



MINISTRY OF EDUCATION
TE TĀHUHU O TE MĀTAURANGA

How does New Zealand's education system compare?

OECD's Education at a Glance 2014



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NEW ZEALAND'S EDUCATION SYSTEM AT A GLANCE

Early Childhood Education (ECE) and Schooling

- *New Zealand continues to perform well on ECE indicators – participation, funding and teacher-child ratios are all well above OECD averages.*
- *Upper secondary retention is increasing but remains below the OECD average.*
- *Compared with other countries, young New Zealanders are more likely to leave school sooner, and work, or go on to further education, or enter further education when they're older.*
- *They are, however, also more likely to be unemployed, and rates of young people not in education of training (NEET) remained high in 2012. They have since fallen in 2013, back to their lowest level since 2008.*
- *PISA results show above average but declining performance in mathematics for 15 year-olds, high levels of top performers, but also increasing levels of low performers, and a higher level of socio-economic inequity in maths performance.*
- *New Zealand spends less per student than the OECD average, but relative to national wealth, public investment is very high.*
- *There is on average one child more per primary teacher compared to the average OECD ratio, and about average ratios at upper secondary level.*
- *Teachers at the beginning of their careers earn more than the average earnings of other tertiary educated adults in New Zealand, but slightly less than teachers overseas. Their salaries also increase faster than the OECD average, but reach a maximum which is lower than the average maximum in other OECD countries. Salaries for New Zealand teachers have increased ahead of average OECD increases since 2005.*
- *New Zealand teachers work longer hours on average than their OECD counterparts. The proportion of time spent teaching is lower than the OECD average at primary level, but higher than the average at secondary level.*
- *New Zealand school teachers are a little older on average.*

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

- *New Zealand has a high proportion of tertiary qualified adults.*
- *New Zealand has one of the highest tertiary attainment rates amongst women. Female attainment now exceeds that of males in the majority of OECD countries, and in New Zealand this difference is one of the largest.*
- *New Zealand has high levels of participation in tertiary study, especially at older ages and in vocational programmes. New Zealand also has one of the highest levels of part-time study.*
- *New Zealand students are more likely to enter science, mathematics and computing programmes than students in other OECD countries, but are less likely to enter engineering, manufacturing and construction programmes.*
- *Public investment in tertiary education is high, but more of it goes to students as loans and grants than as direct funding to institutions.*
- *At degree level, New Zealand has more students per teacher on average, and more women teaching.*
- *New Zealand remains a key player in the international tertiary student market, being the 13th largest in absolute market share terms, and one of five countries with more than 15% of tertiary students coming from overseas.*
- *Employment and earnings increase with education, as with all countries in the OECD, but the relative benefits are smaller in New Zealand.*
- *There are a range of social indicators that are positively associated with higher levels of education, including self-reported health, levels of smoking, obesity, levels of volunteering, levels of trust and civic engagement.*

INTRODUCTION

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

This is the 22nd edition of *Education at a Glance*. This year's report reflects 2012 data for most non-financial indicators and 2011 data for financial indicators (which for New Zealand is the 2011/12 financial year). It includes over 450 country comparisons tables and graphs covering 30 education system indicators including:

- Educational attainment in the population
- Participation and achievement
- Expenditure on education
- Transitions from school to work
- Employment and earnings, and returns on educational investment
- Social outcomes of education
- International education
- Staffing: teacher-student ratios, salaries and demographics
- Public versus private education
- Student financial support and tertiary tuition fees
- How early childhood systems differ around the world.

This year also draws on results from *PISA 2012*. *PISA (Programme for International Student Assessment)* assesses 15 year-olds in reading, mathematical and scientific literacy. *Education at a Glance 2014* devotes a chapter on performance in mathematics and how this relates to equity.

This year also draws on new information from the first *Survey of Adult Skills*, part of the *Programme for the International Assessment of Adult Competencies (PIAAC)* run over 2012, which provides rich new comparative information on the distribution of skills amongst adults, and how these, rather than qualifications, relate to educational outcomes. New Zealand did not participate in this first round and so is missing from these comparisons, but is participating in the second round with results due in 2016.

This summary presents highlights in relation to New Zealand. Readers are encouraged to check out the full report. The report, and all tables and graphs, are available online. Over 150 tables are only available online at <http://www.oecd.org/education/eag.htm>.

The OECD GPS is an online tool enabling further comparisons for New Zealand with specific countries and indicators. It's available at <http://gpseducation.oecd.org/> and covers the full range of *Education at a Glance*, *PIAAC*, *PISA* and *TALIS (Teaching and Learning International Survey)* indicators.

EAG 2014 uses the *International Standard Classification of Education 1997 (ISCED 97)* as a basis for classifying and comparing educational levels. Differences between ISCED and the way educational levels are defined and referred to in New Zealand are noted below. ISCED was revised in 2011 and EAG 2015 will feature this revised classification for the first time.

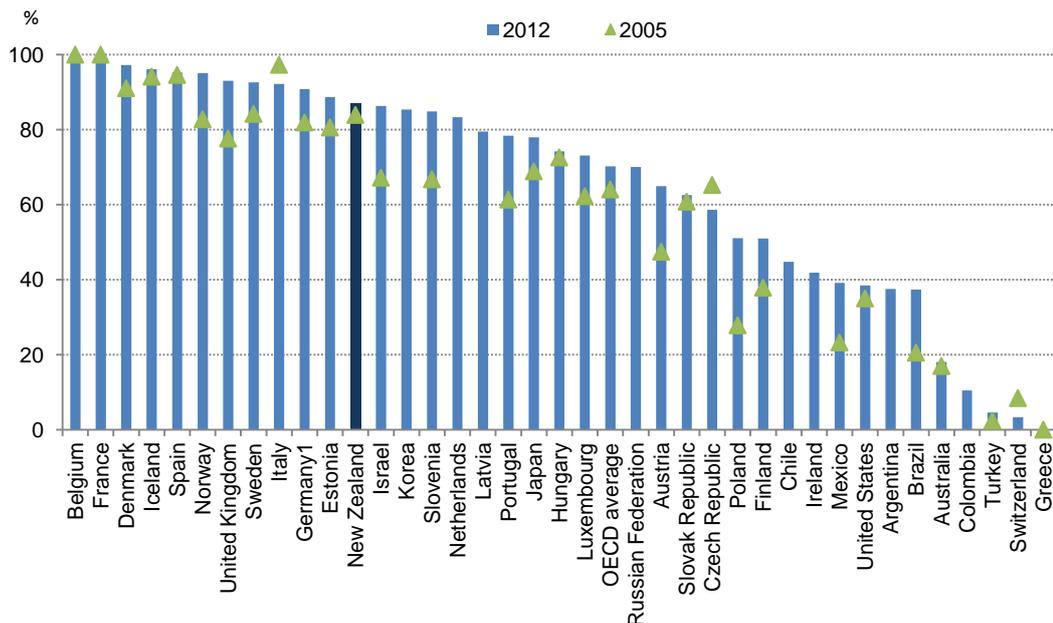
EARLY CHILDHOOD EDUCATION

EAG 2014 uses the *International Standard Classification of Education 1997 (ISCED 97)* as a common basis for classifying and comparing educational levels. Under ISCED 97, pre-primary relates to those aged 3 and over in centre-based education, and so under-represents ECE as it is structured in New Zealand, as it excludes home-based ECE and ECE for those aged two and under. However, recent changes in this classification (ISCED 11) will see these two groups included from EAG 2015.

ECE participation is in the top third.

- Participation at pre-school ages in the education system in New Zealand is in the top third of OECD countries. Around 87% of 3 year-olds and 94% of 4 year-olds in New Zealand were enrolled in centre-based ECE in 2012.¹ This was above the OECD average of 70% and 84% for 3 and 4 year-olds respectively. New Zealand's participation rates for 3 and 4 year-olds were less than the UK and Ireland (where over 30% of 4 year-olds have also already begun in schools), and were also less than France, Germany and most Nordic countries, but ahead of Australia, the USA and Canada.

Enrolment rates in early childhood education, age 3 (2005 and 2012)



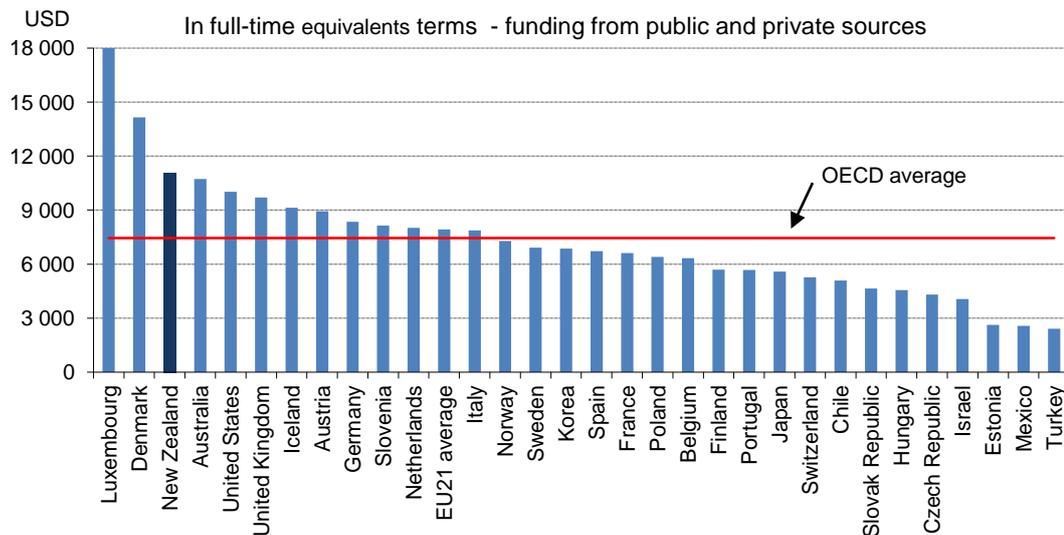
- New Zealand (along with Australia, the UK and Ireland) is one of the few OECD countries where most children move from pre-primary to primary at age five. For the majority of countries most children do not start school until age 6.

¹ This excludes home-based, but it does over count for children who were enrolled in more than one centre-based service in the last week of June 2012.

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

- New Zealand had the third highest combined public and private expenditure per full-time equivalent child in ECE, around 49% higher than the OECD average in 2011.
- 85% of expenditure was from public sources, just above the OECD average of 82% in 2011. Funding from public sources was above that of Australia (74%), the USA (69%) and UK (69%), but less than most Nordic countries. New Zealand ranked seventh in terms of the percentage of public expenditure allocated to ECE (at 1.5%).

Expenditure per child (3 and over) by educational institutions - ECE (2011)

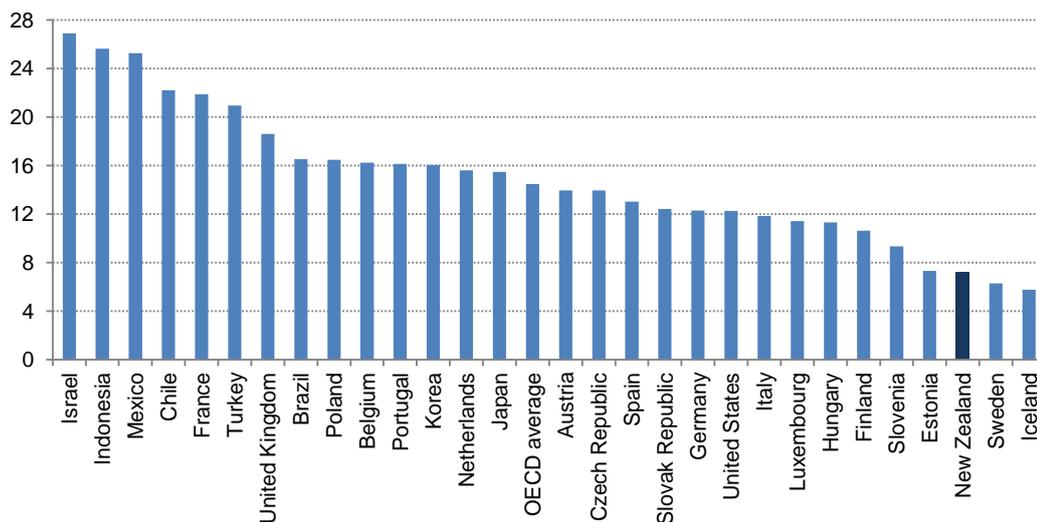


- Despite one of the highest levels of expenditure per child, New Zealand's public expenditure as a percentage of GDP (at 0.5%) remains below the OECD average (0.6%). When both public and private expenditure are considered, New Zealand is about average on this measure. This, in part, reflects the fact that pre-primary investment includes 3, 4 and 5 year olds across most OECD countries, while in New Zealand (along with the UK, Ireland, and Australia), the majority of investment in education of five year-olds is occurring in primary education.
- Total public and private expenditure per student relative to GDP per capita is an indicator which considers differences in both relative wealth as well as relative population participation. In terms of ECE expenditure per student as a proportion of GDP per capita, New Zealand ranked highest in the OECD.
- Over the period of the economic recession (2008 to 2011), growth in public expenditure on ECE was 16%, the second highest in the OECD, which on average grew by 2% over the same period. New Zealand's increase reflects both demographic and participation increases over this period, including impacts from the introduction of *20 Hours ECE* in 2007, and increased growth in population of under-5s. While per child expenditure increased between 2008 and 2010, this year's EAG shows a small decline in expenditure per child, reflecting policy changes in 2011 when the public subsidy for providers with 100% qualified teachers was removed.

The number of children per teacher in ECE is half the OECD average.

- New Zealand has the highest level of non-government-owned ECE provision at 99%, although all providers receive government funding. On average across the OECD, 68% of children attended ECE in publicly owned or managed institutions, while just 11% were fully privately owned and funded.
- Around 80% of OECD countries operate ECE systems where education and care aspects are formally integrated. Nearly half of these (16 countries, including New Zealand, Australia, Canada, Norway, Sweden, Iceland and Korea) also have a formal curriculum and regulated teacher qualification requirements. Nine countries operate systems where formal education and care are separated (Belgium, Czech Republic, France, Germany, Luxembourg, Poland, Slovak Republic, Spain and Turkey).
- New Zealand has one of the lowest ratios of full-time equivalent children to ECE teachers, with on average 7 children per teacher, compared with the OECD average of 14 full-time equivalent children to every teacher.²

Ratio of full-time equivalent children to teaching staff in early childhood education (2012)



- The proportion of ECE teachers who are men (2%) was just below the OECD average (3%). New Zealand was about the middle of the range of proportions across OECD countries (13th out of 28). These proportions ranged from less than 1% in the Czech and Slovak Republics, Estonia, Hungary, Israel and Korea, to 5% or more in France, Netherlands, Spain, Turkey, the UK and the USA. In France and the Netherlands more than 10% of ECE teachers were men.

² This measure is influenced by differences in what countries consider a full-time equivalent child to be. However, even under standardised definitions, New Zealand would likely continue to rank well on this measure.

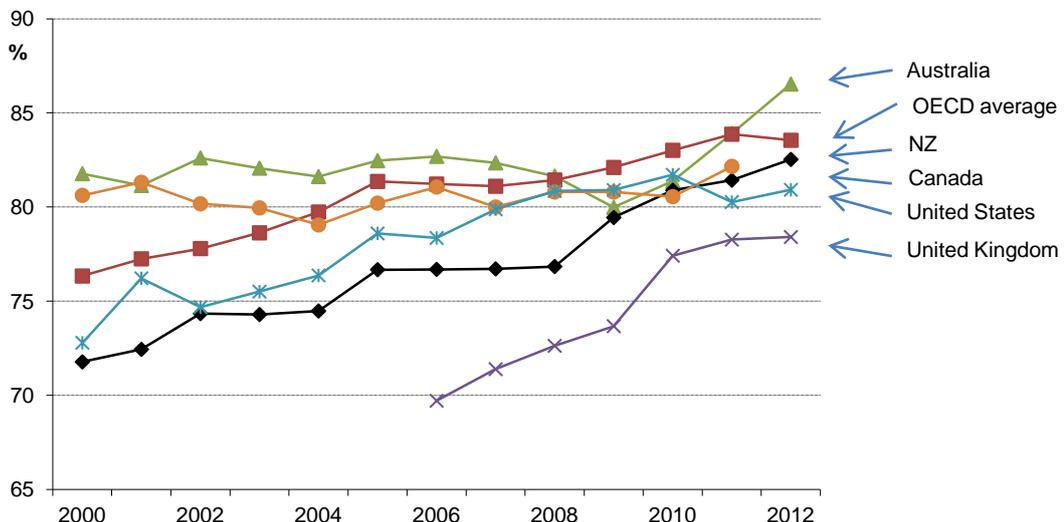
SCHOOLING

Under the *International Standard Classification of Education* (or ISCED 97) used in EAG 2014, 'primary education' indicators in EAG cover Years 1 to 6, while 'lower secondary' education covers Years 7 to 10. 'Upper secondary' education refers Years 11-13, and also includes level 1-3 post-secondary education. In terms of attainment, 'upper secondary' refers to those with at least a Year 12-equivalent school qualification. Those with a Year 11 qualification, such as NCEA Level 1 or School Certificate are counted as having "below upper secondary" attainment. Hence care is needed in assessing what these EAG results might mean for New Zealand's schooling system.

Upper secondary retention is increasing but remains below the OECD average.

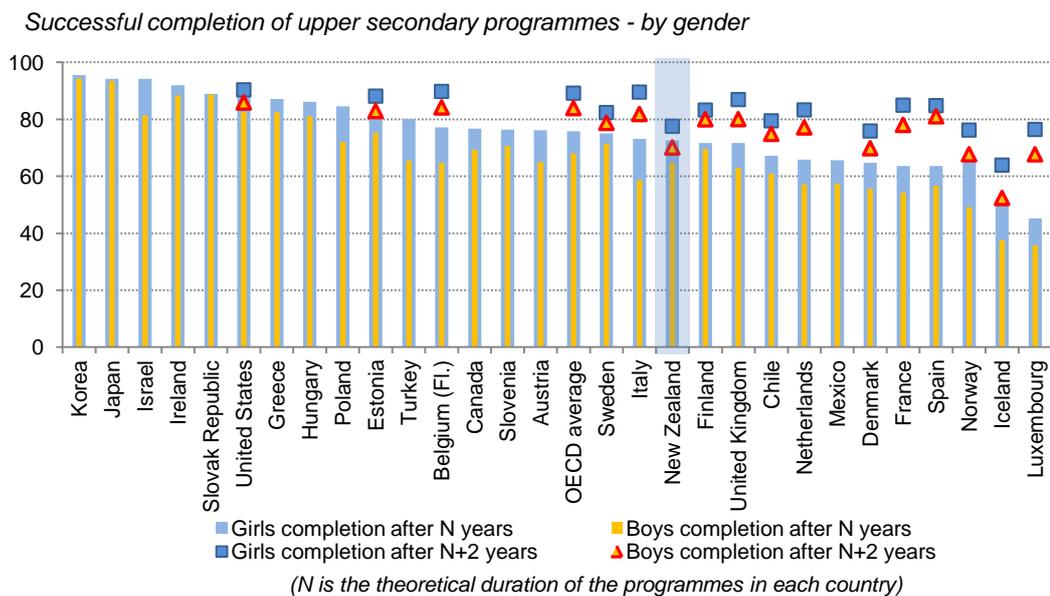
- In 2012, 83% of 15 to 19 year-olds were in education, just below the OECD average of 84%. Of this 83%, 56% were enrolled in schools and 27% were enrolled in post-school institutions. The proportion of 15 to 19 year-olds enrolled in schools rose from 52% to 56%, while the proportion in post-school institutions remained much the same.
- New Zealand's rate was above the UK, the USA and Canada, but remained lower than Australia (87%) and most European countries.
- The enrolment rate for 15 to 19 year-olds increased from 77% to 83% between 2008 and 2012. This growth was similar to growth in the UK and Australia, and was second only to Turkey. All of the increase occurred in schools, rather than post-school settings.

Growing retention of 15 to 19 year-olds (2000 - 2012)



- Part of the improvement in participation is being supported by recent government targets and policy aimed at keeping youth in education and achieving at Year 12 or higher, and an increased focus on young people achieving Level 4 qualifications or higher.

- The proportion of 25 to 34 year-olds attaining an upper secondary level of education (the equivalent of NCEA Level 2 or higher) increased from 76% to 80% between 2005 and 2012 – and from 71% to 76% for 25 to 64 year-olds. These **attainment rates** remain slightly below the OECD average for both age groups. Despite high levels of tertiary-qualified adults, New Zealand continues to rank behind countries like Australia, Canada, the UK and USA.
- EAG has two additional indicators of school achievement, completion rates and graduation rates. For **completion rates**, 69% of New Zealand students entering into initial upper secondary level study (i.e. Year 11) had completed a Year 12-equivalent or higher after 3 years. This rate increased to 74% after 5 years. This rate was below the OECD average of 72% and 87% respectively.



- **Graduation rates**, another indicator of achievement used in EAG, measures the rate at which a country produces upper secondary-level graduates. New Zealand's upper secondary graduation rate was 85%, above the OECD average. This indicator, however, has a number of issues.³

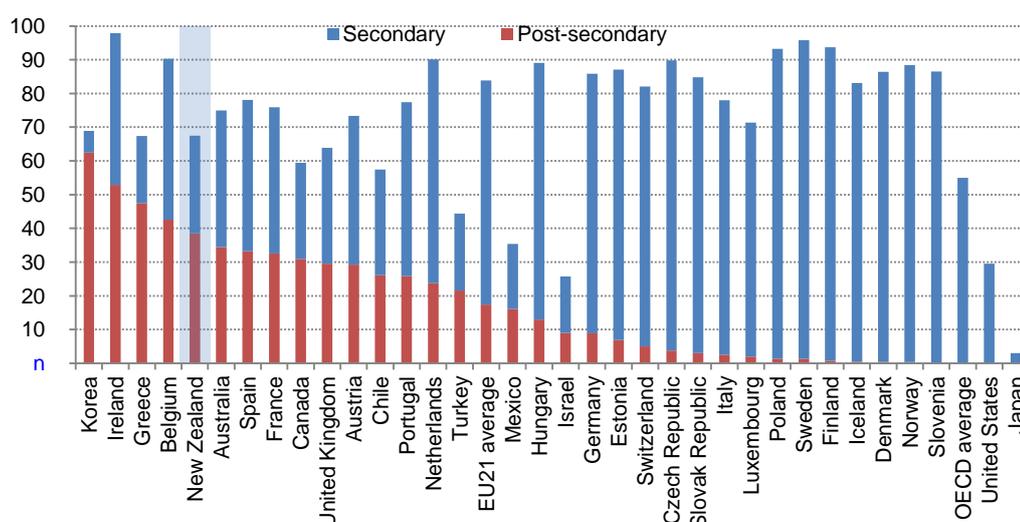
Compared with other countries, young New Zealanders are more likely to leave school sooner, and work, or go on to further education, or enter further education when they're older.

- Around 11% of those entering Year 11 leave with a one-year qualification (usually NCEA Level 1). New Zealand has one of the highest proportions of adults whose highest attainment is a one-year upper secondary qualification (7%). One-year upper secondary qualifications are relatively uncommon in OECD countries, with only the UK and Luxembourg reporting levels near or above New Zealand's level in 2012. They do not count as "upper secondary" attainment under international definitions.

³ The higher levels of older students gaining upper-secondary-equivalent post-school certificates is not well catered for under the OECD methodology, and leads to artificially-inflated graduation rates near, or above 100%. To improve interpretability, New Zealand graduation rate data for EAG 2014 is limited to school-based initial education only. This will impact on the comparability of NZ results, in particular with those countries with established upper-secondary-equivalent education done outside of the initial school system.

- While relatively more New Zealand 15 to 19 year-olds leave school with less than a Year 12 qualification, they are more likely to be working or enrolling in post-secondary study than their counterparts overseas. In 2012, New Zealand had one of the highest employment rates for 15 to 19 year-olds, behind Norway, Israel, Mexico and Turkey (countries which have compulsory military service). Of the 14% of New Zealand 15 to 19 year-olds employed and not in education, 5% were employed part-time (the second highest rate), and 9% were employed full-time (fifth highest).
- Many of this group will enrol in post-secondary study later. New Zealand has one of the higher rates of entry to tertiary education at older ages.

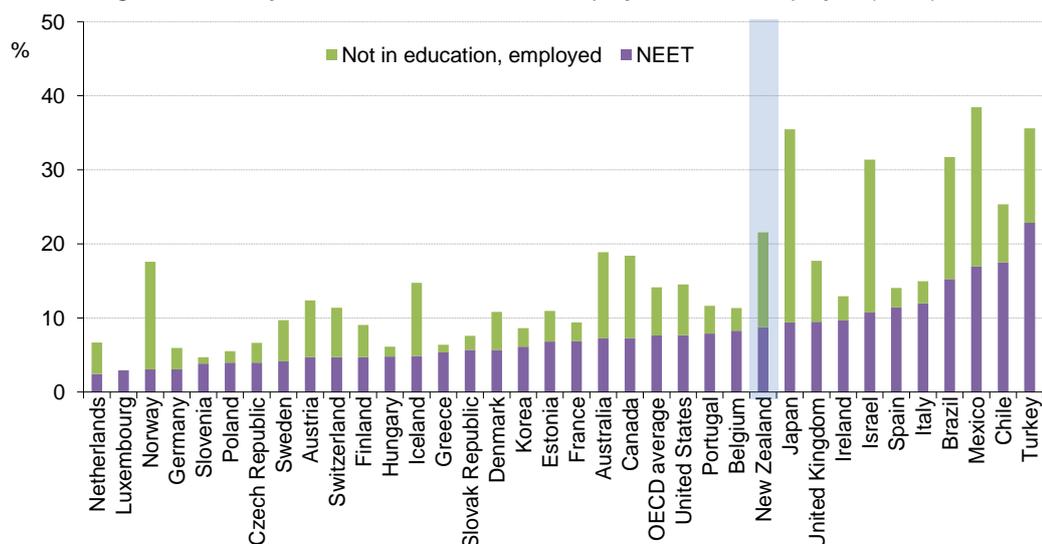
Percentage of 18 year-olds in education - secondary and post-secondary (2012)



Young New Zealanders, however, are also more likely to be unemployed, and rates of young people not in education of training (NEET) remained high in 2012. They have since fallen in 2013, back to their lowest level since 2008.

- Despite the recovery from the recession, the effects were still being experienced by the young, with persistent high unemployment rates in 2012. Despite one of the highest levels of youth employment in the OECD, New Zealand had a relatively high proportion of 15 to 19 year-olds neither in employment nor education (NEET). At 8.7% in 2012, the NEET rate was similar to that in 2011 and better than in 2009, but still higher than the pre-recession rates. The average across the OECD decreased from 8.1% to 7.2% between 2011 and 2012. New Zealand's rate kept it in a group of OECD countries with the 10 highest NEET rates for 15 to 19 year-olds in 2012. The 2013 NEET rate for 15 to 19 year-olds, which will appear in *EAG 2015*, however, fell to 7.7%, closer to the pre-recession low of 7.0% in 2008.

Percentage of 15 to 19 year-olds not in education, employed and not employed (2012)



- New Zealand NEET rates for 20 to 24 year-olds and 25 to 29 year-olds were also slightly higher in 2012 than in 2011 (at 16.9% compared with 16.4%, and 18.9% compared with 17.9% respectively). However, unlike the 15 to 19 age group, NEET rates for these groups are lower than the OECD average.

PISA results show above average but declining performance in mathematics for 15 year-olds, high levels of top performers, but also increasing levels of low performers, and a higher level of socio-economic inequity in maths performance.

- With mathematics as its primary focus, the *Programme for International Student Assessment (PISA) 2012* survey measured 15-year-olds' "capacity to reason mathematically and use mathematical concepts, procedures, facts and tools to describe, explain and predict phenomena."⁴ EAG 2014 focuses on one aspect of these results: how much socio-economic "equity" plays a part in mathematics performance. Countries with higher equity values indicate that less of the variation in performance can be explained by socio-economic factors.
- PISA 2012 results, as reproduced in EAG 2014, show above average performance in mathematics, with NZ having a high proportion of top performers. However, they also show a declining trend in performance over the four surveys and 12 years since PISA 2003. In PISA 2012 New Zealand is one of only three high-performing countries and economies with below average equity in education outcomes where the relationship between performance and socio-economic status is stronger than average. New Zealand is also in a group of countries where both mathematics performance and equity have deteriorated over time.
- Students in independent private schools scored 87 points higher on the mathematics performance scale than their public school counterparts (the equivalent of more than two years difference in schooling). When adjusted for equity differences in students, this difference halved and when further adjusted for

⁴ Results for New Zealand were released in December 2013, and can be found here: <http://www.educationcounts.govt.nz/publications/series/2543/pisa-2012/pisa-2012-new-zealand-summary-report>

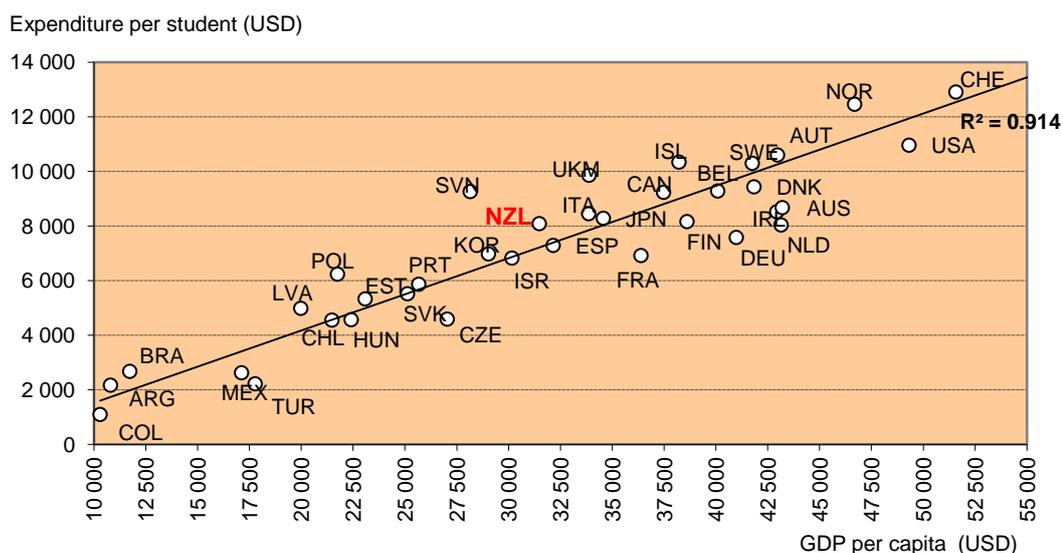
equity differences between schools, there was no difference in mathematics performance. The difference between private and public schools was larger in NZ than most OECD countries, although NZ along with most countries showed a similar pattern of impact on adjusting for equity differences. Half of the OECD, in fact showed higher performance in public schools once adjusted for equity impacts.

New Zealand spends less than average per student, but relative to national wealth, public investment is very high.⁵

- Total (public and private) expenditure per student to schools in 2011 was 3% lower than the OECD average for primary (Years 1-6), and 8% lower than the OECD average for lower secondary (Years 7-10). However, total 'upper secondary' expenditure per student (which includes both school and post-school expenditure) was 5% above the OECD average, and New Zealand ranked 15th out of 31 countries. School-based upper secondary expenditure per student was 3% higher than the OECD average. When lower and upper secondary levels are combined, New Zealand spent about the OECD average.
- Public expenditure per student across schooling levels was also a little (2%) less than the OECD average, and New Zealand ranked 17th out of 29 countries.
- When considered against national wealth, New Zealand's position is significantly better. Total public and private expenditure to institutions as a percentage of GDP was in fact the highest in the OECD at 5.2%. Public expenditure as a percentage of GDP was the second highest in the OECD at 5.0%.
- However, this measure partly reflects differences in the school starting ages across countries, and relative population differences at other core schooling ages. New Zealand (along with the UK, Ireland, and Australia) is one of the few OECD countries where the majority of investment in education of 5 year-olds occurs in the primary rather the pre-primary sector.
- Total public and private expenditure per student relative to GDP per capita is an indicator which considers relative differences in both relative wealth as well as population participation. In this measure, New Zealand ranked 7th highest for primary and 8th highest for secondary in 2011.

⁵ New Zealand results in EAG 2014 now more accurately reflect school expenditure than previous editions which excluded school property management. Because of this, trend comparisons are not currently reliable. Historic data will be revised for future editions.

Expenditure per student relative to GDP per capita - Primary education



- In terms of the how much institutional expenditure comes from public versus private sources, EAG combines schooling levels with post-school level 1 to 4 education. On this measure, around 89% of New Zealand expenditure on institutions came from public sources, a little less than the OECD average (of 91%). When New Zealand expenditure for post-school level 1 to 4 study is excluded, 93% comes from public sources.
- However, New Zealand allocated 14% of its total public expenditure to schooling, which was the highest of any country in the OECD.

There is on average one child more per primary teacher compared to the average OECD ratio, and about average ratios at upper secondary level.

- Student to teacher ratios for New Zealand in 2012 were a little higher than OECD averages at primary level and lower secondary levels, and about the OECD average for upper secondary. At primary level, New Zealand had a similar ratio to Australia and Ireland, one child per teacher less than the ratio in the UK, and one child per teacher more than in the USA. At secondary level, New Zealand's ratio was similar to Ireland and the USA, one child higher than the UK, but three children per teacher less than the ratio in Australia.

Student to teacher ratios (in full-time equivalent terms) (2012)

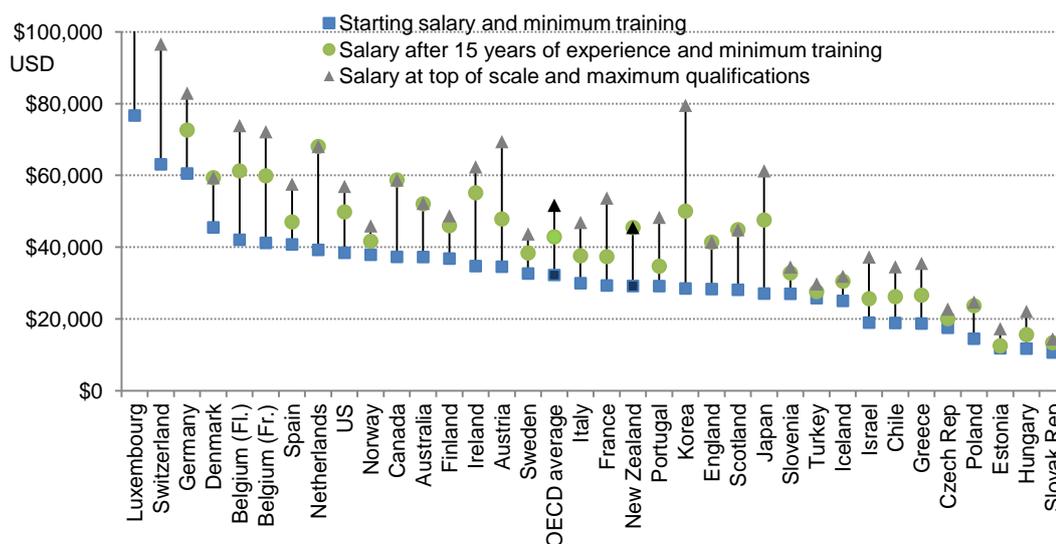
Level	New Zealand	OECD average	Rank (lowest to highest)
Primary (Years 1-6)	16	15	16 of 32
Lower secondary (Years 7-10)	16	15	23 of 31
Upper secondary (Years 11-13)	14	14	16 of 31
Total secondary	15	14	23 of 32

Teachers at the beginning of their careers earn more than the average earnings of other tertiary educated adults in New Zealand, but slightly less than teachers overseas. Their salaries also increase faster than the OECD average, but reach a maximum which is lower than the average maximum in other OECD countries. Salaries for New Zealand teachers have increased ahead of average OECD increases since 2005.

- Starting salaries for New Zealand school teachers in 2012 remain slightly less the OECD average.⁶ New Zealand teachers reach the top of the salary in one-third of the average time taken across the OECD (8 years compared with 24 years). New Zealand salaries after 10 and 15 years of experience remain higher than the OECD average, but then begin to level off sooner. At the top of the scale, a teacher in New Zealand can expect to earn 50% more than new teachers entering the profession, compared with an average of 60% across the OECD.
- As with other measures of expenditure, when related to national wealth, statutory salaries for New Zealand teachers compare better; in the top third for starting salaries relative to GDP per capita, and about average for salaries at the maximum, at both primary and secondary levels.
- When compared with the earnings of other tertiary-educated 25 to 64 year-old full-time workers, New Zealand teachers' salaries at the beginning of their careers are more competitive than in most OECD countries. At the primary, lower secondary and upper secondary levels teachers earn slightly more than other workers of a similar age and education level. This is in contrast with the average across OECD countries, where teachers earn between 10 and 15% less than their similarly educated counterparts, depending on the level of education they teach.
- The salary per teaching hour for upper secondary teachers (after 15 years of experience) was 1.3 times higher than that of primary teachers. This was about the same as the OECD average, and above that of Australia, Canada and the USA (1.1 times higher).
- Since 2005, teacher salaries in New Zealand have increased at a faster rate than average OECD increases (5% for primary and 8% for upper secondary, compared with 4% and 2% respectively). The impact of the recession continues to be felt for many countries, where OECD average teacher salaries fell 3% between 2009 and 2012.

⁶ Salaries represent statutory salaries for teachers with the minimum required training.

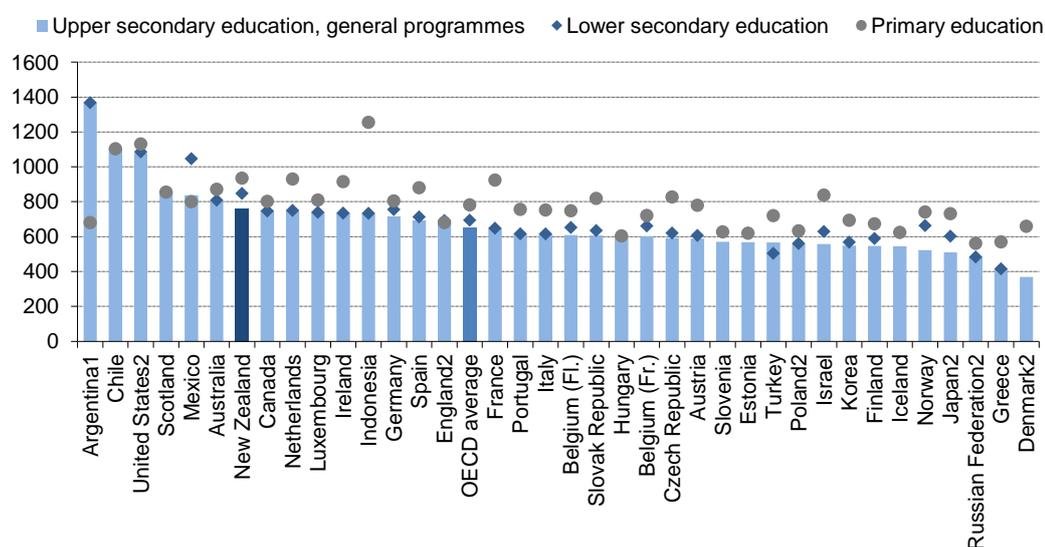
Upper secondary teachers' salaries at different points in their careers (2012)



New Zealand teachers work longer hours on average than their OECD counterparts. The proportion of time spent teaching is lower than average at primary level, but higher than average at secondary level.

- Total teacher working time (in statutory terms at least) was around 20% higher than the OECD average at primary levels. New Zealand teachers also spent around 20% more time teaching (in statutory contact hour terms). The proportion of working time spent teaching at primary level (60%) was less than the OECD average and New Zealand ranked 15th out of 20 countries.
- At upper secondary level (Years 11-13), total teacher working time (in statutory terms) was 20% less than the OECD average, although New Zealand teachers still spent around 20% more time teaching than the OECD average. The proportion of working time spent teaching (80%) was also above the OECD average; on this measure New Zealand was ranked 8th out of 19 countries.

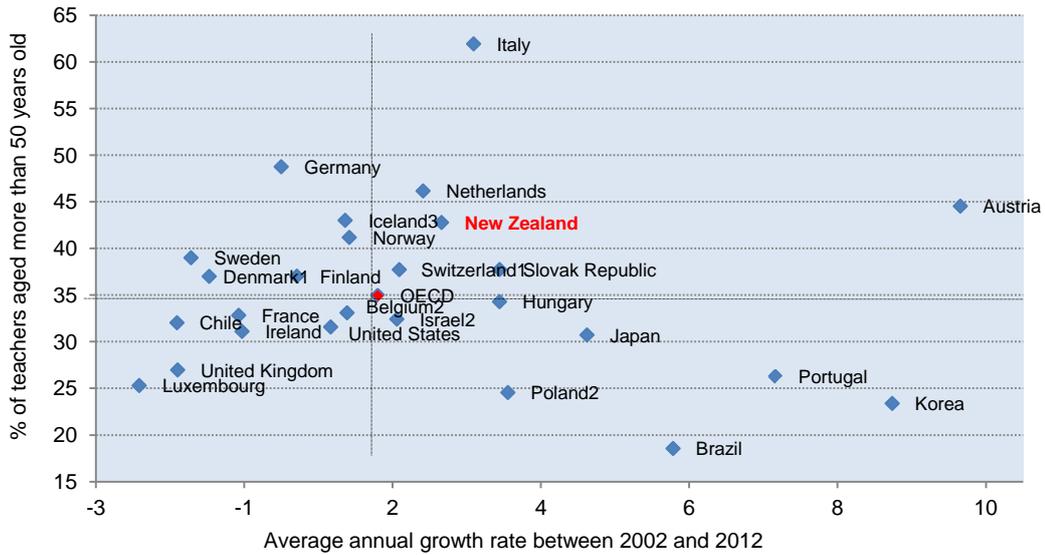
Teaching hours per year (2012)



New Zealand school teachers are older on average.

- The proportion of New Zealand school teachers in 2012 who were women was similar to OECD averages (of 83% for primary, and 65% for secondary).
- While the proportion of school teachers who were aged under 30 (10%) was about the OECD average, New Zealand had a higher proportion of teachers who were over 50. At secondary level, 43% were aged over 50, compared with an OECD average of 35%, positioning New Zealand in the top 10 on this measure. There were twice as many teachers aged over 60 in 2012 as there were ten years ago.

Secondary school teachers aged 50 years or older and growth (2002 - 2012)



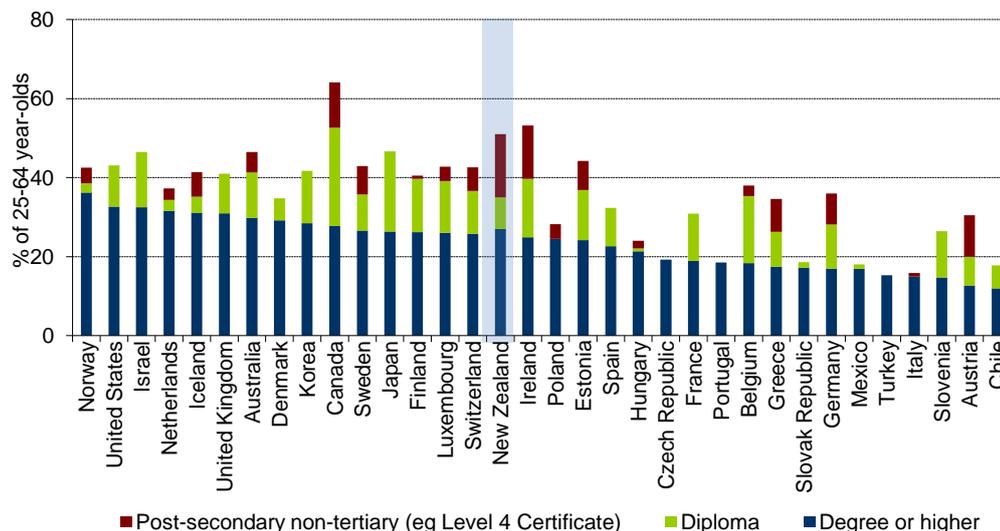
TERTIARY

EAG 2014 uses the *International Standard Classification of Education (ISCED 97)* as a basis for classifying and comparing educational levels. Under these definitions, the term “tertiary-educated” in EAG relates just to diploma level and above. Level 1-3 certificates are classified as “upper secondary” and Level 4 certificates are classified as a separate “post-secondary non-tertiary” group.

New Zealand has a high proportion of tertiary qualified adults.

- New Zealand has a high proportion of tertiary-qualified adults – in particular, a very high proportion with diploma qualifications. With 41% of 25 to 64 year-olds, and 47% of 25 to 34 year-olds with a diploma or higher in 2012, New Zealand was ranked in the top 10 OECD countries, in a group with Canada, the USA, the UK, Australia, Japan, Korea and some Nordic countries.
- With 25% of 25 to 64 year-olds with a degree or higher, New Zealand ranked in the middle of the OECD in 2012, just above the OECD average, and behind Australia, the UK, Canada and the USA. Similarly, for ages 25 to 34, New Zealand ranked about average, with 31% having a degree or higher compared with 30% for the OECD average.
- At 15%, New Zealand had the fourth highest proportion of adults whose highest qualification was a diploma, and when this is combined with level 4 certificates New Zealand had the second highest level of attainment after Canada for these types of qualifications.

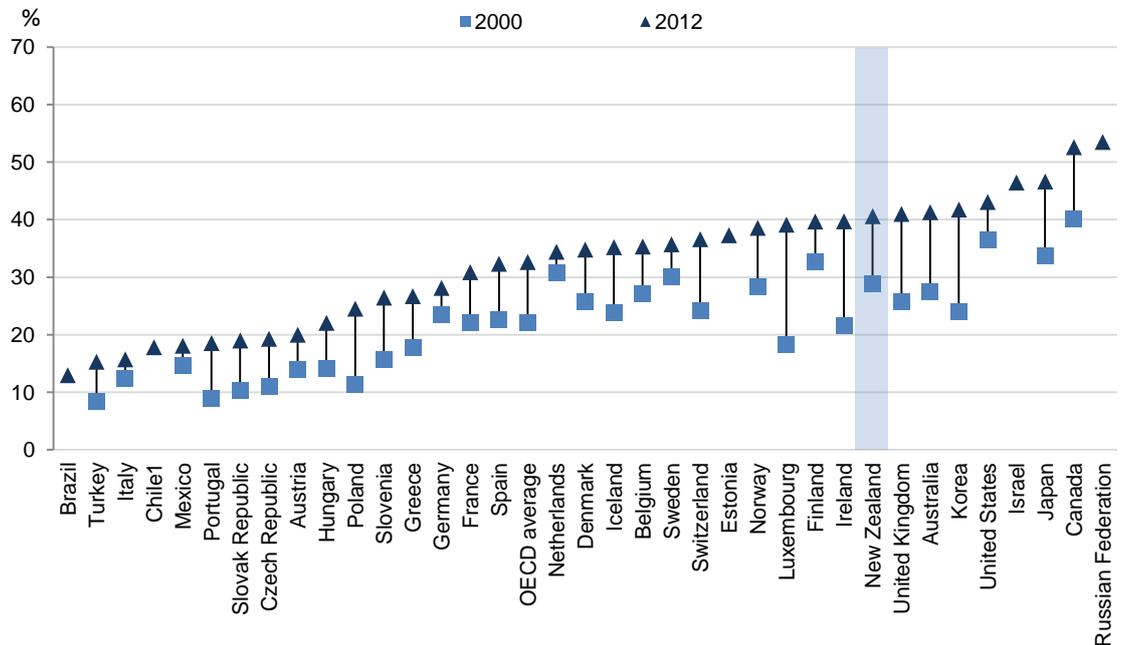
Percentage of population that has attained tertiary education (2012)



- Tertiary education has expanded rapidly over the last decade across the OECD. The proportion of New Zealand adults with a tertiary qualification has grown from 29% in 2000 to 41% in 2012, an increase of over 40%. This compares with growth of 50% in Australia, and 60% in the United Kingdom. Relative growth has been highest in former Eastern bloc countries and in Korea, where it has come from a relatively lower base. Migrants, in part, have also contributed to the increase in

New Zealand. A high proportion of our degree-educated was born and educated overseas.

Growth in tertiary-educated adults since 2000



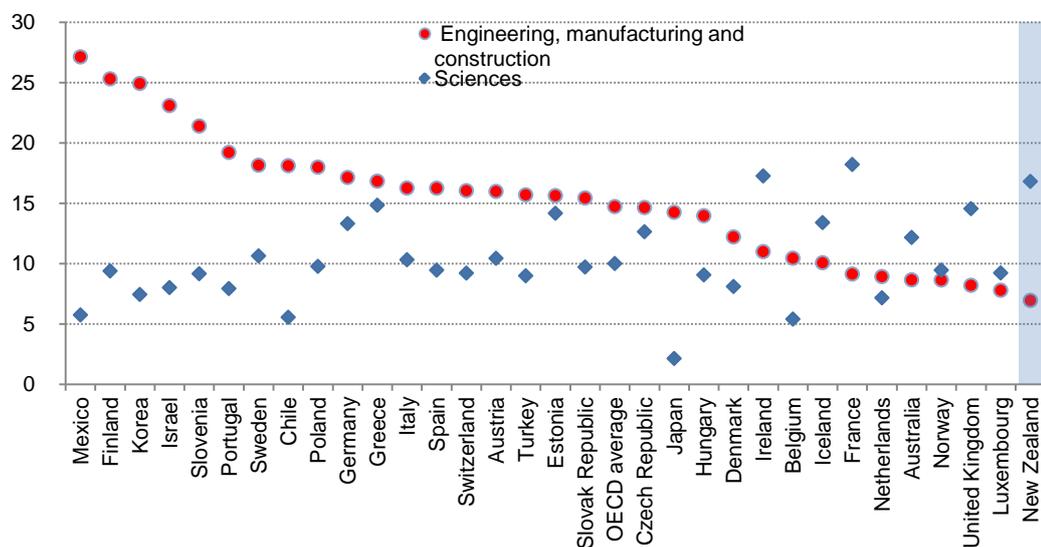
- New Zealand is in a group of countries along with Nordic countries, Australia, Ireland, the USA, Canada and Israel which have both the highest tertiary attainment rates amongst women (over 40%), and the largest differences between male and female attainment (more than 8 percentage points). In contrast, Japan and Korea, also with high attainment, have about the same levels of attainment amongst men and women. On average, 4% more women than men across the OECD were tertiary-qualified in 2012.

New Zealand has high levels of adults participating in tertiary study, especially at older ages, and in vocational programmes. New Zealand also has one of the highest levels of part-time study.

- Around 29% of New Zealanders aged 20 to 29 were enrolled in study in 2012, just above the OECD average of 28% (and similar to 2011). By age 30, New Zealanders have spent, on average, a little over 18 years in education; about 6 months more than the OECD average of 17.6. This is less than Nordic countries and Australia – with over 19 years in education – but more than the USA, the UK, Canada or Ireland.
- New Zealand, along with Australia, is amongst the countries with the highest rates of enrolment at older ages (11% for those aged 30 to 39, and 4% for those aged 40 and over).
- The average age of graduation is higher in New Zealand than the OECD average (29 compared with 28 at diploma level, and 27 compared with 26 for degrees). New Zealand has a wider range of ages across its tertiary students. For example, while 80% of degree graduates in the UK are aged 25 or under, just 40% of New Zealand graduates are.

- Young New Zealand students are also more likely to be working while studying. Over 20% of 15 to 19 year-olds were employed and in education in 2012, compared with an OECD country average of 16%. Similarly 19% of 20 to 24 year-olds were employed and in education compared to 16% across the OECD. Countries with a similar pattern included Australia, Canada and US; a Nordic group including Denmark, Iceland, Finland, and Norway; and another group comprising Germany, Austria, Switzerland and Netherlands. For the Germanic countries, and to a lesser extent Australia, this reflects relatively common dual apprenticeship or work-study programmes.
- New Zealand has a high rate of entry into degree and diploma level programmes. Older students and international students contribute significantly to this result. When older and international entrants are removed, the rate at which the population enters tertiary study is closer to the OECD average.
- New Zealand students are more likely to enter science, mathematics and computing programmes than students in other OECD countries, but are less likely to enter engineering, manufacturing and construction programmes. Around 7% of students enter engineering, manufacturing and construction programmes, compared with the OECD average of 15%; one of the lowest rates in the OECD. In contrast, 17% of tertiary entrants enrolled in science programmes, one of the highest rates in the OECD, where the OECD average was 10%. Following the pattern across the OECD, the most popular fields remain in the humanities and social sciences.

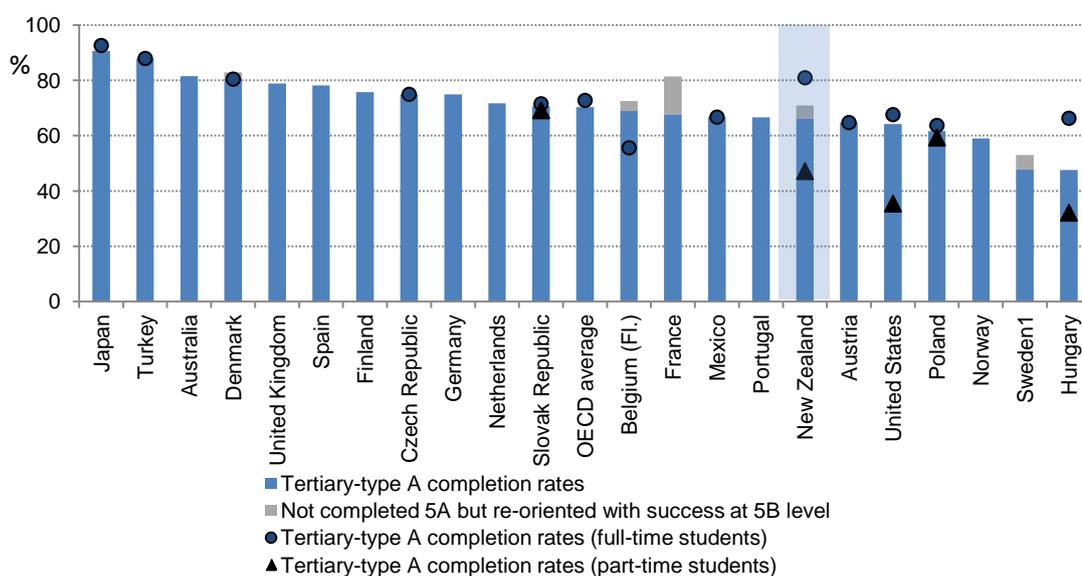
Tertiary entrant rates in engineering & science (2012)



- The rate at which New Zealand produces first-time tertiary graduates is also high, particularly in vocationally-oriented programmes at post-secondary non-tertiary (Level 4 certificates) or diploma level. Again, as with entry rates, when international and older graduates are removed the rate at which the country produces tertiary-qualified graduates is much closer to the OECD average. The rise and fall of New Zealand's graduation rate since 2000 reflects trends in international students over this period.

- New Zealand continues to have one of the highest rates of part-time study in tertiary education. At 39% of degree-level-and-above students, and 61% of diploma-level students, New Zealand ranked in the top five countries in 2012.
- While an indicator on tertiary qualification completion rates⁷ was not included in EAG 2014, it was included in EAG 2013. This showed New Zealand's tertiary completion rate at 81% for full-time students in degree programs, the third highest, and well above the average of 73% for the 12 OECD countries reporting this in EAG 2013.
- Completion rates for part-time students are typically much lower than full-time rates. In EAG 2013, New Zealand's rate was 47% compared with 25% for the seven OECD countries able to report this. The very high level of part-time degree study in New Zealand acts to lower its apparent performance when both full-time and part-time students are combined into a single tertiary rate. New Zealand's completion rate for both full-time and part-time students combined was 66% compared with the OECD average of 69%, and New Zealand ranked 16th out of the 22 countries reporting this. Even with the distorting effect of higher part-time study rates, New Zealand's relative performance on this indicator has improved noticeably from previous years.

Completion rates in tertiary-type A education, by status of enrolment (2011)⁸



Public investment in tertiary education is also high, but more of it goes to students as loans and grants, than as direct funding to institutions.

- Total public and private expenditure⁹ on institutions per full-time equivalent student in 2011 was less than the OECD country average (by 24% when including

⁷ Completion rate refers to the proportion of a cohort starting a programme at a given level, which graduates at that level. Graduation rate refers to the rate at which a country produces first-time graduates, i.e. a population-based measure.

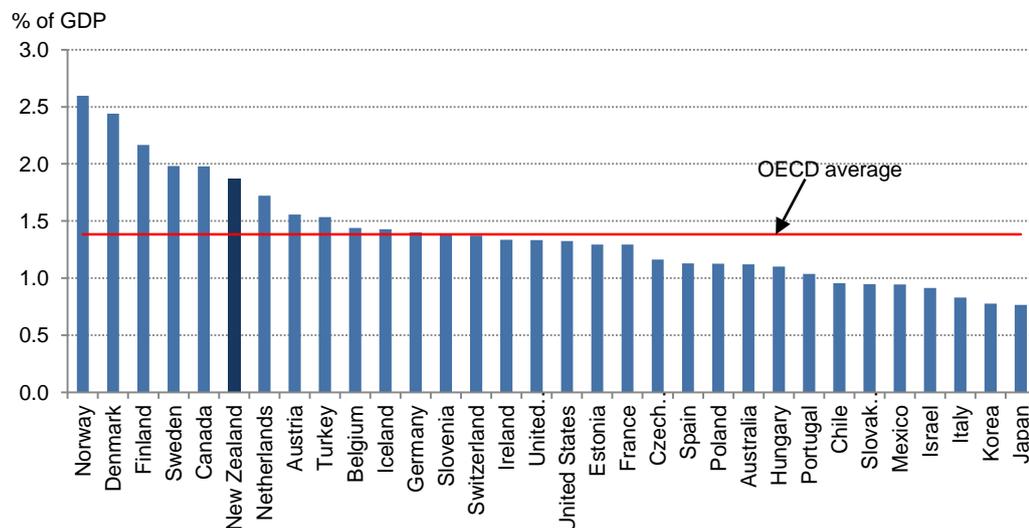
⁸ Type A = degree level and above, Type B = diploma-level. Source: Education at a Glance 2013.

⁹ At diploma-level and above only.

research, or 6% when research expenditure is excluded). Public expenditure per student direct to institutions was also less than the OECD average. New Zealand ranked in the bottom half of countries.

- When considered in terms of relative wealth, public and private expenditure on institutions as a proportion of GDP was also just below the OECD average (at 1.5% compared with 1.6%).
- However, the two indicators above relate to total public and private expenditure to institutions only. At tertiary level, public expenditure directly to institutions makes up 52%, while 48% is paid to students in the form of student loans, allowances and scholarships. New Zealand is shown as second in the proportion of public tertiary education spending that goes to students (behind the UK). Of this, New Zealand has the highest proportion given to students as loans, at 33%. Nearly three-quarters of this goes directly to institutions (as tuition fees), while the remainder (15% of public expenditure) supports living and course-related costs.
- When public expenditure to institutions is adjusted to include the lending that goes directly to institutions (as tuition fees), the level of public spending directed to institutions is closer to the OECD average. Around 65% of expenditure on institutions came from public sources, less than the OECD average of 69%, but significantly ahead of the UK, US, Australia and Canada.¹⁰ And when institutions and households are considered together, public expenditure as a proportion of GDP was 1.9%, the 6th highest in the OECD.

Total public tertiary expenditure as a percentage of GDP



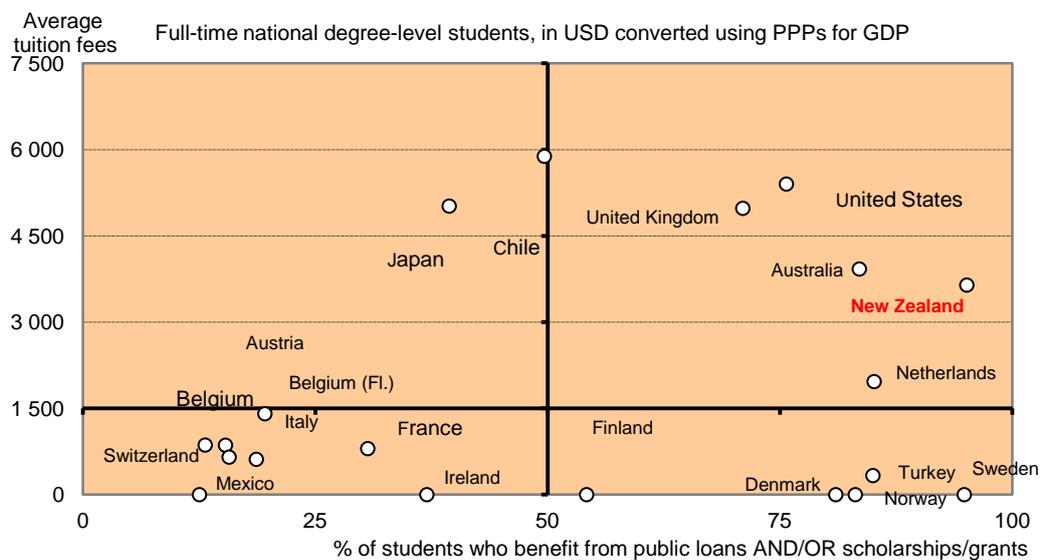
- Expenditure per student relative to GDP per capita is an indicator which considers differences in both relative wealth and population participation. For total public and private expenditure per student on institutions relative to GDP per capita, New Zealand ranked 7th highest at diploma level, 11th highest at degree level and above (when expenditure on research is excluded), 18th when research is

¹⁰ OECD expenditure figures are cash-based so will usually differ from nationally reported figures. In particular, they do not include loan repayments, interest write-offs and other loan balance adjustments.

included, and 29th over all tertiary education. EAG does not include an indicator of this relating public expenditure for institutions and households.

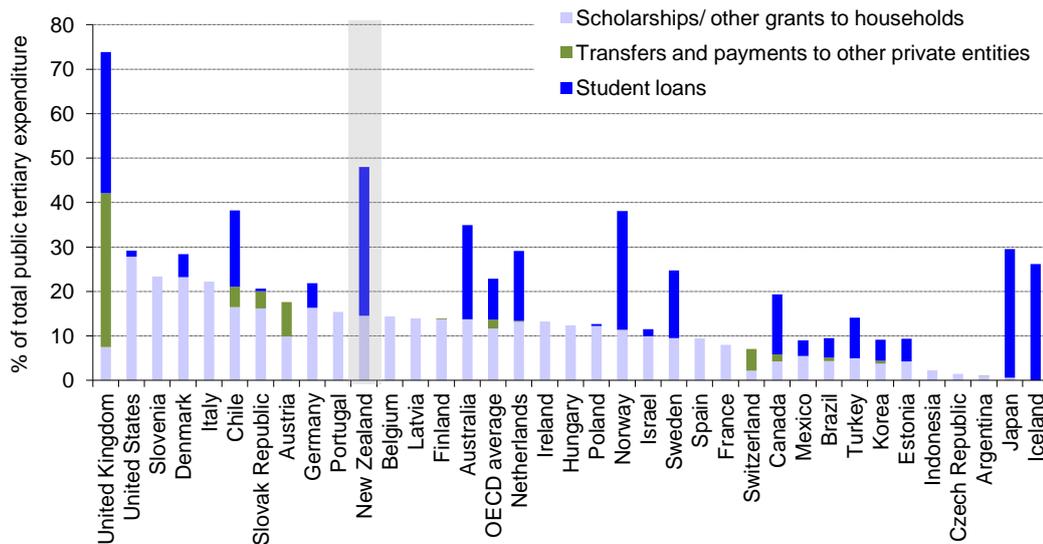
- 5.5% of all public expenditure in New Zealand is given to tertiary study at diploma level and above, the highest proportion in the OECD.
- Of 26 reporting countries, eight did not charge tuition fees for first degree tertiary programmes in public institutions in 2011. Of those that did, New Zealand had the 7th highest average, behind the US, Chile, Japan, Korea, Australia and Canada. New Zealand is in a group with Australia, the UK, the USA and the Netherlands which have high access to student financial support and higher average tuition fees.

Average tuition fees in public institutions and public financial support (2011)



- New Zealand has one of the highest levels of students accessing financial support. Around 95% of full-time students in first-degree study accessed some form of financial support in 2011. Of these, 89% accessed student loan funding, while 43% accessed grants (ie allowances). Other countries featuring highly in terms of financial support were Sweden (95%), Australia (84%) and Netherlands (85%). The mix of support allocated as loans or grants was diverse across the reporting countries.

Public support for tertiary education (2011)



At degree level, New Zealand has more students per teacher, and more women teaching on average.

- New Zealand has about average female workforce representation below degree level (55% at levels 1-4, and 49% at diploma level), but above average female workforce representation at degree level (49% compared with an OECD average of 42% in 2012).
- The ratio of full-time equivalent students to teachers remains higher than OECD averages.

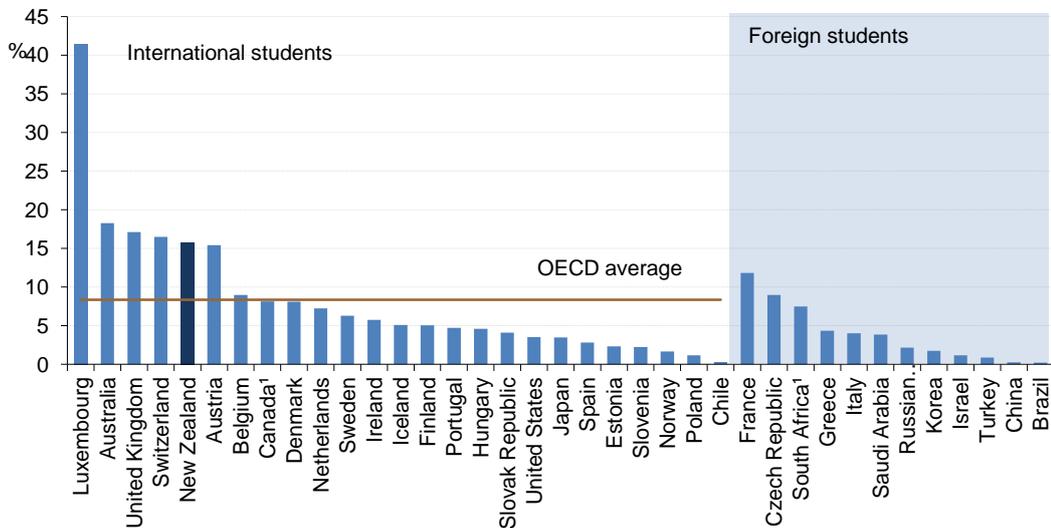
Level	New Zealand	OECD average	Rank in 2012 (lowest to highest)
Tertiary-type B	17	15	8 of 12
Tertiary-type A and advanced research programmes	18	15	13 of 18
All tertiary education	18	14	16 of 23

- Studying in a private independent tertiary institution is more common in other countries than it is in New Zealand. Less than 3% of diploma-level and almost no degree-level study is done in private independent institutions in New Zealand, compared with OECD averages of 23% and 14% for diploma and degree levels respectively.
- However, some 40% of New Zealand diploma students are enrolled in government dependent private institutions (i.e. private training establishments), noticeably higher than the OECD average of 23%, and the level in Australia (20%), but much less than the UK where 100% of diploma study is done in private government dependent institutions.

New Zealand remains a key player in the international tertiary student market; the 13th largest in absolute market share terms, and one of five countries with more than 15% of tertiary students from overseas.

- New Zealand remains a net importer of tertiary students. There were about 12 times as many international students who came to New Zealand for tertiary study as there were New Zealand students enrolled overseas. In relative terms, New Zealand is one of the largest net importers of tertiary students, along with Australia (18 times as many), the UK (13 times) and the USA (11 times).
- In absolute terms, the USA and UK remain the largest markets with 16% and 13% of all international tertiary students. Half of all international students study in just six countries (USA, UK, France, Germany, Australia and Canada). New Zealand has the 13th largest market in absolute market share terms (at 1.6%), similar to recent years, but considerably higher than its share in 2000 (0.4%).
- In 2012, New Zealand ranked fifth in terms of proportion of tertiary-level students who were international (16%). In particular, New Zealand had the second highest proportion of diploma-level students who were international (21%), the third highest proportion of doctorate students who were international (41%), and the fifth highest (13%) at degree level. Luxembourg, Australia, New Zealand, the UK, Switzerland, Austria and France were the only countries where more than one in ten tertiary students were international.

Percentage of international and foreign students in tertiary enrolments (2012)



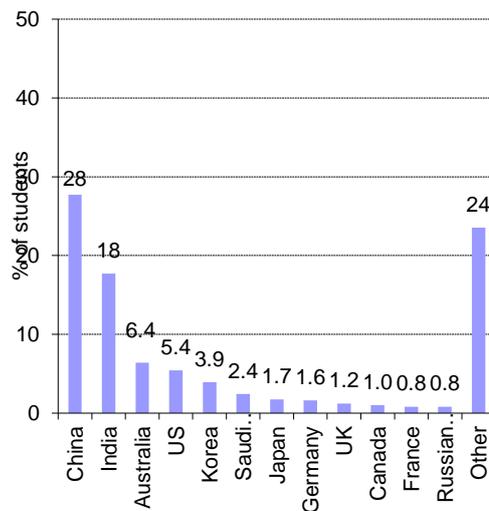
Foreign students are defined on the basis of their country of citizenship. These data are not comparable with data on international students and are therefore presented separately in the table.

- The level of international doctorate students has continued its significant rise since 2005 (since the introduction of domestic-fees status for such students). While numbers below doctorate level declined between 2005 and 2008, they have been increasing each year since then.
- An estimated 3% of national tertiary students were enrolled abroad in 2012, just above the OECD average of 2%. Nearly 6,300 New Zealanders were reported as studying overseas in OECD countries in 2012. The most common study destination

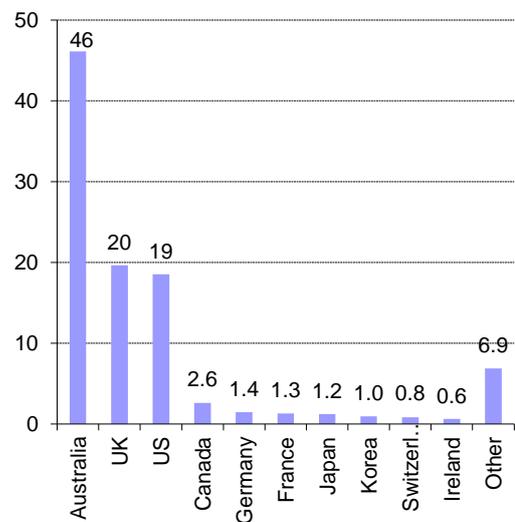
was Australia (with 46% of the New Zealanders studying overseas), followed by the UK (20%), the USA (19%), Canada (3.6%), and France, Germany, Japan and Korea (with around 1% each).

- Conversely, 21% of South African, 20% of Australian, and 16% of UK tertiary students who studied abroad chose New Zealand to study in 2012. Around 4% of Indian students and 1% of students from other Asian countries chose New Zealand to study. Students from Asia made up 70% of all international students in New Zealand in 2012.

Where international tertiary students to New Zealand came from (2012)



Where New Zealand tertiary students went to study overseas (2012)



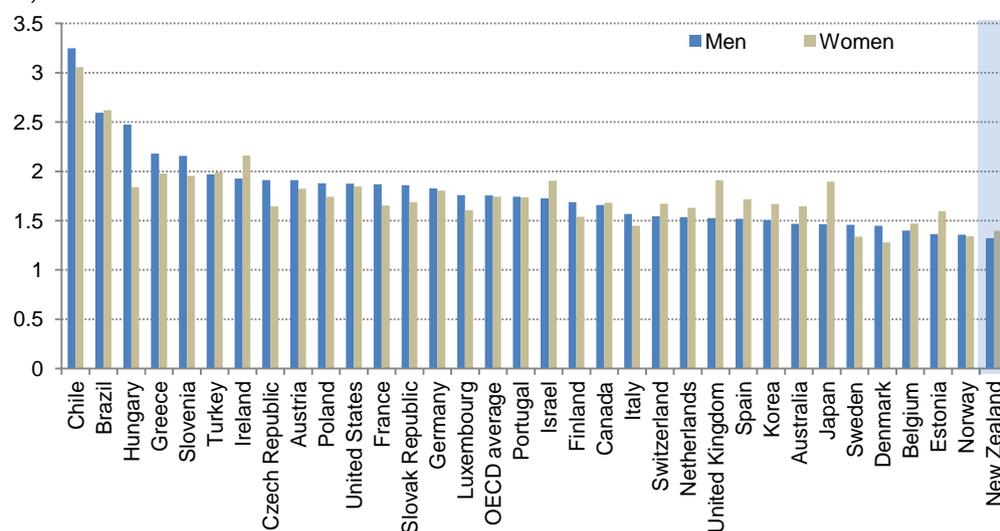
- Nearly a third (31%) of international tertiary students studied at diploma level, the highest proportion after Spain. The most popular diplomas were in business and management studies (34%), but nearly 30% were enrolled in food or hospitality management.
- Like domestic students, international students at degree level are less likely to enrol in engineering, manufacturing and construction, and more likely to enrol in sciences and in computing, business and economics fields.

THE BENEFITS OF EDUCATION

Employment and earnings increase with education, as with all countries in the OECD, but the relative benefits are smaller in New Zealand.

- Educated New Zealanders maintained relatively higher rates of employment and lower unemployment than their counterparts in most countries. The employment rates of those with tertiary education were above the OECD mean, while employment of those with upper secondary education in New Zealand was among the highest in the OECD. This was true for both men and women across all levels, except women with diplomas, where rates were around the country average.
- While some countries (the USA, the UK, Canada and Australia) began showing improved unemployment rates in 2012, the impacts of the global recession continued to be felt across most countries, with unemployment rates either the same or a little lower across most countries as in 2011.
- As with all countries in the OECD, employment increases with level of education, but New Zealand has one of the smallest differences. In particular, the difference in employment rates between those with upper secondary or post-secondary certificates and those with a higher qualification was the smallest. In part, this reflects the fact that degree qualifications make up a smaller proportion of our tertiary qualified than in other OECD countries. This is discussed further below.

Earnings of degree-educated workers compared with those with upper secondary education only (2012)



- As with all countries in the OECD, earnings increase with level of education, but New Zealand has one of the most compressed earnings differentials between adults with school qualifications and adults with tertiary qualifications, in particular those with diplomas.
- New Zealand is among just six countries in which tertiary-educated women earn 75% or more of what tertiary-educated men earn. In 2012, tertiary-educated women aged 25 to 64 earned 78% of what tertiary-educated men earned,

compared with the OECD average of 72%, and New Zealand ranked third behind Belgium and Spain.

Rates of return for investment in tertiary education also remain smaller in New Zealand.

- Rates of return indicators measure and compare the economic benefits of decisions to invest in education. EAG measures these separately for men and women, and for private and public. They are expressed as a relative premium over those with less than an upper secondary qualification. They are expressed using two different approaches, net present value (or NPV) and internal rate of return (IRR). On all measures, New Zealand historically is amongst the countries with the lowest rate of return for investment at tertiary level.
- EAG 2014 showed improved returns for New Zealand, particularly for women. These gains were ahead of average OECD gains. Average earnings (and hence returns) relative to those with no qualifications increased across all levels, particularly for tertiary educated women.
- However, the rates of return indicator in EAG 2014 relates to the year 2010, and so reflects countries in the middle of recession. This relative increase therefore reflects the full impact of the recession being felt first and hardest by the less educated.
- For New Zealand, the lower returns in large part reflect the compressed wage premiums for tertiary educated people. An economic analysis of this commissioned by The Treasury in 2012¹¹ identified the following factors as accounting for nearly half the difference between New Zealand and the OECD mean in the return on tertiary qualifications for men, and more than half of the difference among women:
 - the mix of qualifications in New Zealand compared other countries – New Zealand has a low proportion of its population with a postgraduate qualification, and a higher proportion with a diploma, and this acts to lower relative earnings.
 - tax differences between New Zealand and other countries – New Zealand has one of the highest rates of net income as a percentage of labour cost. While New Zealand is at the bottom end of gross earnings premiums, once these are adjusted for tax the differences reduce.
 - the high proportion of migrants in the New Zealand labour market – a high proportion of degree-qualified New Zealanders were born and educated overseas and there is evidence that migrants don't have the same earnings as New Zealand-educated graduates in the short and medium term.
- A further significant factor is the mix of qualifications in the reference group (non-upper secondary qualified). New Zealand is one of only a handful of countries with a one-year upper secondary qualification, which under international definitions does not count as upper secondary qualified, but which does attract an earnings premium compared with those with no qualifications. New Zealand's relatively

¹¹ James Zuccollo, Sholeh Maani, Bill Kaye-Blake and Lulu Zeng (2013), Private Returns to Tertiary Education: How Does New Zealand Compare to the OECD? <http://www.treasury.govt.nz/publications/research-policy/wp/2013/13-10>

higher qualified non-upper-secondary-qualified group therefore further acts to reduce comparative returns.

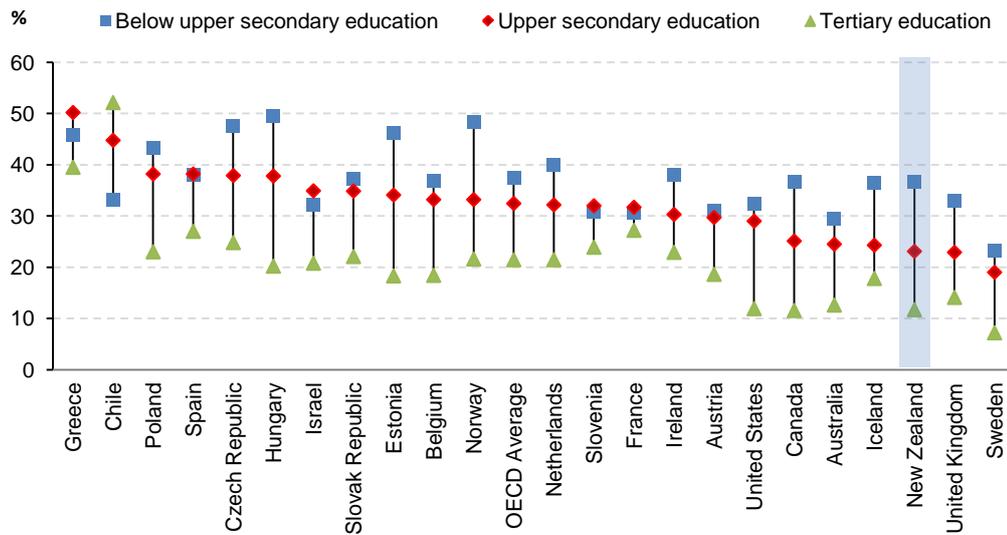
- The low rate of return also reflects supply. New Zealand is in a group of countries, including Scandinavian countries and Australia, which have higher levels of tertiary qualified adults and consequently lower returns.
- Student loans are not explicitly considered in the OECD's calculation of rates of return. Including student loans would act to increase returns, since what a student has to repay later is effectively often less than what they borrowed depending on post-study repayment and interest payment and write-off provisions. While not included in the main comparison tables, EAG 2014 does include separately the effects of loans on returns for a selection of countries. The largest effects can be seen in New Zealand, the UK and some Nordic countries, where rates of return increase by over 30% when the impact of loans is added.

There are a range of social benefits associated with education.

- This year's EAG looks at how education levels, literacy skills and numeracy skills relate to five social indicators: self-reported health, volunteering, trust of others, whether others take advantage, and whether you think you have a say in government.
- The results for both skill types, and for level, follow previously published patterns based on other sources. There is a definite positive association between education level, literacy and numeracy skill level and these indicators. Further, there is a level (or qualification) effect over and above the association with skills.
- This social outcomes of education section in EAG 2014 is based entirely on results from the 2012 Survey of Adult Life Skills (PIAAC). New Zealand did not participate in this first round, so there are no results here for New Zealand.¹² However, in EAG 2013, New Zealand was included in two indicators of the social benefits associated with education; obesity and smoking rates. Both indicators showed a strong negative relationship with education across OECD countries.
- In EAG 2013, the New Zealand smoking rate for those with below upper secondary education was 37% compared with 12% for those with tertiary education. The rate of smoking for those with less than upper secondary education was just below the OECD average, while the rate for those with upper secondary or tertiary education was much lower than the OECD average.

¹² New Zealand is participating in Round 2 of PIAAC, with first results expected in 2016.

Proportion of adults who smoke by level of educational attainment (2011)



- EAG 2013 also showed New Zealand with above average rates of obesity especially among those with less than upper secondary education. Around 24% of adults with a tertiary degree were obese, compared with 38% for those with below upper secondary education.