workers aged 25 to 64 were above the OECD average at all education levels. The only group for which this was not the case was 55 to 64 year-olds with attainment at bachelor’s level and above.

New Zealand is very similar to Australia, where there are smaller differences in relative earnings for adults between those with a tertiary education and those with upper secondary qualifications, although not as small as the difference observed in some
Nordic countries. New Zealanders with a tertiary education earn around 40% more than their counterparts with only an upper secondary education, whereas this difference is 56% on average across the OECD.

**Figure 64** Relative earnings of adults with tertiary qualifications compared to upper-secondary qualified (2015)

In New Zealand there is also a smaller difference between those with no qualifications, and people who have attained an upper secondary education. In New Zealand, people with no qualifications earn around 13% less than those with an upper secondary education, compared with the OECD average of 22%.

According to classic economic theories, the earnings advantages of tertiary-educated people and the earnings disadvantages of low-educated people can be explained by the economic rule of supply and demand. Supply and demand for the labour force with a given skills level cannot be directly measured. However, the share of tertiary-educated people in the population is an indicator of the supply of a skilled labour force in a country, with the unemployment rate, reflecting the tightness of the labour market, being a useful indicator for the demand. Unemployment rates decrease with the educational attainment level in all OECD countries, suggesting a skills-biased demand for labour. Thus, the earnings advantages of people with tertiary education should be higher in countries where their share is low.

Figure 66 shows this by comparing the earnings advantages for tertiary-educated workers aged 25 to 64 years with the share of tertiary-educated adults in the population. OECD data supports the hypothesis that earnings advantages are largest in countries with a small share of tertiary-educated people, such as Brazil, Chile, Colombia, Hungary and Mexico, while earnings advantages are smallest in countries with a large share of tertiary-educated people, such as Norway and Sweden. New Zealand falls into this latter group of countries.
Men earn more than women at all levels of educational attainment

Across full-time full-year workers in the OECD, men earn more than women, regardless of educational attainment, with men earning on average 20 to 30% more. This is similar to the earnings differences between men and women in New Zealand at different attainment levels. For many countries, this difference is larger at higher levels of educational attainment.
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 are similar at postgraduate levels. However, the earnings advantage of tertiary qualified adults over those with lower levels of attainment is smaller in New Zealand than in most other OECD countries. This reflects the comparatively higher earnings for New Zealand adults with lower educational attainment. Overall, this acts to lower the relative return on investment in education.

The financial return on education is the present day value of all the net financial benefits of investing in and attaining additional qualifications relative to those choosing not to invest in this additional education. 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 qualification. This return can be defined in terms of the private return on individual investment, or the public return for governments investing in education.

In 2013, the average present day private value of obtaining an upper-secondary qualification was about US$99,200 for men and US$61,600 for women across the OECD. New Zealand had below average returns, with these qualifications valued at US$31,200 for men and US$25,500 for women.

The public costs and benefits for someone gaining upper-secondary 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$66,000 for men and US$51,100 for women. In New Zealand the present day value was US$13,200 for men and US$5,400 for women.

Figure 67 Private financial returns for an upper-secondary education (2013)

People who complete a qualification at diploma level or above gain a further benefit over those with upper-secondary qualifications. In 2013, the present day value of a tertiary qualification for New Zealand men was US$162,800 and US$145,400 for women. This was in the bottom quarter of the OECD for men and the bottom half for women. The OECD average was US$252,100 for men and US$167,400 for women.

Across the OECD, the private financial returns to tertiary education for women were 66% of those for men. In New Zealand, the financial returns for women were 89% of...
those for men. Spain and Estonia were the only countries where the returns for women were greater than those for men.

**Figure 68** Private financial returns for tertiary education relative to earnings of upper secondary qualified (2013)

The primary factor behind the relatively low private returns to education in New Zealand is the relatively small earnings premiums between workers with different levels of educational attainment, which in turn are 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 education is about 78% of the OECD average for men, and 98% for women.

Benefits of tertiary education also differ greatly by attainment level. People with diploma level qualifications have lower earnings over time compared with workers with a bachelor’s degree or above, for example. Some countries were able to supply data that separated out tertiary level qualifications, and analysis of private net financial returns in New Zealand shows that a bachelor’s, master’s or doctoral degree is worth about eight times as much as a diploma level qualification for men, and three times as much for women.
Figure 69 Private costs and benefits of education for a woman attaining a diploma, or a bachelor’s, master’s and doctorate or equivalent degree (2013)

New Zealand also 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 EAG.

The public financial returns to tertiary education are also relatively 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. At US$65,500 for men and US$42,800 for women, the public net financial returns for a tertiary educated man in New Zealand is about 40% of the OECD average, and for a woman it is 50%.

Figure 70 Public financial returns to tertiary education relative to earnings of upper secondary qualified (2013)

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. EAG 2017 uses the 2013 year for the financial returns indicator. In 2013, 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 compared with some other OECD countries, relatively flatter earnings across education levels. This is the main driver behind the relatively lower financial returns to tertiary education.

Another factor is the qualification level of the reference group (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 group further acts to reduce comparative returns.

An additional 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 that, in real terms, the student effectively pays less than the initial cost of the qualification.

While the analysis above is based on the assumption that a person is not employed for the duration of their study, in reality many students are employed while they are studying. Taking into account the earnings of a student while they are studying both decreases the foregone earnings accrued through the duration of study and increases the net financial returns of educational attainment. For example, in New Zealand the amount of foregone earnings accrued for the duration of tertiary study decreases by 36% when student earnings are taken into account. The net financial returns of tertiary education also increase by 15%. These changes are similar to those observed in Australia, and only Finland, Norway and Estonia have larger increases in financial returns when student earnings are taken into account.

**Figure 71** Change in private net financial returns for a man attaining tertiary education when student earnings are taken into account (2013)

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There is also a range of social benefits associated with education

*EAG 2017* looks at how educational attainment is related to the prevalence of depression. The section on social outcomes of education in *EAG 2017* is based on several data sources. For EU countries, the European Health Interview Survey (EHIS) is used. The OECD countries that participated in the EHIS are all OECD/EU countries plus Iceland, Norway and Turkey. For non-EU countries, the data sources are national surveys. As the questions asked in the different surveys vary, survey results are not directly compared in the analysis.
Differences by level of educational attainment within countries can still provide good insights on the education gradient in the prevalence of depression. The main findings were that:

- **prevalence of depression reduces with higher levels of educational attainment in all countries with data from the EHIS**. The largest differences in depression prevalence between adults with below upper secondary education and adults with tertiary education for European countries are observed in Austria, Iceland and Ireland.

- **for each country with available data, a higher share of women than men report suffering from depression, and the share decreases more steeply for women than for men as educational attainment increases.**

- **education prevents depression, but so does employment**. Data from the EHIS shows that the variation in depression prevalence across educational attainment levels is much smaller among the employed population than among the unemployed or the inactive population.

The New Zealand Health Survey⁴ asks whether respondents have ever been diagnosed with depression. However, the results are not comparable with the data published for other countries in EAG 2017, as the corresponding surveys ask whether the respondent has been diagnosed with depression in the previous 12 months, meaning the reference periods are significantly different. However, the New Zealand results do indicate that the prevalence of depression is lower for people with a tertiary education than it is for people with lower levels of educational attainment, and that women are more likely than men to be diagnosed with depression, at all levels of educational attainment.

Data from the 2016 New Zealand General Social Survey⁵ also indicates that educational attainment can influence both overall life satisfaction and feelings that life is worthwhile. For example, 88% of people with educational attainment at bachelor’s degree or above rated their overall life satisfaction at 7 out of 10 or more, compared with 77% of people with no qualifications. Similarly, 91% of people with a bachelor’s degree or above rated their feelings that life was worthwhile at 7 out of 10 or more, compared with 80% of people with no qualifications.

In EAG 2016, life satisfaction was 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 showed that across participating countries the proportion of adults aged 25 to 64 years reporting they were 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: 73% reported that they were in good health, the third highest in the OECD and higher than the 59% OECD average.

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⁴ Ministry of Health, New Zealand Health Survey 2016.

⁵ Statistics New Zealand General Social Survey 2016.
Higher education levels are also associated with lower activity limitation due to health problems.\textsuperscript{26} 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.

Adults with a tertiary qualification also 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.

\textsuperscript{26} 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.