OVERVIEW

The purpose of tertiary education is to provide the skills and knowledge New Zealanders need to contribute to the country’s social, economic and environmental development. In providing those skills, the system is making a contribution to the country’s development while also creating enhanced opportunities for New Zealanders – opportunities to build a more satisfying career and to be more financially secure. Section Three focuses on the benefits of undertaking a tertiary education. Is the opportunity cost of spending three or four years in full-time study after leaving school adequately compensated for by subsequent earnings?
INTRODUCTION

This chapter explores some of the longer-term outcomes of tertiary education and looks at the evidence for the benefits that people gain from tertiary education. There is a focus on the economic returns to tertiary education, both to the individual and the economy in general, as well as some of the social returns.

Tertiary education outcomes are linked to the concept of ‘human capital’. Human capital is the set of skills and knowledge that individuals develop, enhance or maintain, usually through education or training. Individuals then offer their human capital in the labour market in return for earnings.

This chapter draws from Statistics New Zealand’s (SNZ’s) Household Labour Force Survey (HLFS), the integrated dataset on Student Loan Scheme borrowers, the Organisation for Economic Co-operation and Development (OECD) publication Education at a Glance, and a number of other reports and surveys. It focuses on the following areas:

- the attainment of educational qualifications
- the employment status of those with tertiary qualifications
- the income of those with tertiary qualifications, and
- the link between education and economic growth.

In addition, the chapter touches on economic living standards.

QUALIFICATIONS ATTAINMENT

An increasing number and proportion of the New Zealand population hold tertiary-level qualifications. This has been a result of two factors. Firstly, the number of New Zealanders gaining tertiary education qualifications from New Zealand tertiary education organisations (TEOs) has continued to rise on the back of increased participation in the tertiary education sector. Secondly, there has been an increase in the number of people who were born and tertiary educated overseas and who are now resident in New Zealand.

Between 2000 and 2004, the number of domestic students completing a tertiary-level qualification rose by 86.3 percent, from 68,782 to 128,133. The rise in total completions was almost entirely driven by an increase in sub-degree completions. The number of sub-degree completions rose by 154 percent, from 38,385 to 97,313. However, 2004 data includes approximately 17,000 students completing short level 1 to 3 qualifications who are missing in data from earlier years. If we discount for the effects of this change in the data, the number of domestic students completing a tertiary-level qualification rose between 2000 and 2004 by 62 percent, while the increase in the numbers completing sub-degree qualifications was 109 percent. The remaining categories of qualifications showed more modest rates of increase. Between 2003 and 2004, students completing bachelors degrees increased by 4.0 percent and postgraduate qualifications 1.8 percent.

The annual growth rate of students completing bachelors degrees and postgraduate qualifications has fallen since 2000. Between 1998 and 1999, bachelors degree completions increased by 10.4 percent, whereas between 2000 and 2004, the annual average rate of growth was a more modest 1.4 percent. There is a similar trend in completion of postgraduate qualifications, where between 1998 and 2000, student completions increased by an annual average growth rate of 9.0 percent per year, but between 2000 and 2004 this average annual growth rate was just 0.6 percent.

Although the increase in people gaining New Zealand tertiary qualifications has been the major contributor to the increase in the working age population with tertiary qualifications, another factor has been an increase in the number of people in the
usually resident population who were born overseas and earned their tertiary qualifications overseas. A recent study used Census data to estimate that the number of people in the New Zealand population in this category with a bachelors or higher degree increased by 462 percent, from 11,333 in 1981 to 63,700 in 2001.

The growth in completions and the rise in the number of overseas-born people with overseas qualifications resident in New Zealand are reflected in the New Zealand population as a whole. Statistics from the HLFS show that since 1994 there has been a steady rise in the number of people holding tertiary qualifications over time, especially at the degree level. Between 1994 and 2004, the number of people holding a bachelors or higher qualification increased by 112 percent, from 195,000 to 413,000.

The increase in the number of people holding a tertiary qualification below bachelors level has been more modest. Between 1994 and 2004, the number of people holding these qualifications increased by 20 percent, from 903,000 to 1,083,000.

The growth in the number of people holding tertiary qualifications has resulted in an increase in the share of people in the working age population (ie 15 and over) with this level of qualification. Between 1991 and 2004, the percentage of the working age population with a tertiary qualification rose from 38 percent to 48 percent, mainly as a result of an increase in the percentage of people holding a bachelors or higher degree qualification.

OECD data shows that New Zealand compares favourably with the OECD average in terms of educational attainment. The OECD’s publication *Education at a Glance: OECD Indicators 2005* observed that, in 2003, 40 percent of the New Zealand population aged 25 to 64 years had achieved a tertiary-level qualification, compared with an OECD mean of 27 percent. However, as can be seen in Figure 13.4, it is at the sub-degree level that New Zealand outperforms the OECD average, with the proportion of people holding a bachelors-level qualification or higher (17 percent) being roughly the same as the OECD mean (16 percent).

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**Notes:**

1. Data is for the June quarter in each year.
2. Bachelors or higher qualifications include postgraduate degrees, certificates or diplomas.
3. Other tertiary qualifications include university certificates or diplomas, teaching certificates or diplomas, nursing certificates or diplomas, New Zealand certificates or diplomas, technicians’ certificates, local polytechnic certificates or diplomas, and trade certificates or advanced trade certificates.
4. School qualifications include year 11, 12 and 13 qualifications and overseas school qualifications.

**Source:** Statistics New Zealand, *Household Labour Force Survey*

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A pattern of increasing attainment over time is observed in the OECD data. Figure 13.5 shows that in the younger age bands, a significantly larger proportion of the population, both in New Zealand and in the OECD as a whole, holds tertiary qualifications at bachelor's degree level or above.

The proportion holding a bachelor's degree or higher is especially high in the 25 to 34 age group, where 21 percent of the New Zealand population has a degree-level qualification. This compares with 17 percent in the 35 to 44 age group, 15 percent in the 45 to 54 age group, and 10 percent in the 55 to 64 age group. Overall, the proportion of the New Zealand population holding a degree-level qualification is similar to the OECD mean.

The proportion of New Zealanders who have completed diploma-level qualifications is higher than the OECD mean in every age group. However, whereas the proportion with a degree-level qualification is higher in younger age groups, the proportion with diploma-level qualifications is lower in younger age groups, reflecting the shift towards enrolments in higher qualifications during the 1990s.

There are differences between ethnic groups in the qualification attainment levels of the New Zealand population. In 2004, the percentage of adults in the European ethnic group with no qualifications was 24 percent, for Māori it was 39 percent, for Pasifika it was 35 percent, and for other ethnic groups it was 18 percent. The percentage of adults of European ethnic group who had a bachelor's degree or higher was 13 percent, for Māori it was 4 percent, for Pasifika 5 percent, and for other ethnic groups 29 percent.

The proportion of New Zealanders who have completed diploma-level qualifications is higher than the OECD mean in every age group. However, whereas the proportion with a degree-level qualification is higher in younger age groups, the proportion with diploma-level qualifications is lower in younger age groups, reflecting the shift towards enrolments in higher qualifications during the 1990s.
Outcomes of tertiary education

FIGURE 13.7: PERCENTAGE OF THE POPULATION AGED 15 AND OVER BY HIGHEST EDUCATIONAL QUALIFICATION AND ETHNIC GROUP 2004

Notes:
1 Data is for the June quarter in each year.
2 Bachelor’s or higher qualifications include postgraduate degrees, certificates or diplomas.
3 Other tertiary qualifications include university certificates or diplomas, teaching certificates or diplomas, New Zealand certificates or diplomas, technicians’ certificates, local polytechnic certificates or diplomas, and trade certificates or advanced trade certificates.
4 School qualifications include year 11, 12 and 13 qualifications and overseas school qualifications.
Source: Statistics New Zealand, Household Labour Force Survey

FIGURE 13.8: UNEMPLOYMENT RATE OF THE POPULATION AGED 15 AND OVER BY HIGHEST QUALIFICATION 1991-2004

Notes:
1 Data is for the June quarter in each year.
2 Bachelor’s or higher qualifications include postgraduate degrees, certificates or diplomas.
3 Other tertiary qualifications include university certificates or diplomas, teaching certificates or diplomas, New Zealand certificates or diplomas, technicians’ certificates, local polytechnic certificates or diplomas, and trade certificates or advanced trade certificates.
4 School qualifications include year 11, 12 and 13 qualifications and overseas school qualifications.
Source: Statistics New Zealand, Household Labour Force Survey

LABOUR MARKET OUTCOMES

The attainment of tertiary-level qualifications has a positive impact on the likelihood of a person gaining employment. The New Zealand data exhibits this high qualification/low unemployment relationship. In 2004, the unemployment rate for those with a bachelor’s degree or higher was 2.7 percent, those with other tertiary qualifications 3.0 percent, school qualifications 4.5 percent and no qualifications 6.3 percent.

In Figure 13.8, a notable trend is the narrowing of the margin between the unemployment rates of those with high and low qualifications. Those with tertiary qualifications, especially degree-level qualifications, exhibit less variation during the economic cycle than those with lower qualifications.

An international comparison by the OECD of unemployment rates by educational qualifications shows that, since 2001, the unemployment rate for New Zealanders with a tertiary education has fallen below the OECD average. In 2003, the unemployment rate for people in New Zealand aged between 25 and 64 years with a tertiary education was 3.5 percent, compared with an unemployment rate of 4.9 percent for those with education below upper secondary level. The unemployment rate for those with a tertiary education has shown a gradual improvement relative to the OECD mean since 1998, with the rate falling below the OECD mean in 2001.

Between 1998 and 2003, the gap between the OECD mean unemployment rates for people with a tertiary education and those with below upper secondary education has remained relatively constant at about six percentage points. However, in New Zealand this gap has narrowed from six percentage points in 1998 to 1.4 percentage points in 2003.
SNZ HILFS data shows that having higher educational qualifications reduces disparities in unemployment rates between ethnic groups. In 2004, of those with no qualifications, the ‘other’ ethnic group category had an unemployment rate of 3.8 percent, followed by Europeans 4.7 percent, Pasificans 10.6 percent, and Māori 12.8 percent. However, at the bachelors degree and higher level, the variation in unemployment rate was much reduced. Those in the European and Pasifican ethnic groups with a bachelors degree or higher qualification had an unemployment rate of 1.9 percent, followed by Māori with 2.8 percent, and ‘other’ ethnic groups 6.3 percent.

THE RELATIONSHIP BETWEEN THE LEVEL OF QUALIFICATIONS AND INCOME

In general, income level increases with the level of qualifications. SNZ data from the New Zealand Income Survey (NZIS) shows that people with tertiary-level qualifications received significantly higher incomes than those without. In 2004, for the employed, those in the labour force, and those in the working age population, higher qualifications led to higher median income.
Outcomes of tertiary education

FIGURE 13.11: MEDIAN WEEKLY INCOME FOR THE POPULATION AGED 15 YEARS AND OVER BY HIGHEST QUALIFICATION AND LABOUR FORCE STATUS 2004

FIGURE 13.12: MEDIAN WEEKLY INCOME FOR THE POPULATION AGED 15 AND OVER FROM ALL SOURCES BY HIGHEST QUALIFICATION 1997-2004

Note: Data is for the June quarter.
Source: Statistics New Zealand, New Zealand Income Survey

Figure 13.12 shows the median weekly income from all sources (excluding investment income) for the population aged 15 and over, by highest educational qualification, between 1997 and 2004. The relationship between higher qualifications and higher income is clearly demonstrated. People with a highest qualification of a bachelors or higher degree received the highest median weekly income ($731 in 2004), followed by other tertiary ($537). People with no qualifications received the lowest median weekly income ($285).

The gap in median weekly income between those with tertiary education qualifications and those without has remained relatively constant over time. However, in recent years the increase in the median weekly income of those with bachelors or higher qualifications was about half that of those with other tertiary, school, or no qualifications. Between 1999 and 2004, the median weekly income of those with bachelors or higher qualifications increased by 8.9 percent, while those with other tertiary qualifications increased by 22.0 percent, school qualifications 20.4 percent, and no qualifications 21.3 percent.

While those with a bachelors degree or higher still enjoy a margin over those with lower-level qualifications, the extent of the difference has reduced in recent years. That reduction in the margin results primarily from the fact that the employment rates of those with lower or no qualifications have increased over that time in response to a more buoyant labour market.

Findings from the Census

The University of Auckland economist Dr Sholeh Maani has in the past explored the relationship between income and educational qualifications.3 Dr Maani conducted detailed analyses of data on income and qualifications for the Census years 1981 to 1996. Those studies quantified the relationship between the level of education and the level of total income.4 The results established the relationship between education and income and showed that the expenditure on gaining a tertiary education had a positive and significant return. Moreover, the benefits of higher education to the individual became more pronounced over time. Maani showed that the benefits of higher education were higher in 1996 than in 1981 and 1986.5 This finding was significant because,

3 Maani has also collaborated with Dr Tim Maloney from the University of Auckland on analysing the returns to education using data from the HIES income supplement. See Maani, S A, T. Maloney (2004) Returns to Post-School Qualifications: New Evidence Based on the HIES Income Supplement (1997-2002), report to the Labour Market Policy Group, Department of Labour, New Zealand.
4 Maani’s studies used Census data on total income. Total income includes income from salaries, wages, benefits, self-employment and investments.
over the years covered by Maani’s research, the number of people in the workforce with a higher-level tertiary qualification was rising. However, the increased supply of people with higher-level qualifications did not appear to have the effect of lowering the return on qualifications.

A recent study replicated Maani’s approach using data from the 1996 and 2001 Census. The study showed that there was an increase in the rates of return for all post-school qualifications between 1996 and 2001. In 2001, the gain in income for men with a bachelors degree over those with less than School Certificate was 85 percent. For women the figure was 84 percent. The percentage gain in income for men with a masters degree over those with less than School Certificate was 100 percent. For women the figure was 110 percent. As this growth occurred during a time of significant increases in the number of people holding tertiary qualifications, it reinforces the previous finding that the increased supply of tertiary-level graduates does not appear to be impacting on the return to tertiary education.

This finding is supported by a previous study that investigated the issue of upskilling in the New Zealand labour force. The study found that under certain assumptions it could be shown that there was an increase in real incomes over the period 1991 to 2001, in the face of an increasing supply of skilled workers.

Findings about tertiary education outcomes from the integrated dataset on Student Loan Scheme borrowers

An individual’s employment prospects and income are influenced by a number of factors in addition to the level of educational qualifications. Factors such as motivation, past work experience, attitudes and the level of innate ability will also impact on income levels. In other words, while there is a clear association between higher qualifications and higher incomes, this relationship does not mean that we can attribute all of the increased income to the higher qualifications. Some of the effect on income derives from higher qualifications and some from innate ability and other qualities. In order to gain some measure of the separation of the effects of the qualification from the effects of innate ability, it is useful to compare the incomes of those people who completed a specific type of qualification with those that attempted that type of qualification, but who abandoned study without completing it.

The integrated dataset on Student Loan Scheme borrowers was used to conduct this analysis. This dataset comprises information on people who have drawn down a student loan to help finance their tertiary studies. It matches their tertiary education details with their student loan borrowings, their demographic characteristics, their post-study income and their student loan debt.

An analysis of the median earned income in 2002 of people who successfully completed qualifications in 1997, compared with that of people who studied the same qualifications but did not complete, showed that there were significant gains in income from successfully completing higher qualifications.

Analysis of the earnings in 2002 of those who last studied in 1997 and had a student loan shows that the median earnings of those who successfully completed a bachelors degree was 1.3 times the median income of those who left study without completing a degree. For men, the median earnings were $43,530 if they completed, compared with $31,720 if they did not complete. For women, the median incomes were $37,950 and $29,440 respectively.

A comparison of the median earned income received by people who completed a bachelors degree with that of those who did not complete showed that there were significant gains for both Europeans and Māori. Māori had the highest gain in earnings from successfully completing a bachelors degree. The median


7 Dillingham, S (2003), New Zealand’s Workforce: Qualifications and Evidence of Upskilling, Labour Market Policy Group, Department of Labour, Wellington.
Outcomes of tertiary education

Earned income for Māori who successfully completed at this level was $41,090, compared with $29,340 for Māori who studied but did not complete.

**FIGURE 13.14: BENEFITS ACCRUING TO COMPLETION OF A QUALIFICATION FIVE YEARS FOLLOWING COMPLETION OF STUDY AT THE BACHELORS LEVEL BY ETHNIC GROUP**

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Earned Income if Not Completed</th>
<th>Earned Income if Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>European</td>
<td>$0</td>
<td>$43,530</td>
</tr>
<tr>
<td>Maori</td>
<td>$29,340</td>
<td>$41,090</td>
</tr>
<tr>
<td>Pasifika</td>
<td>$24,010</td>
<td>$28,000</td>
</tr>
<tr>
<td>Asian</td>
<td>$21,840</td>
<td>$26,480</td>
</tr>
</tbody>
</table>

**FIGURE 13.15: BENEFITS ACCRUING TO COMPLETION OF A QUALIFICATION FIVE YEARS FOLLOWING COMPLETION OF STUDY AT THE CERTIFICATE LEVEL BY ETHNIC GROUP**

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Earned Income if Not Completed</th>
<th>Earned Income if Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>European</td>
<td>$0</td>
<td>$28,000</td>
</tr>
<tr>
<td>Maori</td>
<td>$19,250</td>
<td>$24,010</td>
</tr>
<tr>
<td>Pasifika</td>
<td>$25,230</td>
<td>$28,000</td>
</tr>
<tr>
<td>Asian</td>
<td>$21,840</td>
<td>$26,480</td>
</tr>
</tbody>
</table>

**Notes:**
1. This study was of those Student Loan Scheme borrowers who last studied in 1997.
2. The graph records median earned income in 2002.
3. A certificate refers to a level 1 to 3 qualification.

A further finding from this study of the integrated dataset is that the median earnings of those who studied at bachelors level, whether they completed or not, were higher than those who completed a certificate. The median earnings of men who successfully completed a bachelors degree was $43,330, 1.6 times the median earnings of men who successfully studied at the certificate level. For women, the median earnings of those who successfully completed a bachelors degree were $37,950, 1.6 times the median earnings of women who successfully studied at the certificate level. For men who did not successfully complete a bachelors degree, their median earnings were still 1.1 times those of a man who successfully completed certificate-level study. For women, the corresponding values were 1.6 times and 1.3 times respectively.

In addition, the data showed that the higher the level of qualification, the higher were the person’s earnings. For example, the median earnings of women who completed a certificate-level qualification were $23,480 and for men $27,990. These were significantly lower than the median earnings for completing a bachelors qualification.

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Note that in this section a certificate qualification refers to a level 1 to 3 qualification.
Field of study

The integrated dataset on Student Loan Scheme borrowers was used to analyse the median earned income of past tertiary students by broad subject area of study. The data shows that of those students who successfully completed a qualification in their final year of study in 1997, those who studied in the area of engineering and related technologies received the highest median earned income in 2002 ($46,020). This was followed by health ($39,770) and education ($39,320). The field of study with the lowest median income in 2002 was food, hospitality and personal services ($25,250).

Of those students who did not complete a qualification in their final year of study in 1997, those who studied in the area of engineering and related technologies received the highest median income in 2002 ($35,840). They were followed by those who studied in the areas of natural and physical sciences ($32,130), and architecture and building ($31,730). Those who studied in the area of food, hospitality and personal services received the lowest median income ($22,300).

International comparisons

The OECD publication *Education at a Glance* 2005 compared the returns to education in several countries. One indicator that reports on the earnings of workers with different educational attainment, and relates those earnings to the cost of acquiring qualifications, is shown in Figure 13.18. In New Zealand, education enhanced the earnings of people with all types of tertiary education, with those people with a bachelors or higher education receiving the highest return. New Zealanders in this group received an income 50 percent higher than the earnings of those with an upper secondary education. New Zealanders with certificate and diploma-level qualifications received earnings 7 percent and 1 percent higher respectively than a person with upper secondary.

An analysis of the indicator by gender showed that women who had a diploma-level education had a higher return than their male counterparts. However, men who had studied at certificate level and at bachelors or a higher level received a higher return on their education than women.

A comparison of the returns to education internationally shows that the returns to those with a higher-level education are
Outcomes of tertiary education

greater in countries such as the United Kingdom and the United States than in New Zealand. For example, for those people with a bachelors or higher education, the relative earnings score was 178 in the United Kingdom and 191 in the United States. In Australia, the earnings score of 142 for a bachelors or higher degree was slightly lower than New Zealand’s (although the Australian data refers to 2001).

FIGURE 13.18: RELATIVE EARNINGS SCORE OF THE POPULATION AGED 25 TO 64 WITH INCOME FROM EMPLOYMENT BY LEVEL OF TERTIARY EDUCATION AND BY COUNTRY 2003

Note: The standardised earnings score for the population with upper secondary education = 100.

Source: OECD, Education at a Glance: OECD Indicators 2005

The OECD reported that, although women and men with higher education earned more, men still earned considerably more than women with a similar level of educational attainment. In New Zealand, in the 30 to 44 age group, women with an educational level of below upper secondary had average earnings that were 68 percent those of men. The corresponding percentages were 61 percent for upper secondary and certificate-level education, 62 percent for diploma-level education and 58 percent for bachelors and above education. Across all levels of education, women in New Zealand earned 61 percent of the amount that men earned. In part, the differences are explained by career and occupational choices, the amount of time that men and women spend in the labour force, and the relatively high incidence of part-time work among women.

UNEMPLOYMENT, MEDIAN INCOME AND QUALIFICATIONS

Previous sections have looked at the relationship between higher qualifications and the effect they have on income and unemployment separately. Figure 13.19 uses SNZ data from the HLFS and NZIS to compare the unemployment rate and median weekly income of the population aged 15 and over by highest qualification. It shows that for people with no or low qualifications, the main gains from upskilling come in lower rates of unemployment rather than significantly higher median incomes. In 2004, the median income of a person with school qualifications ($301) was 1.1 times higher than that of a person with no qualifications ($285). However, the unemployment rate of a person with no qualifications (6.3 percent) was 1.4 times higher than that of a person with school qualifications (4.5 percent).

For people with higher qualifications, the main gains from upskilling would appear to come in the form of higher median weekly income rather than a significantly lower unemployment rate. In 2004, the median weekly income of people with a bachelors or higher qualification ($731) was 1.4 times higher than that of people with other tertiary qualifications ($537). This compares with the unemployment rate of people with other tertiary qualifications (3.0 percent). That was 1.1 times higher than that of people with bachelors or higher qualifications (2.7 percent).

FIGURE 13.19: UNEMPLOYMENT RATES AND MEDIAN WEEKLY INCOME FOR THE POPULATION AGED 15 AND OVER BY HIGHEST QUALIFICATION 2004

Notes:
1. Data is for the June quarter.
2. Bachelors or higher qualifications include postgraduate degrees, certificates or diplomas.
3. Other tertiary qualifications include university certificates or diplomas, teaching certificates or diplomas, nursing certificates or diplomas, New Zealand certificates or diplomas, technicians’ certificates, local polytechnic certificates or diplomas, and trade certificates or advanced trade certificates.
4. School qualifications include year 11, 12 and 13 qualifications and overseas school qualifications.

Source: Statistics New Zealand, New Zealand Income Survey and Household Labour Force Survey
EDUCATION AND ECONOMIC GROWTH

Higher education plays an important role in contributing to the economic growth of New Zealand, through the increase in human capital that results from the education process. In addition to the gains that accrue to the individual from attaining higher levels of education, there are economic and social benefits to a community from having a tertiary education provider (TEP) located in their region. TEPs can be substantial employers of staff and their presence has a significant impact on the region in which they are located. The wages paid to tertiary education staff and the flow-on effects that result can make a major contribution to the economic activity of a region, especially in provincial areas.

A study9 by the University of Otago estimated the gains to the local economy from the operations of the university. The analysis estimated that direct expenditure in the Otago region by the University, its staff and students at the Dunedin campus totalled $537 million in 2004. This expenditure has a flow-on or multiplier effect as the money changes hands through a chain of expenditure. After accounting for the leakages that can occur in the flow-on expenditure, such as spending on GST or spending on goods and services from out of the local region, the study estimated additional expenditure of $271 million in the Otago region resulted from these flow-on effects. These sums illustrate the very important economic role that the university plays in the Otago region.

International students are a major source of export earnings for New Zealand. The strong growth experienced in international student numbers over the last five years has increased the importance of this source of foreign exchange.11 Education New Zealand estimated that international students studying in the tertiary education sector earned New Zealand $1.4 billion in 2004 (this includes spending on fees and living costs). This compares with spending of $0.2 billion in 1997.

Internationally, a number of studies have focused on the impact of education on the economy. One such study by the OECD15 has investigated the role of human capital in driving economic growth. Their study focused on the period 1990 to 2000 and found that increases in labour productivity accounted for at least half the growth in per capita GDP in most OECD countries during that period. The study also found that improvements in human capital, as measured by the average number of years spent in formal education, partly explained the increases in labour productivity in a majority of OECD countries.

Recent research suggests that literacy rates appear to be a better predictor of economic performance than measures such as ‘years of participation in formal education’. A study by Statistics Canada and Ottawa University economists15 used literacy scores from the 1994 International Literacy Survey to estimate the human capital of the population of 14 countries over a time period from 1960 to 1995. The results of their analysis showed that a country able to increase its literacy scores by 1 percent relative to the international average will achieve a 2.5 percent relative rise in labour productivity and a 1.5 percent rise in per capita GDP. The three countries with the fastest growth in literacy levels between the oldest and the youngest generations had the fastest growth in output per worker, whereas, in the three countries in which literacy levels grew the slowest – of which New Zealand was one – growth was slower.

HEALTH, SOCIAL AND FAMILY OUTCOMES

In Education at a Glance 2005, the OECD reported that there are three key routes through which higher levels of education can affect people’s health. Firstly, those with higher levels of education generally have lower levels of unemployment and therefore avoid some of the physical and mental health issues associated with this state. In addition, the higher incomes associated with higher levels of education can result in better access to health care and avoid stresses involved with financial insecurity.

Secondly, individuals with higher levels of education can make better-informed decisions about their health care. In addition, the OECD mentions that research has found positive associations between higher levels of education and health behaviours such as lower smoking participation and lower incidences of excessive alcohol consumption.

10 For previous examples of studies that analyse the gains to a local economy from the presence of a tertiary provider see Ministry of Education (2004), Profit & Trends: New Zealand’s Tertiary Education Sector 2003.
11 There is evidence that the numbers of international students studying at tertiary level in New Zealand may be starting to fall, especially those from China.
13 The actual impact would be even larger, as this figure does not include any flow-on effects, nor the impact of families visiting students in New Zealand.
Finally, the level of education can impact on the way in which people deal with the situations faced as part of daily living. Higher education can improve problem-solving skills and self-esteem, which can help people respond to situations of adversity.

However, the OECD acknowledges that the relationship between education levels and health is a complex one, and a positive relationship between higher education and better health does not hold across all countries.

A report released by the Ministry of Social Development in 2002, *Living Standards 2000*, developed a new social measurement tool, the Economic Living Standards Index (ELSI), to consolidate large amounts of information about different aspects of economic wellbeing into a single score.

The ELSI scale comprises seven bands which describe the living standards of the New Zealand population from ‘very restricted’ to ‘very good’. The following graph shows the percentage of all New Zealanders in each of these seven bands compared with the percentage for those with tertiary qualifications.

Analysis of the effects of education on the ELSI index clearly shows how increased education has a positive effect on living standards. Overall, 20 percent of the total population fell into the bottom three categories of ‘very restricted’, ‘restricted’ or ‘somewhat restricted’, compared with only 10 percent of those with tertiary degrees. Whilst 58 percent of those with tertiary degrees fell into the top two categories of ‘good’ or ‘very good’, only 40 percent of the total population were in those categories.

*FIGURE 13.20: LIVING STANDARDS OF NEW ZEALANDERS 2000*

Source: Ministry of Social Development (2002), *New Zealand Living Standards*