



MINISTRY OF EDUCATION

Te Tāhuhu o te Mātauranga

Ebbs and flows

*Participation in post-compulsory education over the
economic cycle*

This report forms part of a series called Learners in tertiary education. Other topics covered by the series are access, pathways, support, participation, retention and qualification completions.

Author

Warren Smart, Senior Research Analyst
Email: warren.smart@minedu.govt.nz
Telephone: 04-463 8035
Fax: 04-463 8713

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SUMMARY

KEY POINTS

The recession in the early 1990s was associated with a significant increase in participation in senior secondary school and in higher tertiary-level qualifications.

Although the economy recovered during the mid-1990s, participation levels in education remained above the levels seen before the recession of the early 1990s.

Participation in industry training and targeted training shows an association with the economic cycle.

Following an extended period of economic growth and low unemployment, the New Zealand economy is going through a recession. This report examines historical enrolment data to analyse the association between the economic cycle and participation in senior secondary school and in tertiary education. The study found that:

- The large recession of the early 1990s was associated with significant increases in participation at senior secondary school and in tertiary education.
- Participation in senior secondary school increased significantly from the mid 1980s to the peak of the recession in the early 1990s. The study also found evidence of a substitution effect, where the proportion of students enrolled in private schools fell during economic downturns.
- The impact of the economic cycle on participation at the non-degree level is difficult to assess, given the confounding factors that have affected enrolments in this area. However, progression rates to higher-level qualifications fell as the labour market tightened between 2000 and 2007.
- There was a significant increase in participation at the bachelors level during the early 1990s recession. The study showed that there is a high degree of association between participation in senior secondary school and participation in bachelors study in the following year. During the last five years, participation in bachelors level study has fallen for older age groups, possibly reflecting the healthy labour market conditions that existed until 2008.
- The early 1990s saw a strong increase in participation at the postgraduate level. In addition, the progression rate of masters students dropped as the labour market became healthier between 1994 and 1997.
- The recession of the early 1990s was associated with a drop in participation in industry training. In targeted training,¹ the number of placements increases during times of economic recession, especially for those trainees who do these programmes because they are long term unemployed.

Although the recession during the early 1990s had a significant impact on participation in education, the level of participation going into the current recession was at a much higher level. Therefore, the scale of the increase in participation during the current recession is unlikely to be so great.

¹ Such as Training Opportunities and Youth Training programmes.

1 INTRODUCTION

Following an extended period of economic growth and low unemployment, the New Zealand economy, like the majority of the world's developed economies, is going through a recessionary phase. There is still considerable uncertainty about the growth path of the economy during the next few years, but some economic forecasts are predicting the possibility of negative economic growth over the period 2009 to 2010 and close to a doubling of unemployment.² With the change in the economic environment, it is likely that participation in the New Zealand education system will be affected. Already there are reports that enrolments are increasing at New Zealand's tertiary institutions and at state secondary schools.³

To get a sense of how the current economic slowdown may impact on participation in New Zealand's education system, this report examines trends in historical enrolment data during earlier economic slowdowns.⁴ New Zealand experienced a significant recession during the early 1990s and a less severe economic downturn during the late 1990s. These provide an opportunity to examine participation in the New Zealand education system during two economic slowdowns of varying magnitude.

The areas of focus in this report are participation in senior secondary school and participation in tertiary education. The analysis of secondary school attendance examines how participation in senior secondary school is affected during an economic downturn. This is important for tertiary education, as well as for the school system, as any increase in participation at senior secondary school will flow through to the tertiary education sector as more students meet the academic requirements for entry to this level of education. This analysis also examines the magnitude of any substitution effect between private school and state school attendance.

At the tertiary level, this report examines participants in industry training and targeted training to analyse how the economic cycle may impact on participation in these areas. The report also examines trends in participation in formal qualifications in public tertiary education providers and progression to higher qualifications.

The decision to participate in the education system is a complex one, especially at the tertiary level, and is influenced by more factors than just the state of the economic cycle. The cost of education, changes in tastes and preferences and changes in government policy are all among a myriad of factors that can influence participation. Hence, definitively linking changes in the economic cycle to participation in education is difficult, especially at the tertiary level. Nonetheless, historical enrolment trends may still provide some context for future participation trends during the current economic slowdown.

The structure of this report is as follows. In section 2, the phases of New Zealand's economic cycle are examined. This is followed by an analysis of how economic slowdowns have impacted in the past on secondary school participation. Then, in section 3, we look at the impact of economic slowdowns on participation in provider-based tertiary education. Section 4 examines progression rates from one level of qualification to higher levels. In section 5, participation in industry training during the economic cycle is examined. Finally, in section 6, we discuss participation in targeted training over the economic cycle.

² See Treasury (2009).

³ For example, see New Zealand Education Review (2009) Otago heading for record student numbers, *New Zealand Education Review*, 14(9) pp2 and Watson (2009) Fees bite private school rolls, *Sunday Star Times*, 8/3/2009, <http://www.stuff.co.nz/sunday-star-times/news/2078381/Fees-bite-private-school-rolls>.

⁴ A report on future demand for tertiary education has recently been published by the Ministry of Education. See Engler (2009).

2 BACKGROUND

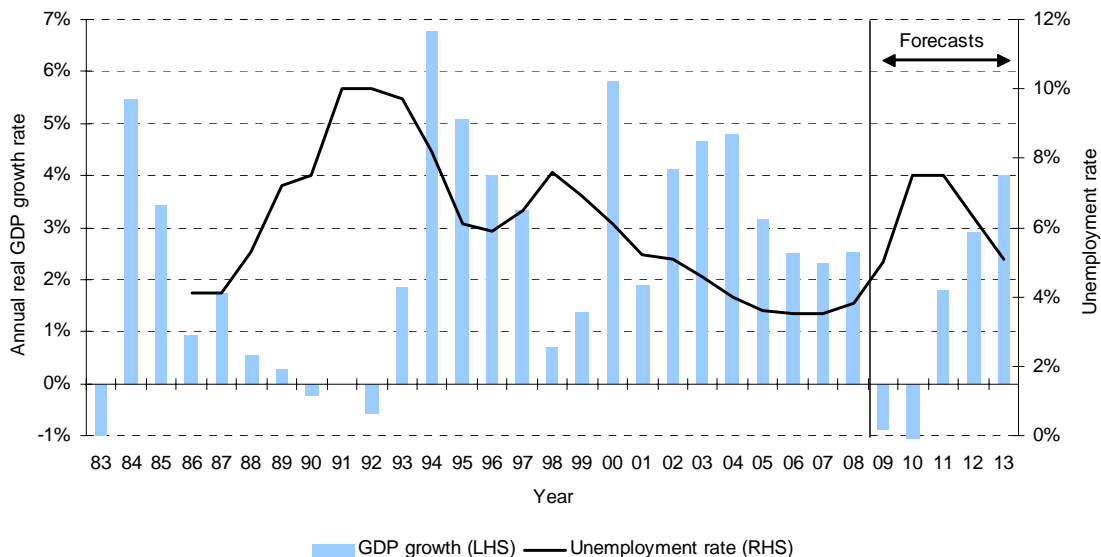
2.1 The New Zealand economic cycle

Two key economic indicators of the state of the New Zealand economic cycle are illustrated in Figure 1. The first of these is the annual rate of increase in real Gross Domestic Product (GDP), the value of goods and services produced by the New Zealand economy holding prices constant over time. This is acknowledged as the key measure of economic growth. Also included in Figure 1 is the official rate of unemployment from the *Household Labour Force Survey*.⁵ Figure 1 also includes forecasts by the Treasury of real GDP growth and unemployment for the period 2009 to 2013. In Figure 1, GDP growth is read off the left hand scale (LHS) and the unemployment rate read off the right hand scale (RHS).

The bottom of three economic cycles can be identified in Figure 1. Two of them are historical events and one predicted. Between 1990 and 1992, there was an extended period of negative or zero growth in real GDP. As a result, unemployment increased from a low of four percent in 1987 to around 10 percent by 1991. This recession resulted from a variety of economic factors: high real interest rates, recession in our main trading partners and a sharp fall in the share market.

After a rebound in economic growth between 1994 and 1997, real GDP growth fell sharply in 1998 to under one percent, although it remained positive. Unemployment also spiked upwards to around eight percent. This period of economic slowdown was a result of the so-called ‘Asian Crisis’, where financial difficulties in several Asian countries reduced the demand for our exports, along with the impact of a drought which reduced agricultural production.

Figure 1
Real GDP growth and unemployment in New Zealand 1983-2013



Notes:

1. Actual GDP and unemployment rates are based on June years. Forecasts of GDP and unemployment are based on March years.
2. Forecasts are based on Treasury's May 2009 Budget Economic and Fiscal Update main forecasts.

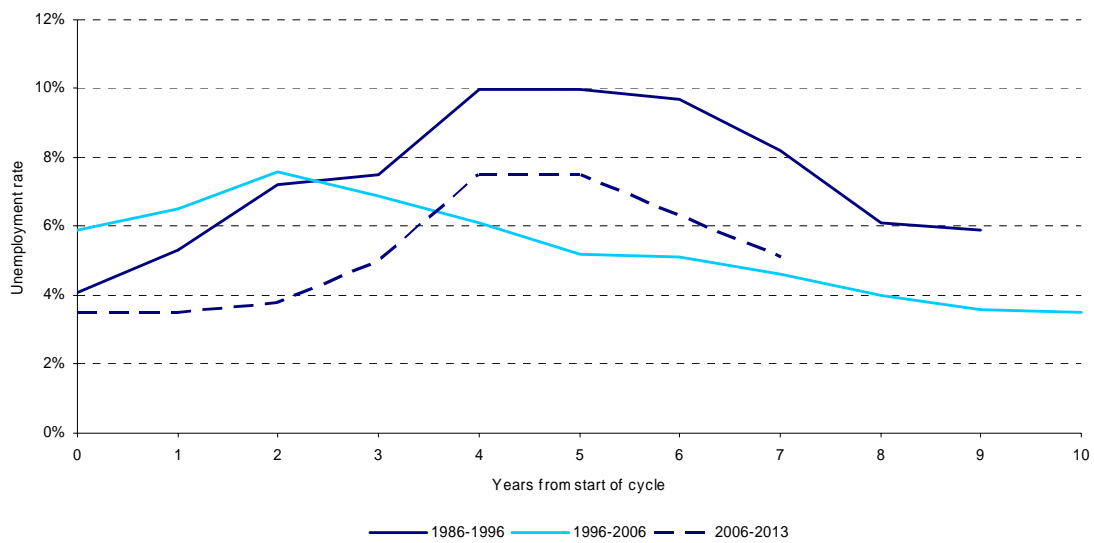
⁵ The official unemployment rate was first measured in 1986.

The 'main' Treasury forecasts predict negative annual real GDP growth in 2009 and 2010, before the economy begins to recover in 2011. Unemployment is forecast to get to around 7.5 percent.⁶

Figure 2 compares the magnitudes of the three economic downturns from Figure 1 by illustrating the level and length of unemployment from the start of the economic cycles. This gives an indication of the severity of an economic downturn and also how long-lasting it was.

The 1991/92 recession is clearly the deepest and longest of the economic slowdowns. The level of unemployment was much higher and sustained for longer than was the case in 1998/99 and the forecast downturn. However, forecasts are subject to revision, and there is still considerable uncertainty about the path of the economy over the next few years.

Figure 2
Length and magnitude of economic cycles in New Zealand 1986-2013



⁶ For the purposes of this study the unemployment rate is used as the indicator of the state of the economic cycle.

2.2 Factors influencing participation in education

In terms of the economic cycle, there are potentially both *direct* and *indirect* effects on participation at the tertiary level. The *indirect* effect is where participation at senior secondary school increases as a result of an economic slowdown. As a result, more secondary school students attain qualifications for entry into tertiary study which then results in higher participation at the tertiary level in following years. This is more likely to effect programmes of study with higher entry criteria, such as bachelors degrees. The economic cycle is likely to have more of a *direct* effect on programmes of learning at the tertiary level that are of shorter duration, such as certificates, diplomas or masters programmes.⁷

Many more factors than just the economic situation can influence the education decisions of individuals. Changes in government policy can also have an impact on participation. At the school level, the government increased the school leaving age to 16 in 1993. Also, the introduction of the National Certificate of Educational Achievement (NCEA) qualification in 2002, with its modular learning approach, has been associated with an increase in the number of students attaining qualifications. This has led to increased participation as students stay on for longer at secondary school (Ministry of Education 2008). There has also been a reduction in the number of early leaving exemptions granted to students aged 15 at secondary school who wished to leave early. In 2006, there were 4,238 applications, of which 3,957 (or 93 percent) were granted. In 2007, there were 3,014 applications, of which 1,930 (64 percent) were granted.

At the tertiary level, government policy on the funding of tertiary education is another important factor that can influence participation. In the period 1991 to 1998, there was a cap on the number of domestic enrolments. This cap was removed in 1999 and institutions could enrol as many domestic students as wanted to study in their programmes. However, partial caps on enrolments were then reintroduced in 2004, mostly in non-degree qualifications.

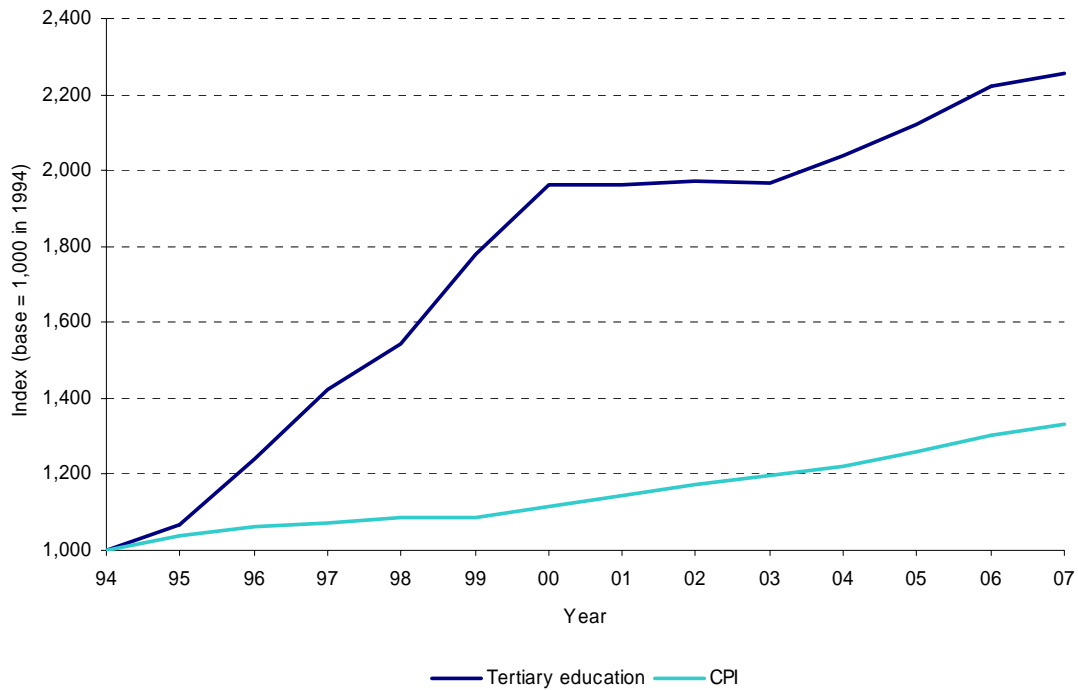
There have been a number of changes to the student support system that may have impacted on participation. In 1992, the government introduced student loans, enabling students to borrow to pay for their fees and/or living costs. Over time there have been a number of changes to the scheme. In 2000, student loans became interest free while students were studying. Then in 2006, the government made student loans interest free for all borrowers who reside in New Zealand.

The introduction of student loans would tend to moderate the impact of the increased costs of tertiary education on participation. As can be seen in Figure 3, the cost of tertiary education for students has risen significantly over the last 15 years, especially at the degree and postgraduate level. Figure 3 shows the consumer price index for tertiary education. Between 1994 and 2007 the costs of tertiary education for students increased much faster than the overall rate of inflation, around 120 percent compared with 33 percent, respectively. Nevertheless, participation in tertiary education rose over the period.

⁷ See Usher and Dunn (2009:p.11).

Figure 3

Increase in cost of tertiary education compared with the Consumers Price Index 1994-2007



Source: Statistics New Zealand

Changes in qualification requirements for various occupations can also impact on participation at various levels of tertiary education. For example, during the early 1990s, bachelors degrees were first offered in nursing and became the accepted entrance qualification for that profession. Because of the significant numbers involved in nursing training, this would have the effect of increasing participation rates in bachelors degrees and lowering participation in diplomas.

With so many confounding factors, it can be difficult to assess the impact of the economic cycle on participation in formal qualifications at public providers. Nonetheless, comparison of participation in post-compulsory education with the economic cycle can provide useful insights into the relationship between the two.

3 PARTICIPATION IN SENIOR SECONDARY SCHOOL

This section examines the association between the participation of senior students at secondary school and the phases of the New Zealand economic cycle. How the economic cycle impacts on the proportion of senior secondary students enrolled in private schools is also examined.

Figure 4 compares the participation rate for 16 to 18 year olds in secondary school with the unemployment rate for 15 to 19 year olds and shows a reasonable degree of association between these two measures over the course of the economic cycle. Between 1986 and 1993, the rate of participation and rate of unemployment both increased sharply. Participation in secondary school increased from 36 percent to 53 percent, while unemployment increased from 11 percent to 24 percent.

Unemployment for 15 to 19 year olds peaked in 1993 at 24 percent, before falling back to 15 percent in 1996. During this time, participation in senior secondary school decreased, although it did not fall back to the levels seen in the mid-1980s. Even though the school leaving age was increased to 16 in 1993, the participation of students aged 16 to 18 years actually fell slightly in that year.

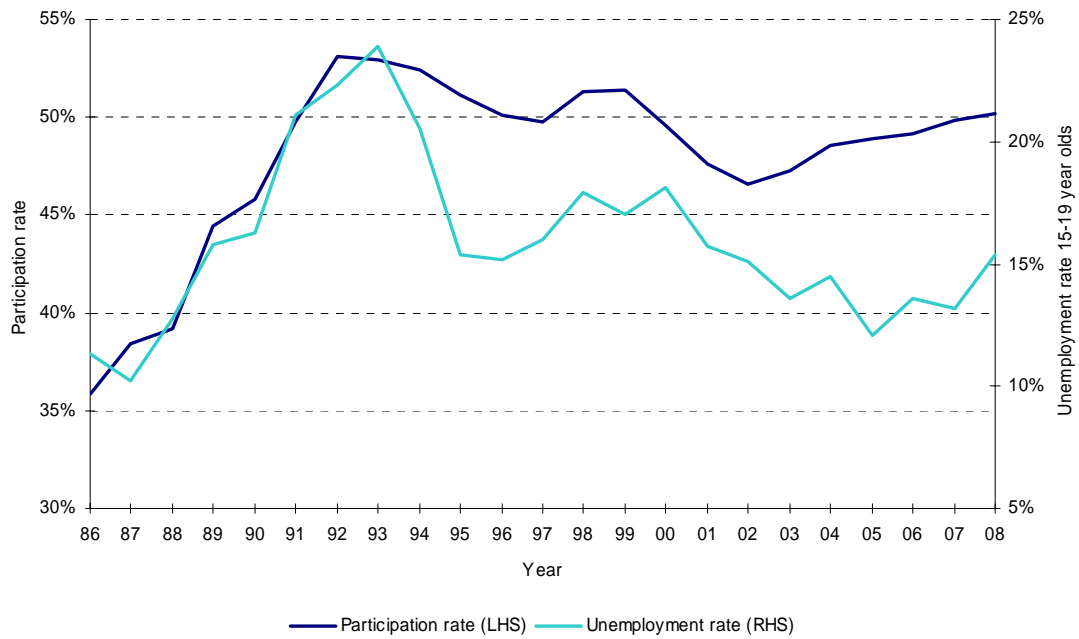
Participation by 16 to 18 years olds in secondary school then increased in 1998, which coincided with the economic slowdown during which the youth unemployment rate increased from 15 percent in 1996 to 18 percent in 1998.

Between 2000 and 2007, there was a general downward trend in the unemployment rate for 15 to 19 year olds. As one might expect, participation at secondary school fell from 50 percent in 2000 to 47 percent in 2002. However, since then, participation in secondary school has risen steadily to reach 50 percent in 2008. Clearly, factors outside of the economic cycle were impacting on participation during this time. One of the possible factors is the introduction of the new NCEA qualification system in 2002, resulting in more students remaining in secondary school.

Based on student numbers in 2008, if participation were to rise to a similar percentage as was experienced during the 1991/92 recession (53 percent), this would mean another 5,800 16 to 18 year olds in secondary school in New Zealand. If participation rises to the same level as during the 1998/99 recession (51 percent) then this would mean an additional 2,300 students aged 16 to 18 years at secondary school.

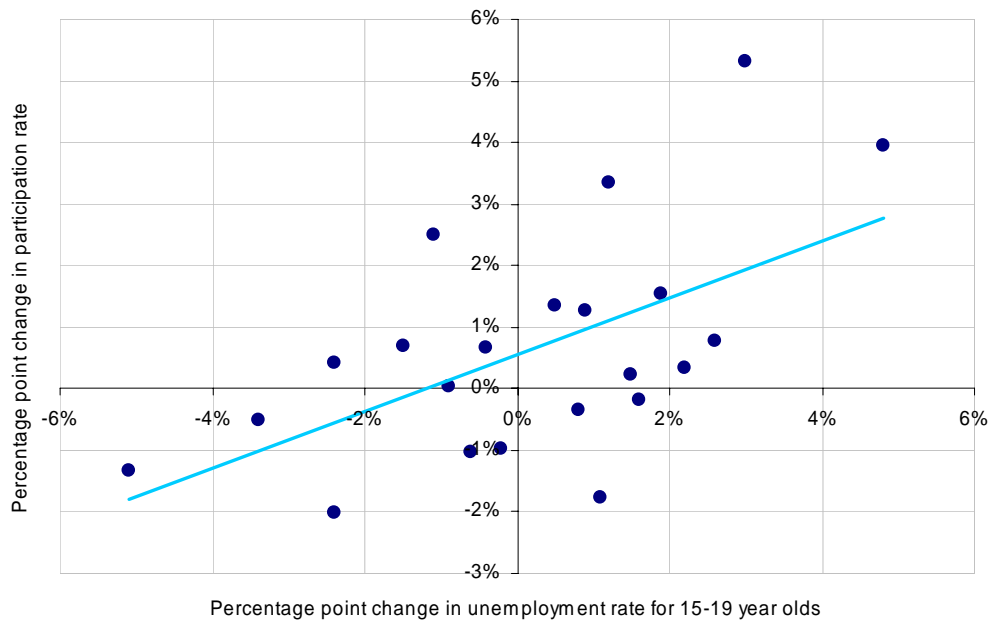
Examining the change in participation and unemployment makes it easier to identify the level of association between these two measures. While Figure 4 compared the absolute level of participation with the level of unemployment in each year, Figure 5 compares the percentage point change in participation in secondary school by 16 to 18 year olds with the percentage point change in the unemployment rate for 15 to 19 year olds between years. The line of best fit in Figure 5 indicates that, on average, an increase of one percentage point in the rate of unemployment for 15 to 19 year olds was associated with an increase of 0.5 percentage points in the participation rate of 16 to 18 year olds at secondary school.

Figure 4
Participation rates of 16-18 year olds in secondary school 1986-2008



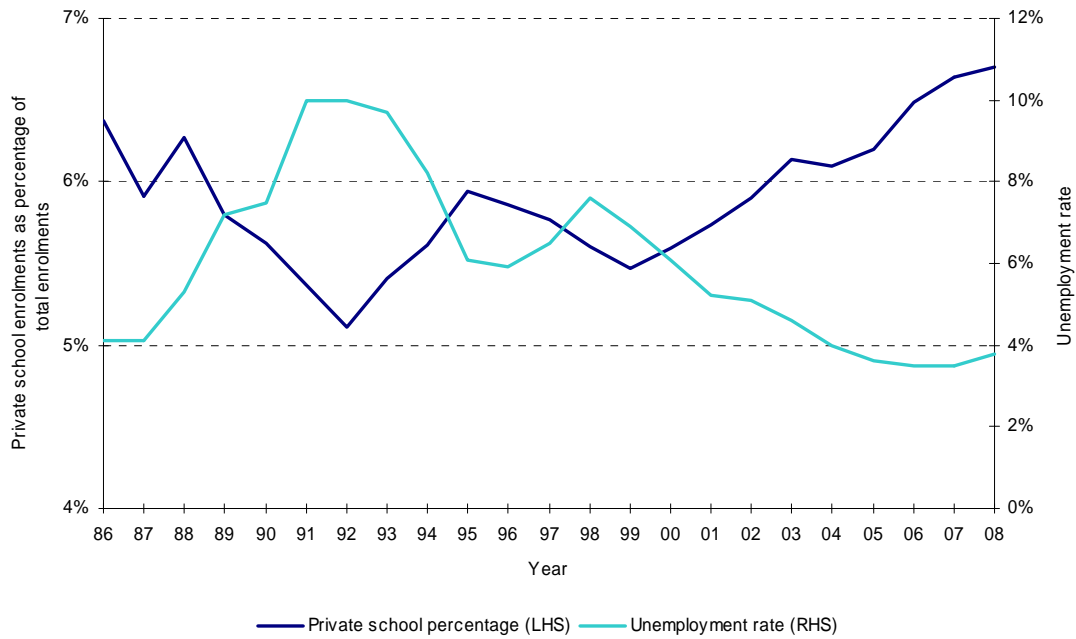
Note: Until 1995, enrolments include international students.

Figure 5
Percentage point change in the participation rate of 16-18 year olds in secondary school and the percentage point change in the unemployment rate 1986/7-2007/8



One of the other potential effects of a contraction in the economy is a substitution effect, where students switch from enrolment in private schools to enrolment in state schools. Figure 6 compares the proportion of secondary school students aged 16 to 18 years enrolled in private schools with the rate of unemployment over time. As can be seen, the proportion of students in private school and the unemployment rate have a negative association. When unemployment is rising, the proportion of students enrolled in private schools is falling and vice versa.

Figure 6
Proportion of secondary school students aged 16-18 years at private schools 1986-2008



Note: Until 1995, enrolments include international students.

During the worst part of the 1991/92 recession, the proportion of students enrolled in private schools reached a low of 5.1 percent. In 2008, following the extended period of good economic performance, the proportion of students enrolled in private schools reached a high of 6.7 percent.

Based on student numbers in 2008, if the upcoming recession is similar to the 1998/99 slow down around 1,200 students could switch to public schools. If however, the recession is as bad as the 1991/92 recession, then the number of students switching schools could get as high as 1,600.

4 PARTICIPATION IN PUBLIC PROVIDER-BASED TERTIARY EDUCATION⁸

The analysis in this section examines the participation rates of students enrolled in formal qualifications at public tertiary education institutions.⁹ First, participation during the period 1986 to 1997 is examined in section 4.1 using snapshot data i.e. counts of enrolments on July 1 in each year. Then, participation over the period 1994 to 2007 is presented in section 4.2 using all enrolments over the calendar year.

4.1 Participation 1986 to 1997

The section examines the participation rates of students in formal study in the period 1986 to 1997. The enrolment data used is based on a snapshot of enrolments taken in July of each year. This data has the disadvantage of also including international enrolments,¹⁰ although the number of international students was relatively small during this period and should not distort the underlying domestic participation rates significantly.

Figure 7 presents the rate of participation in qualifications below degree level (non-degree). Although there is a discontinuity in the data series between 1989 and 1990,¹¹ it is apparent that participation in non-degree qualifications was relatively stable between 1986 and 1989 at around 2 percent. Between 1990 and 1992, the rate of participation increased from 1.6 percent to 1.9 percent. This coincides with a significant increase in unemployment from 7.5 percent to 10 percent.

As the economy improved from 1993, the rate of participation in non-degree qualifications fell. Between 1993 and 1997, participation fell from 1.9 percent to 1.5 percent. This coincides with an improvement in the labour market with unemployment falling from 9.7 percent in 1993 to 6.5 percent in 1997. However, this also coincides with a period when there was a changeover in the required qualification for nursing from diploma to degree level which might explain part of the drop.

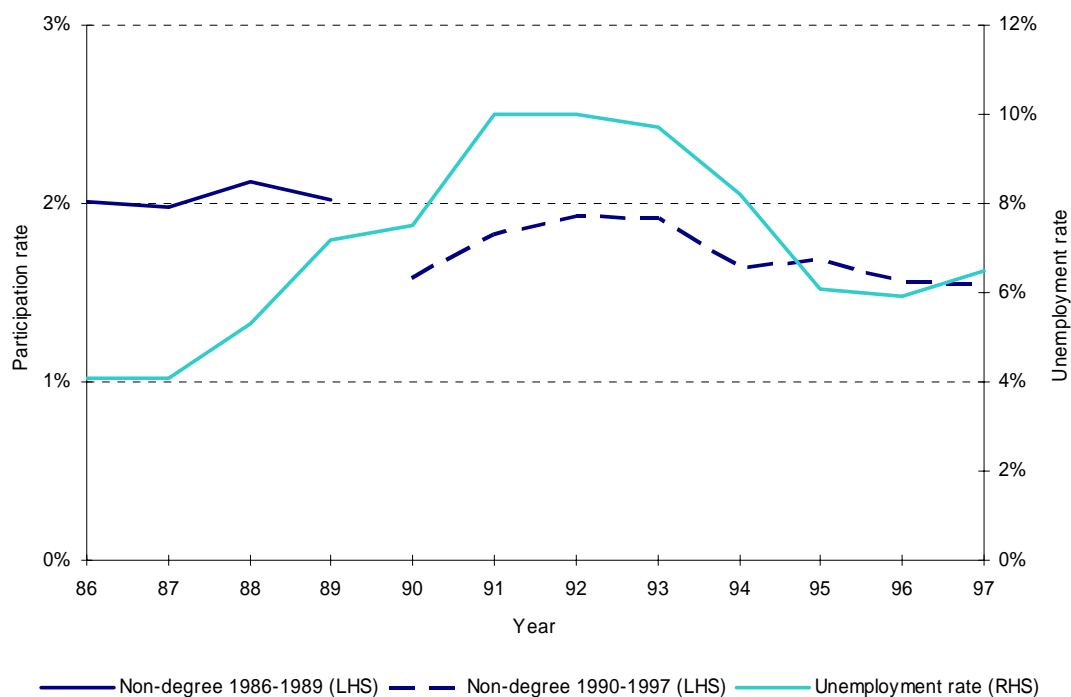
⁸ Enrolments in private training establishments are excluded from this analysis as data is not available on these enrolments till 1999.

⁹ These include universities, polytechnics, colleges of education and wānanga.

¹⁰ It is not possible to separate the number of international students out from the historic enrolment data used in this section.

¹¹ Until 1989, enrolments at the Open Polytechnic were counted separately in the data time series. However, from 1990, they were included as part of the polytechnic counts.

Figure 7
Participation rates in non-degree qualifications 1986-1997



At the degree level, Figure 8 shows that participation rose steadily between 1986 and 1992, mirroring the increase in participation in senior secondary school illustrated earlier in Figure 4. This increase in participation at the bachelors level is likely to be mostly an indirect effect of the economic slowdown of the late 1980s and early 1990s, in that, increased participation at senior secondary school has flowed through into increased participation at this level of tertiary education.¹²

After 1993, the rate of participation at the degree level remained relatively stable, although the participation rates in senior secondary school declined. Part of the reason for participation remaining stable at the degree level would have been the switch of nursing qualifications from diploma to degree level during the early 1990s. This saw female enrolments in bachelors degrees increase while bachelors-level enrolments by men stabilised. After 1993, enrolments by women in bachelors degree continued to rise while enrolments by men stabilised. Part of the reason for the increase in women during the early 1990s was the switch of nursing qualifications from diploma level to bachelors level.

¹² School leavers make up the majority of bachelors degree starters.

Figure 8
Participation rates in degree-level qualifications 1986-1997

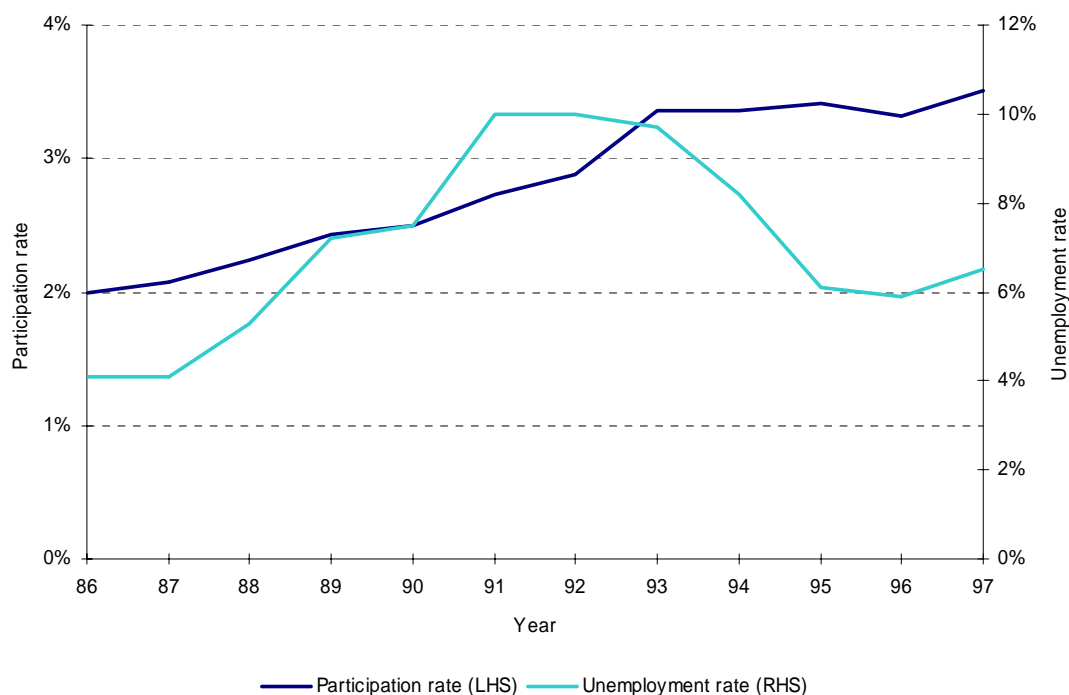


Figure 9 compares the percentage point change in participation at the degree level with the percentage point change in the rate of unemployment in each year. Generally, the changes in the rate of unemployment are associated with similar changes in participation at the degree level. One significant exception is 1992/93, where unemployment actually fell while participation in degree-level study increased significantly. The change-over of nursing qualifications from non-degree to degree level may be a factor in this.

Figure 10 compares the percentage point change in the rate of participation in degree-level qualifications with the percentage point change in the unemployment rate.¹³ The line of best fit in Figure 10 suggests that, on average, an increase of one percentage point in the unemployment rate is associated with an increase in the participation rate in degree-level qualifications of 0.05 percentage points.

So, although participation at the degree level is highly influenced by the indirect effect of a flow-on of increased participation at senior secondary school during an economic slowdown, the alignment of changes in the rate of participation and unemployment would suggest that the economic cycle also has a direct effect on participation.¹⁴

¹³ Note that the result in 1992/93 is omitted from the data in Figure 10.

¹⁴ During times of economic recession, students may forgo a 'gap year'. Also, students may return to complete a qualification in a deteriorating labour market.

Figure 9

Percentage point change in the participation rate in degree-level qualifications and the percentage point change in the unemployment rate 1986/87-1996/97

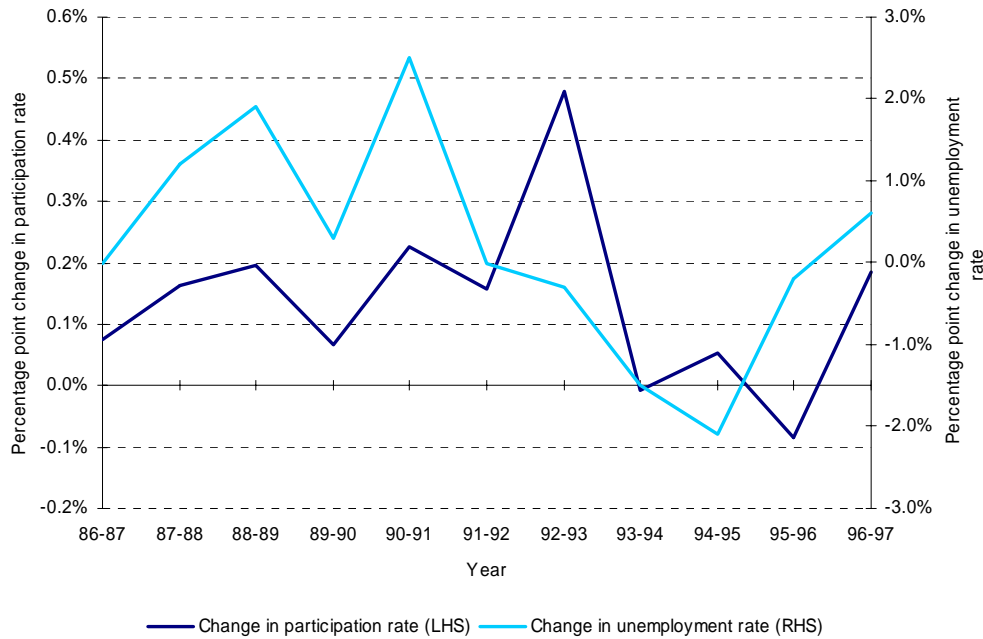
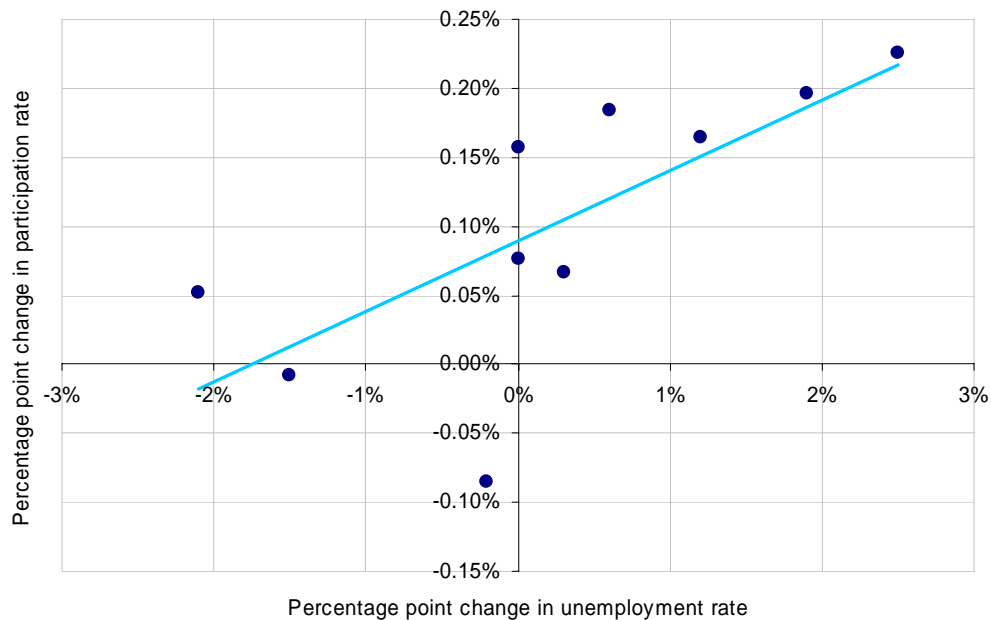


Figure 10

Scatterplot of the percentage point change in the participation rate in degree-level qualifications and the percentage point change in the unemployment rate 1986/87 to 1996/97



Overall, participation in postgraduate study was rising throughout the 1986 to 1997 period (see Figure 11). In 1986, the rate of participation was 0.3 percent, compared with 0.8 percent in 1997. The rate of increase in the participation rate appears to rise between 1988 and 1993. Then, the trend growth rate slowed. This tends to mirror the trends in participation in bachelors degrees and is likely a flow-through of the initial surge in participation seen in senior secondary

school in the late 1980s. The increase in provision of postgraduate certificate and diploma qualifications may also be a contributing factor.

Figure 12 presents the percentage point change in participation in postgraduate level qualifications and the percentage point change in unemployment in each year. This shows more clearly the association between participation at the postgraduate level and the state of the economic cycle. Generally, an increase in the rate of participation was associated with an increase in the rate of unemployment, with the exception of 1996/97 where a significant decrease in participation was associated with an increase in unemployment.

Figure 11
Participation rates in postgraduate-level qualifications 1986-1997

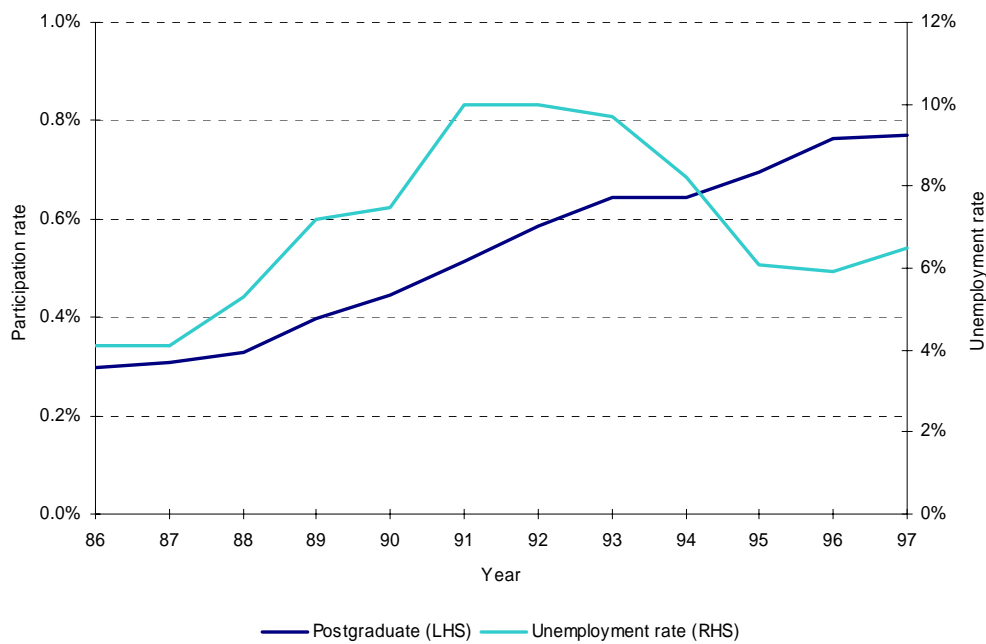
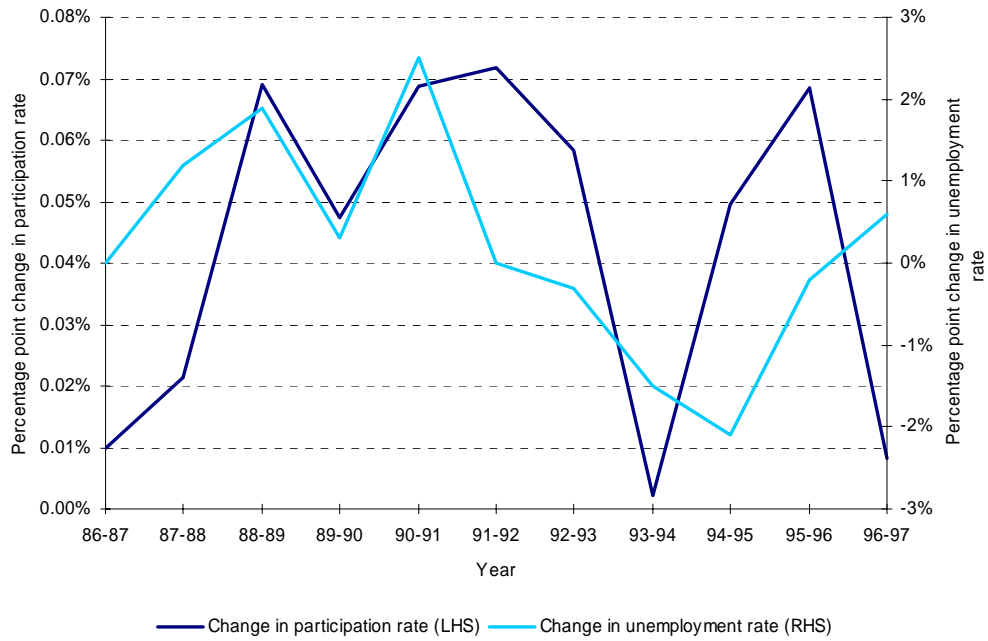


Figure 12

Percentage point change in the participation rate in postgraduate-level qualifications and the percentage point change in the unemployment rate 1986/87-1996/97



4.2 Participation 1994 to 2007

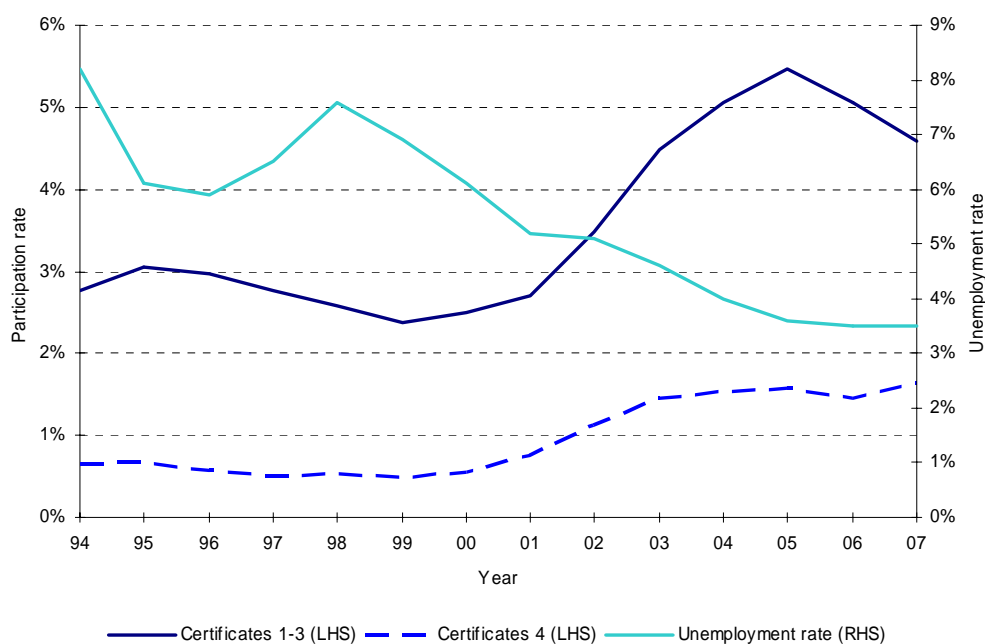
This section examines the participation of domestic students enrolled at any time of the year in the tertiary education system at public tertiary education institutions between 1994 and 2007. This period is chosen because the data allows for a more detailed examination of participation at different levels of qualifications.

The trend of decreasing participation in non-degree qualifications between 1993 and 1997 exhibited using the snapshot data in section 4.1 is also exhibited by the full-year dataset (see Figure 13). The participation rate for level 1 to 3 certificates dropped from 3.1 percent to 2.5 percent between 1995 and 2000. The participation rate for level 4 certificates dropped from 0.7 percent to 0.6 percent during the same period.

The surge in participation at the certificate level from 2001 would appear to be counterintuitive, given the strong economic growth and low unemployment that existed during this time. There was a surge in enrolments at this level of qualification at Te Wānanga o Aotearoa from 2001 which distorts the figures and makes it difficult to interpret any economic cycle effects.¹⁵

The move by the government to apply limits to domestic enrolments in non-degree qualifications would have been a contributing factor to the drop in participation in level 1 to 3 certificates from 2004.

Figure 13
Participation rates in certificate-level qualifications 1994-2007



At the diploma level, Figure 14 shows there was a steady decrease in participation during the 1990s. The rate of participation in diplomas stabilised at just over two percent from 1999 onwards. Figure 15 presents the change in participation rate at the diploma level with the change in unemployment rate. Between 1995/96 and 1999/2000, there is little evidence of any strong association between the change in participation rate and change in the rate of unemployment. However, from 1999/2000 onwards, the pattern of change in participation more closely matches the changes in unemployment.

¹⁵ In particular, Te Wānanga o Aotearoa offered new qualifications in te reo Māori and lifeskills.

Figure 14 shows that at the bachelors level, there is an upward trend in participation that peaked at 4.1 percent in 2001. Since then, participation has fallen to 3.8 percent. This might reflect the stronger labour market between 2002 and 2007.

Figure 16 compares the percentage point change in participation at the bachelors level with the percentage point change in unemployment. It also shows falling unemployment was associated with falling participation since 2001/02.

Figure 14
Participation rates in diploma-level and bachelors-level qualifications 1994-2007

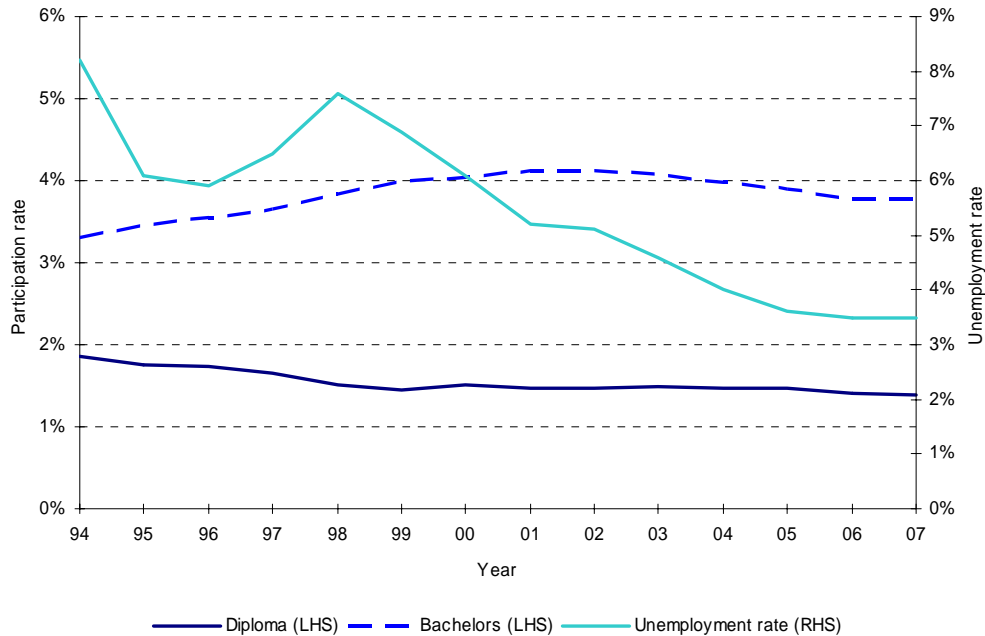


Figure 15
Percentage point change in the participation rate in diploma-level qualifications and the percentage point change in the unemployment rate 1994/5-2006/7

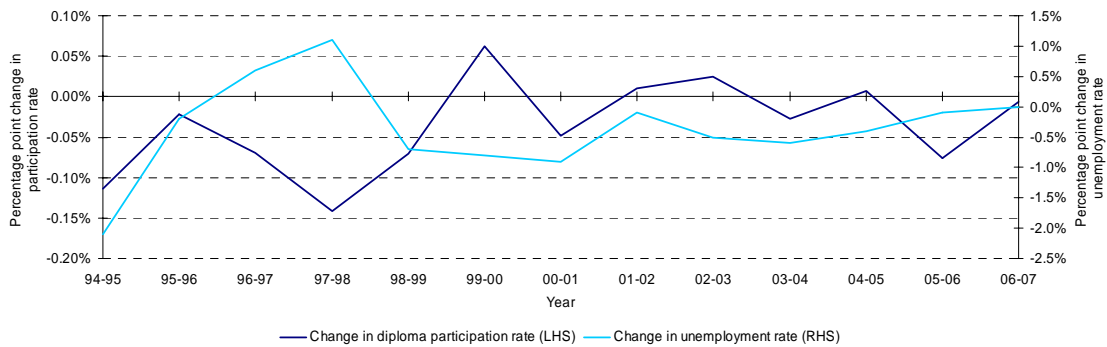
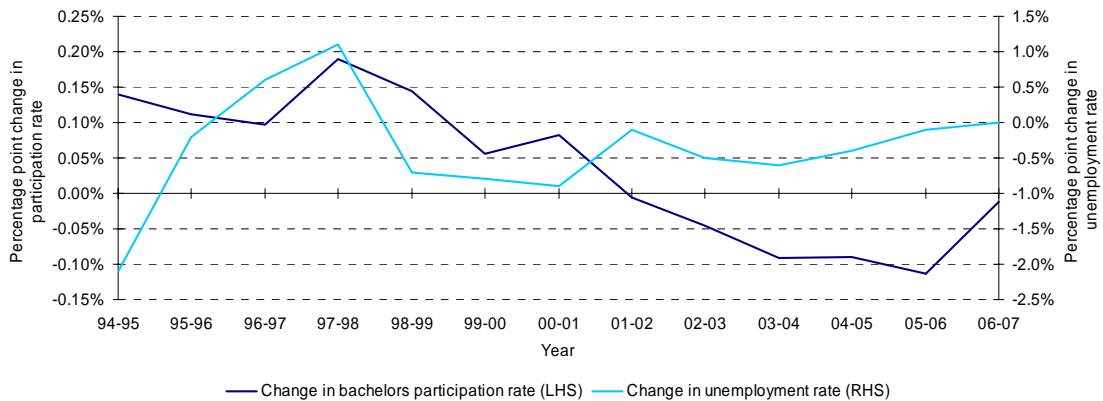


Figure 16

Percentage point change in the participation rate in bachelors-level qualifications and the percentage point change in the unemployment rate 1994/5-2006/7



The decline in participation at the bachelors level merits closer attention. Participation rates at senior secondary school have been rising since 2002, but the overall participation rate in bachelors level is falling. This is counterintuitive; given past associations between senior secondary school and bachelors-level participation we would expect a rising participation rate over that time.

Figure 17 presents the participation rate of domestic students at secondary school aged between 16 and 18. Also included in Figure 17 is the participation rate of 18 and 19 year olds in bachelors-level qualifications. The data shows a clear association between participation in senior secondary school and participation in bachelors-level qualifications. Looking closely at the relationship, there would appear to be a lag of one year in the turning points. Therefore, the full effect of any economic slowdown on bachelors participation may only come one year after any upswing in participation in senior secondary school.

Figure 17

Participation rates in senior secondary school and bachelors-level qualifications 1997-2007

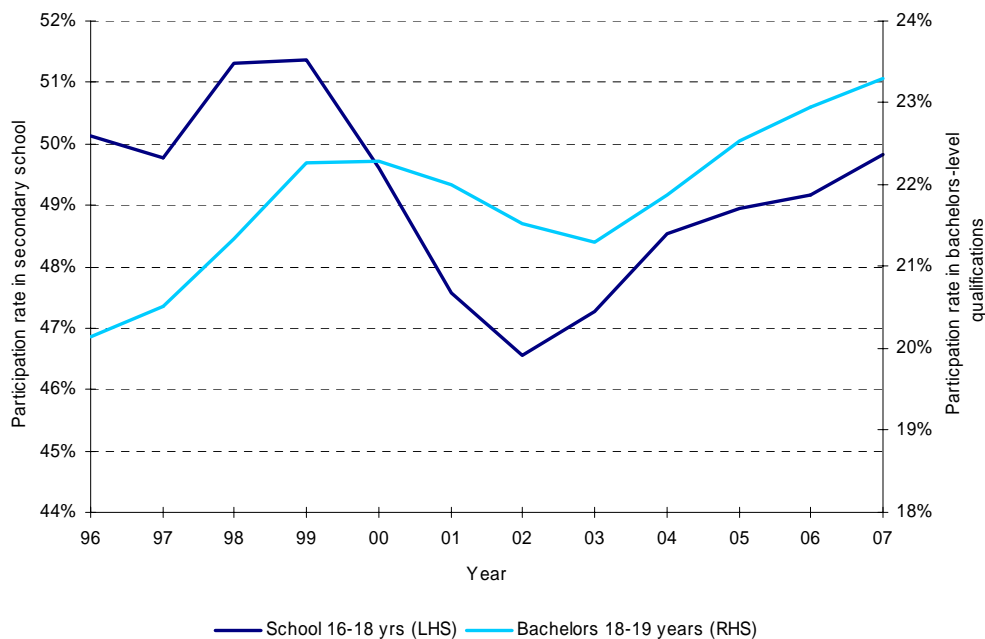


Figure 18 presents the participation rate at the bachelors level for three older age groups. In all three age groups, the participation rate peaked around 2001/02 and then declined. This compares with the increasing participation at the bachelors level for the 18 and 19 year old age group. This confirms that the fall in the overall rate of participation in bachelors degrees is a result of decreased participation by older students. It may be that as a result of the strong labour market since 2001, there was less need for people in these age groups to upgrade their qualifications to gain or maintain employment.¹⁶

Figure 19 presents the change in rate of participation at the bachelors level for students aged 25 to 39 compared with the change in the unemployment rate between years. It also shows that falling participation since 2002/03 is associated with falling unemployment.

Figure 18
Participation rates in bachelors-level qualifications by age group 1994-2007

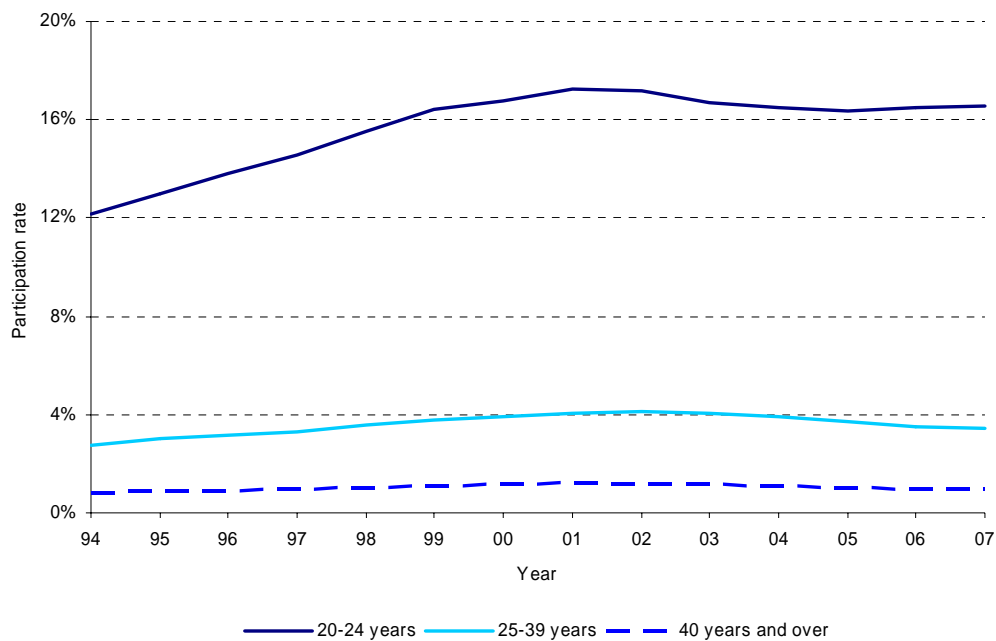
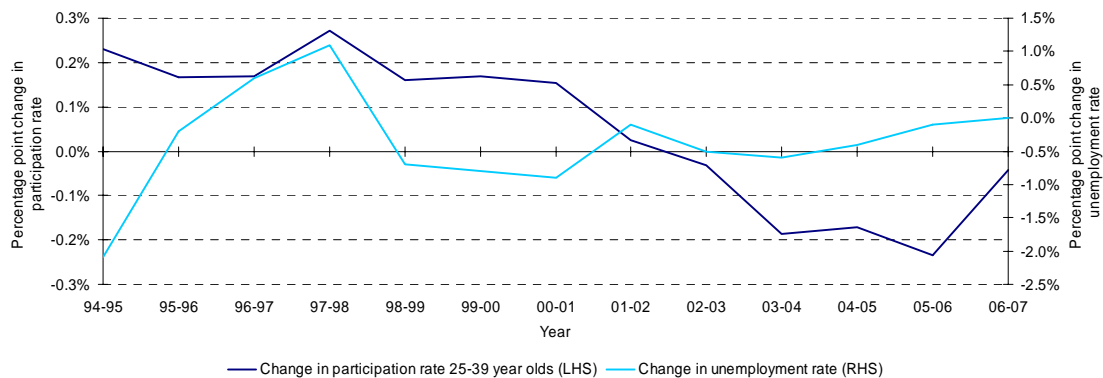


Figure 19
Percentage point change in the participation rate of 25-39 year olds in bachelors-level qualifications and the percentage point change in the unemployment rate 1994/95-2006/07



¹⁶ Another possible explanation is that because of the increase in bachelors degree attainment by younger age groups over the last decade, more individuals in the older age groups already have bachelors degrees.

At the postgraduate level, participation in PhDs has been steadily rising over time (see Figure 20). In 1994, participation was 0.07 percent, compared with 0.14 percent in 2007. Apart from a divergence in 1996/97, Figure 21 displays a reasonable degree of association between the percentage point change in participation at the PhD level and the percentage point change in unemployment rate, especially from 2000/01 onwards.

The other two categories of postgraduate qualifications exhibit more variation in participation over the period. Overall, participation in honours/postgraduate certificates has been increasing (see Figure 20). The increased availability of professional qualifications at this level is a factor in this trend. The rate of increase in participation appears to have risen since 2002, with a particular surge in 2007.

Participation in masters qualifications trended upwards from 1994 and peaked at 0.35 percent in 2004. Since then, it has fallen to 0.31 percent in 2007 (see Figure 20). This may reflect the more favourable labour market with bachelors graduates entering the labour market rather than enrolling in higher-level tertiary qualifications.

Figure 20
Participation rates in postgraduate-level qualifications 1994-2007

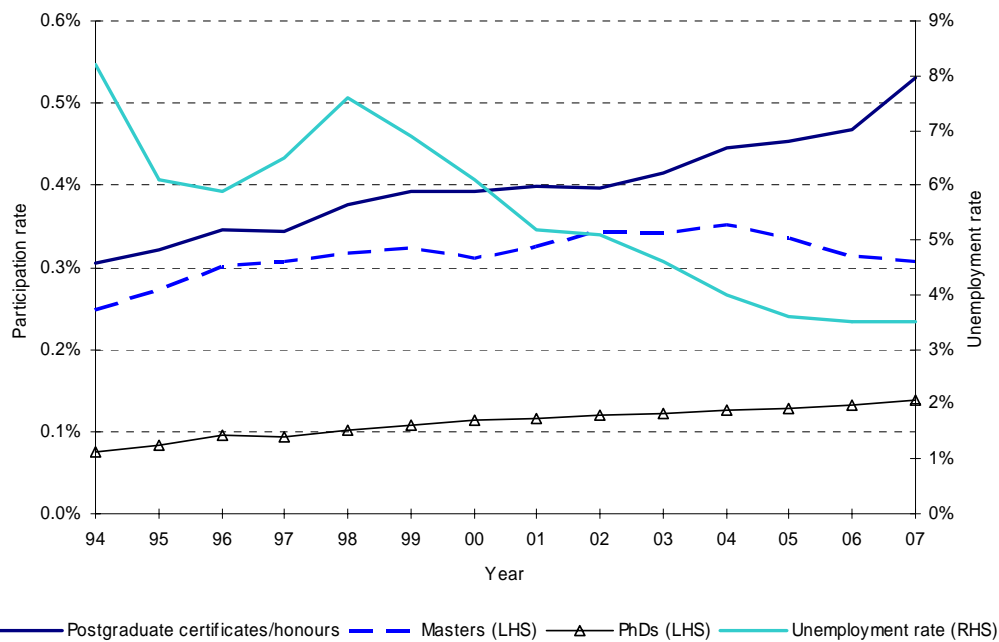
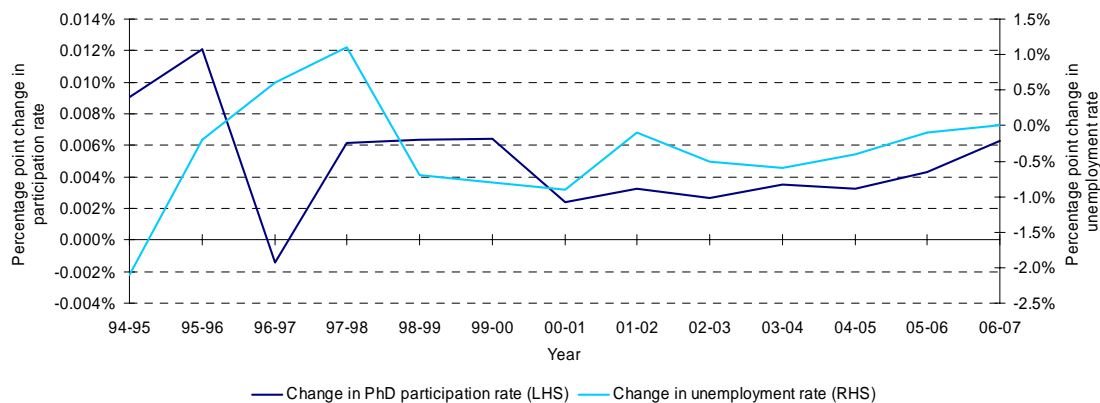


Figure 21
Percentage point change in the participation rate in PhD level qualifications and the percentage point change in the unemployment rate 1994/95-2006/07

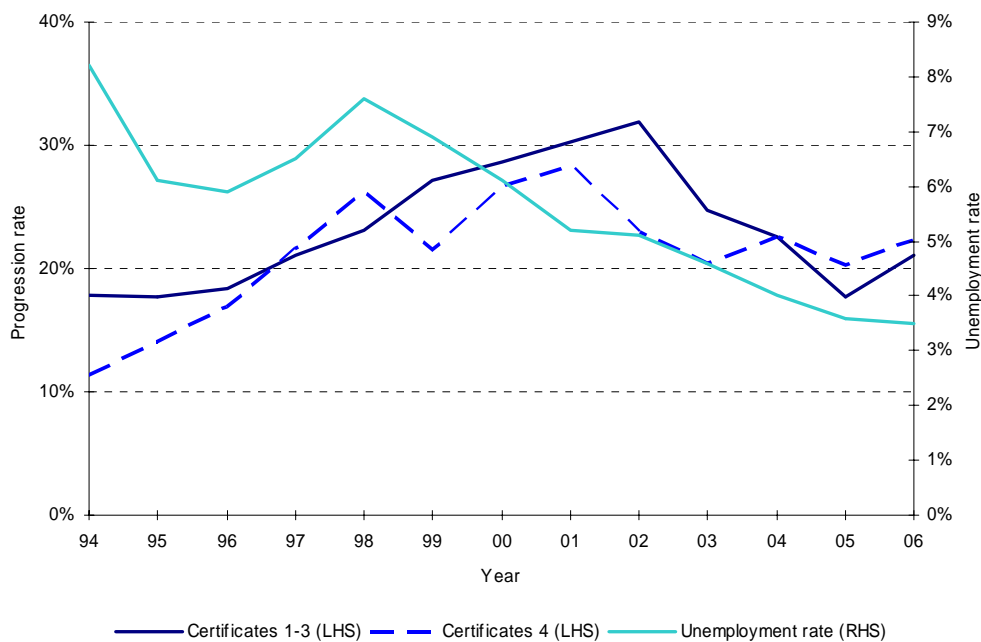


5 PROGRESSION IN PUBLIC PROVIDER-BASED TERTIARY EDUCATION

Another way to gauge the impact of the economic cycle on participation is to examine the progression rate from one level of qualification to another higher one. During times when the labour market is deteriorating, students who complete a qualification may choose to remain in tertiary education to enrol in a higher qualification. This section examines the progression rate by level of qualification, starting with progression from non-degree qualifications. The progression rate measures the percentage of students who graduate with one level of qualification in one year who then subsequently enrol in a higher level of qualification in the next year.

Figure 22 shows the progression rate of level 1 to 3 certificates and level 4 certificates along with the rate of unemployment. Despite the improving labour market, the progression rate from certificates was improving between 1994 and 2000. From 2002, the progression rate has fallen for both levels of certificates, which could indicate better fortunes for students with this level of qualification in the labour market.

Figure 22
Progression rates from certificate-level qualifications 1994-2006



Note: The year refers to the year the student completed the indicated level of qualification.

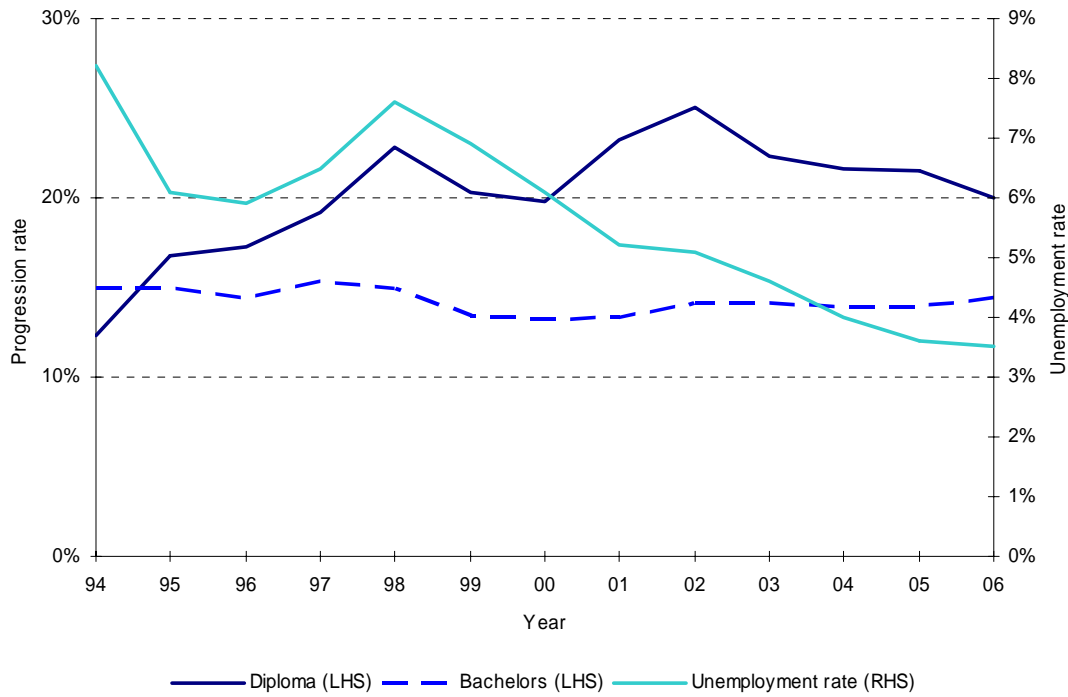
Progression from diploma-level qualifications mirrors that of certificate-level programmes. There is a peak in progression that coincides with the slowdown in economic growth in 1998 (see Figure 23). The decline in progression since 2002 could be related to the more favourable labour market conditions for people with non-degree tertiary qualifications.

The progression rate from bachelors-level qualifications is also presented in Figure 23. It shows that the rate of progression is slightly lower during the 2000s compared with the 1990s, but overall has remained relatively stable.

Figure 24 presents a clearer picture of the association between progression from bachelors-level qualifications and the economic cycle. It shows that changes in the rate of progression from year to year generally mirror changes in the level of unemployment.

Figure 23

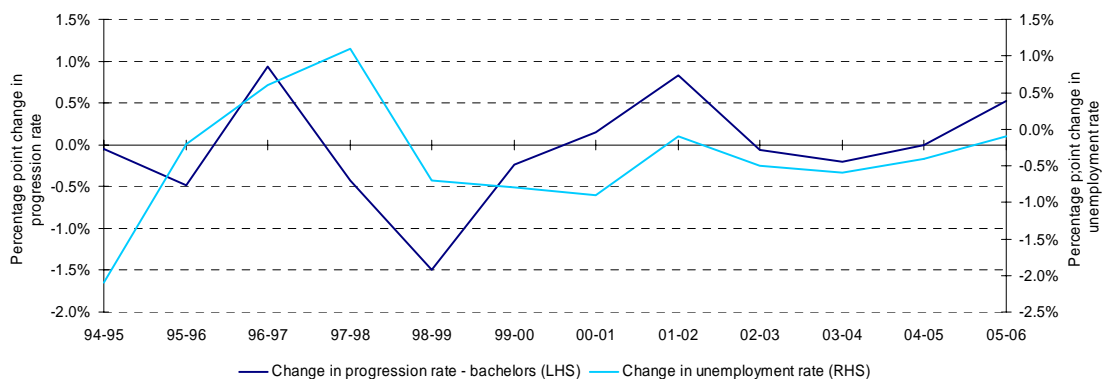
Progression rates from diploma-level and bachelors-level qualifications 1994-2006



Note: The year refers to the year the student completed the indicated level of qualification.

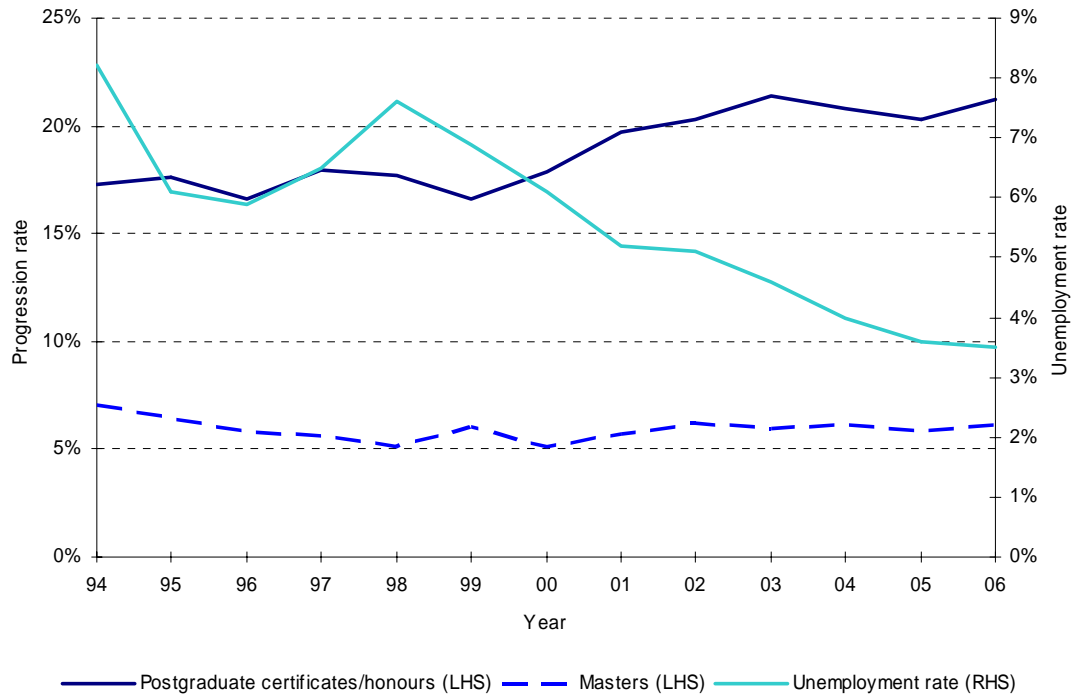
Figure 24

Percentage point change in the progression rate from bachelors-level qualifications and the percentage point change in the unemployment rate 1994/5-2005/6



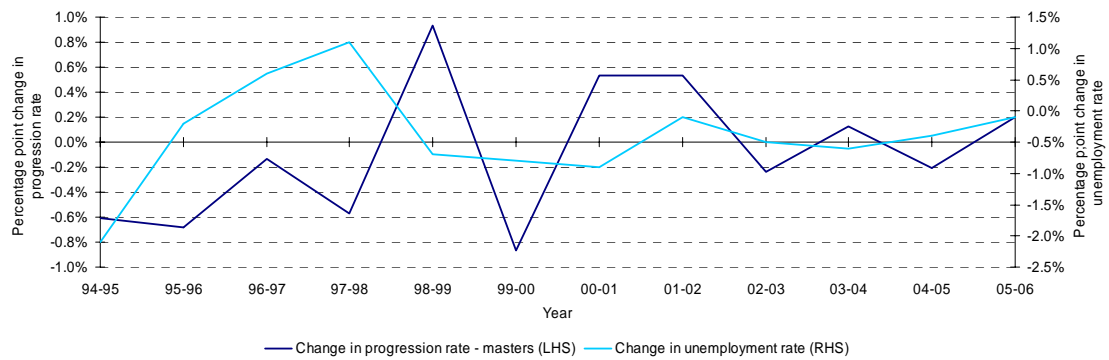
Between 1994 and 1998, the rate of progression from masters degrees fell from 7.1 percent to 5.1 percent (see Figure 25). This coincides with a period when the New Zealand economy was growing following the large recession of the early 1990s. Since 2002, the progression rate from a masters degree has remained relatively stable at around 6 percent. Figure 26 shows the change in progression rate from masters-level qualifications with the change in unemployment rate. It shows a relatively weak association between the two measures.

Figure 25
Progression rates from postgraduate-level qualifications 1994-2006



Note: The year refers to the year the student completed the indicated level of qualification.

Figure 26
Percentage point change in the progression rate from masters-level qualifications and the percentage point change in the unemployment rate 1994/95-2005/06



6 PARTICIPATION IN INDUSTRY TRAINING

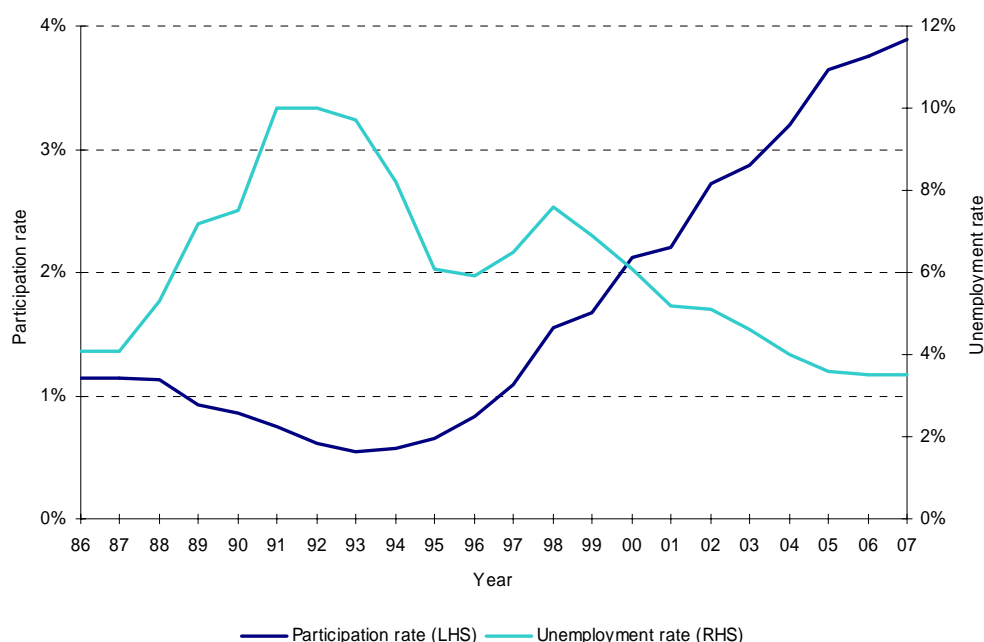
By its nature, one would expect industry training to be influenced by the business cycle. During times of economic recession there is higher unemployment and fewer jobs, and consequently, on-the-job training would be harder to obtain. However, an added complexity to the mix is government policy, which in recent years has sought to expand industry training.

Figure 27 presents the participation rate of trainees in industry training from 1986 to 2007.¹⁷ It shows that participation in industry training decreased during the late 1980s and into the early 1990s. Participation fell from 1.1 percent of the population in 1988 to 0.5 percent in 1993. This period of decline in participation coincides with a steep rise in unemployment. The dip in participation in industry training around 1992 may also be partly a consequence of the period of change culminating in new legislation governing trades training (Industry Training Act 1992).

Since 1993, participation in industry training increased steadily to reach 3.9 percent in 2007. The economic slow-down during 1998 appears to have had little impact on participation in industry training, perhaps because it was of short duration and not as severe as the 1991/92 recession.

Although the increase in participation since 1998 coincides with the extended period of economic growth since 1998, government policy is also a factor in increased participation. The government has actively targeted increasing participation in industry training. In addition, the government introduced the Modern Apprenticeship scheme in 2000. This scheme is designed to increase the number of younger people doing on-the-job training.

Figure 27
Participation rates in industry training 1986-2007



Notes:

1. Participation in industry training is based on snapshot data at one point in time.
2. Figures include Modern Apprenticeships.

¹⁷ Note that these participation rates are based on snapshot data. Therefore, the actual participation rates including all trainees involved in industry training during the year would be higher.

7 PARTICIPATION IN TARGETED TRAINING

The Training Opportunities and Youth Training schemes are specifically targeted at improving the chances of employment for trainees with low or no qualifications. Trainees on Training Opportunities programmes are aged 18 or over, while students on Youth Training programmes are aged 16 or 17.¹⁸ One of the groups that qualify to participate in Training Opportunities programmes are the long-term unemployed.¹⁹ Therefore, it would be expected that there would be some association between participation in Training Opportunities and Youth Training and the state of the labour market.

Figure 28 presents the number of placements²⁰ in Training Opportunities and Youth Training by year. The number of placements has fallen in each year. There is no sign that the economic slowdown impacted on placements during 1998 and 1999.²¹

Figure 28
Number of placements in Training Opportunities or Youth Training 1994-2007

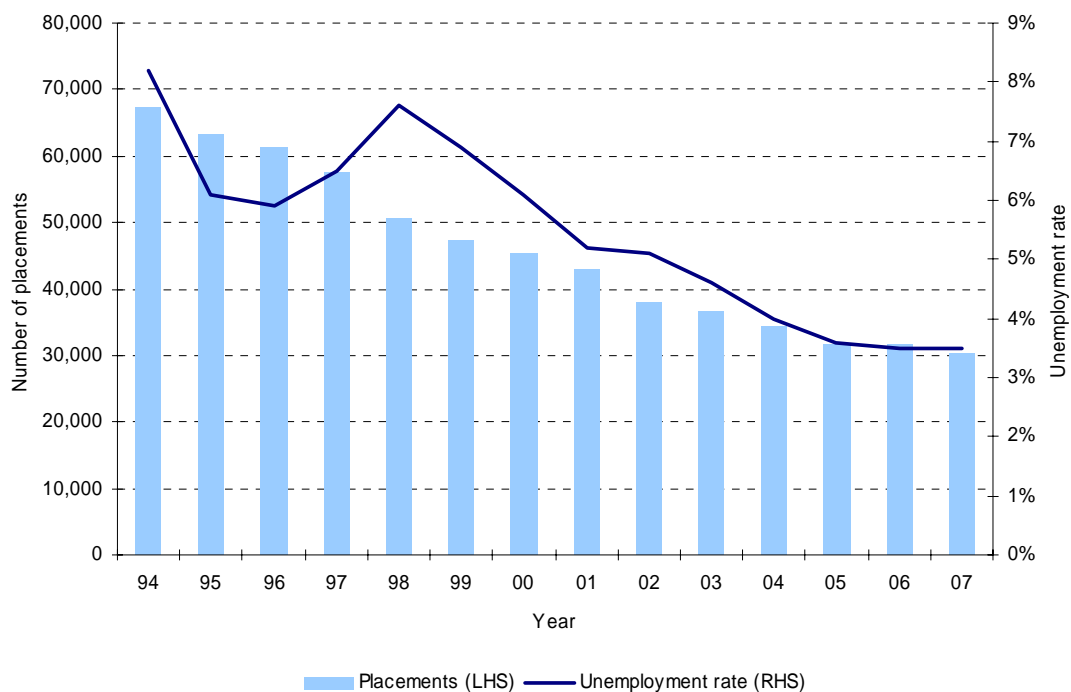


Figure 29 presents the number of placements on Training Opportunities programmes for those people that were aged 18 and over and unemployed for more than 26 weeks. In this case, a stronger association between the economic cycle and placements is evident. There is a surge in placements for this group of Training Opportunities trainees in 1998 which coincides with the economic downturn at the time.

¹⁸ Youth Training was introduced in 1998. Previously all students were on Training Opportunities programmes.

¹⁹ Long-term in this instance means the trainee has been unemployed for more than 26 weeks.

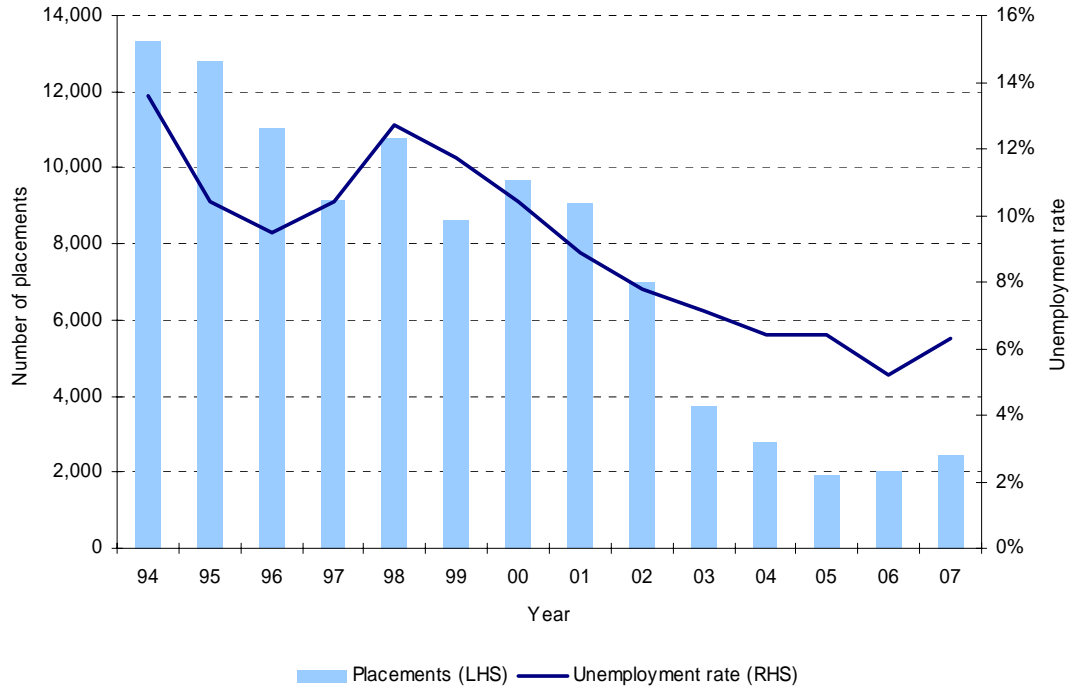
²⁰ Placements refer to the number of times trainees were placed on Training Opportunities or Youth Training programmes during the year. Note that as trainees could be placed on a programme several times, this will be more than the number of actual trainees.

²¹ However, the amount of funding allocated to the schemes was reduced in 1998/99.

The increase in placements in 2007 appears to coincide with the increase in unemployment among younger people which has marked the beginning of the current economic downturn.

Figure 29

Number of placements in Training Opportunities for unemployed people aged 18 years and over 1994-2007



8 CONCLUSION

With the onset of the current economic recession, the question is not whether participation in the education sector will be affected. Rather, the question is what will be the scale of any changes in participation and in what parts of the system. To a large extent, this will depend on the magnitude of the current economic downturn, which at this stage is unknown.

Historic enrolment data indicates that past economic downturns have impacted significantly on participation, especially in senior secondary school. This in turn flowed through to increased participation in the tertiary sector, especially at the bachelors degree level. However, the scale of the increase in participation in senior secondary school in the current recession is likely to be lower than in the past, given that the existing level of participation in the compulsory school sector is much higher than in the mid-1980s. In addition, participation in senior secondary school has been rising for the last six years, largely as a result of the introduction of NCEA.

It is much more difficult to assess the direct impact of the economic cycle on enrolments in formal qualifications at public tertiary education providers, given the many confounding factors that also impact on participation. Evidence from overseas suggests that participation in shorter-duration programmes is more sensitive to the state of the economic cycle. Therefore, participation in non-degree qualifications and masters-level qualifications may well increase during the current economic slowdown. The historical evidence on increases in participation at the non-degree level in New Zealand during economic downturns is not clear, given the many confounding factors that have influenced participation at this level of tertiary education. However, there were falls in progression from this level of qualification during the tighter labour market of mid-2000s. An association between economic recession and increased participation in postgraduate-level qualifications was clearer, especially during the larger recession of the early 1990s.

The New Zealand data suggests that participation at the bachelors level does increase during an economic recession. But a substantial part of any increase in participation may actually come in following years as increased participation at senior secondary school flows on into increased tertiary enrolment.

Participation in industry training and targeted training are more explicitly linked to the state of the economic cycle. Therefore, it is likely that participation in industry training will fall as employment levels fall while participation in Training Opportunities and Youth Training will increase.

Although the recession during the early 1990s had a significant impact on participation in education, the level of participation going into the current recession was at a much higher level. Therefore, the scale of increased participation during the current recession is unlikely to be so great. As more enrolment and economic data becomes available through 2009, the magnitude of any increase in participation will become apparent.

9 DATA AND DEFINITIONS

The enrolments figures used in this report come from a variety of data sources. Snapshot data collected by the Ministry of Education and published in Education Statistics of New Zealand is one of the key sources of participation data for the period between 1986 and 1997. This data was generated from a snapshot of enrolments in July of each year. This data has the drawback of also including international students. However, the number of international students was relatively modest during this time and should not mask the underlying trends in domestic student participation. Note that school data from 1996 excludes international students.

For the period 1994 to 2007, a dataset maintained by the Ministry of Education is used to measure participation in provider-based tertiary education. This dataset measures all enrolments during the calendar year. Because enrolments for private training establishments were not collected until 1999, they have been excluded from this analysis.

Data on participation for industry training was sourced from Green et al. (2003) and the Tertiary Education Commission. Note that this data is based on a snapshot and so actual participation over the entire calendar year would have been higher than is indicated in this study.

Data on targeted training was also sourced from the Tertiary Education Commission and reflects the number of placements in a calendar year. As trainees could have multiple placements in a year, the total number of trainees will be less than is indicated by the placement figures.

GDP and unemployment data is sourced from Statistics New Zealand and the Treasury.

The population estimates used in this analysis are sourced from Statistics New Zealand.

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