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New Zealand Regions, 1986-2001: Education and Qualifications

Pool, I., Baxendine, S., Cochrane, W., Lindop, J.



**University of Waikato
Te Whare Wānanga o Waikato
HAMILTON NEW ZEALAND**

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Abstract

This paper investigates changes in patterns of education and the highest qualifications people gained over the period 1986 to 2001 for the regions of New Zealand. Education is an essential element in the accumulation of human capital. Factors analysed in this paper are highest qualification gained, early education participation, school retention and qualification attained at leaving school. Over this period there have been major changes in the education people have sought with increases in the time people stay at schools as well as the numbers of people who go onto tertiary education therefore getting university level qualifications. The levels of qualifications gained by people differ substantially by region. Auckland and Wellington in particular have higher proportions of their population with higher qualifications than the regions which are rural and on the periphery.

Keywords: Education, School Retention, Regions, New Zealand

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This is part of the FRST-funded New Demographic Directions Programme. The paper will be included in a monograph entitled *Developing Underdevelopment and Geographical Disparities: A Social Demography of New Zealand Regions*. (Hamilton: Population Studies Centre) that will synthesise the results presented in topic-specific discussion papers. For a full list of this specific series, please see at the back of this booklet.

Table of Contents

Table of Contents	iv
List of Tables.....	iv
List of Figures	v
1. Introduction	1
2. The Paper	1
3. Stocks of Human Capital: The Qualifications	2
3.1 Qualifications for the Total Population.....	2
3.2 Qualifications by Ethnic Group.....	5
3.3 Qualifications by Age Group	8
3.4 Qualifications by Age Group and Ethnicity	9
3.5 Qualifications change 1986-2001.....	10
4. Early Childhood Education and Participation Rates	11
5. Secondary School Retention Rates	12
6. Qualification when Leaving School	16
7. Conclusion	19
Appendix	21
References	26

List of Tables

Table 1.	Standardised Percentage Distribution of Highest Educational Attainment, by Region, 1986 and 2001	4
Table 2.	Standardised Percentage Distribution of Highest Educational Attainment, by Ethnicity, New Zealand and Inter-Regional Ranges, 1986 and 2001	6
Table 3.	Inter-Regional Ranges of Highest Educational Attainment, by Age, 1986 and 2001	9
Table 4.	Highest Educational Attainment by Age and Ethnicity, New Zealand, 1986 and 2001	9
Table 5.	Inter-Regional Ranges for Highest Educational Attainment by Age and Ethnicity, 1986 and 2001	10
Table 6.	Estimated Early Childhood Education Participation Rates Māori, 1998	12
Table 7.	School Retention Rates, Cohort (%), by Attainment: Percentage Staying from Form 3 to Form 7 (Migration Adjusted) by Gender and Region, 1992-1996	15
Table 8.	School Retention Rates, Cohort (%): Percentage Staying from Age 14 to Age 17 by Region, 2000-2003	16
Table 9.	Students Leaving Secondary Schools During 2001 by Level of Highest Attainment, Ethnic Identification and Gender.....	17
Table 10.	Students Leaving Secondary Schools During 1993 by Level of Highest Attainment and Region.....	18
Table 11.	Students Leaving Secondary Schools During 2001 by Level of Highest Attainment and Region.....	19
Appendix Table 1.	Respondent reporting “Not Specified” as Highest Qualification, as a Percentage of the Population, by Age Group and Ethnicity, New Zealand, 1986-2001	21
Appendix Table 2.	Highest Educational Attainment by Age and by Ethnicity (Pacific Island people, Asian), New Zealand, 2001	21

Appendix Table 3.	Standardised Percentage of the Population by Highest Educational Attainment for Pakeha, by Region, 1986 and 2001	22
Appendix Table 4.	Standardised Percentage of the Population by Highest Educational Attainment for Māori, by Region, 1986 and 2001	23
Appendix Table 5.	Percentage of the Population by Highest Educational Attainment, by Age Group and Region, 1986 and 2001	24

List of Figures

Figure 1.	Standardised Percentage of the Population with No Qualifications by Ethnicity and Region, 1986 and 2001	6
Figure 2.	Standardised Percentage of the Population with University Qualifications by Ethnicity and Region, 1986 and 2001	7
Figure 3.	Highest Educational Attainment by Age Group, New Zealand, 1986 and 2001	8
Figure 4.	Percentage Point Difference 1986 to 2001 in the Distribution of Highest Educational Attainment, for Total Population, by Region	11
Figure 5.	School Retention Rates, Cohort (%), by Age, for Māori and Total Population, New Zealand 1986-2003	14

1. Introduction

This working paper is part of a large project, funded by the Foundation for Research, Science and Technology (FoRST), being undertaken by the Population Studies Centre. This project explores the links between different sorts of population transitions, social transformations of various kinds and changes in the political economy of New Zealand's regions between the 1980s and the dawn of the 21st century. It relates to a period of rapid change at the end of which the regional architecture of the country was very different from the way it had been in 1985. The trends also represented a radical departure from what preceded these last two decades.

This particular discussion paper, using data from the five yearly Census of Population and Dwellings collected by Statistics New Zealand, examines various aspects of educational attainment including highest qualification gained by the population between regions in New Zealand¹. Other data from the Ministry of Education is also used to investigate Early Childhood education and Secondary Education.

2. The Paper

In other papers in this series the changing patterns of labour force participation and the restructuring of industrial sectors and employment have been reviewed (Pool et al. forthcoming-c; Pool et al. forthcoming-d). These papers have showed increasing differences between regions and also incremental concentration of skilled labour in certain “new economy” (Seabright 2002) sectors in Auckland and Wellington. The net result was increasing income inequality, coupled with declining levels, and, again, a growing concentration of aggregate personal incomes in Auckland and Wellington (Pool et al. forthcoming-b).

As skill-levels seem to play a key role in shift-shares and a concentration of highly skilled in the “new economy” in both Auckland and Wellington, it is necessary to look at what the flows and stocks of human capital available in regions, as measured by education, an indicator both of the “quality of human capital”, and of regional differences in the capacity of regions to generate new human capital.

Education, both the quality of human capital and its role in generating new human capital, has numerous functions. These are all critical elements comprised in all three sets of variables for education that are looked at here. (i) *Qualifications* (the stock of human capital, and thus among the skilled who stay in the region). (ii) *Participation rates* at young ages at which attendance is not compulsory, a factor that gives the baseline data for the flows (generation of new capital). (iii) *Retention* through high school (the potential for generation of the highly skilled cohorts). (iv) What qualification school leavers come out with when leaving school.

The importance of education lies in it providing capacities of different aspects of development, the stimulation of the economy around “knowledge-based” industries, and the development of new businesses in a time of increasing globalisation and self-induced restructuring. This is because it is difficult to build a “knowledge” based economy without

¹ Other topics covered in this series of discussion papers are listed in the end piece to this paper. The culmination of this project will be the publishing of a monograph synthesizing the various themes explored in this series of working papers (Pool et al. forthcoming-a).

significant proportions of the population having high qualifications and skills (Ministry of Education 2002). Education is also a central factor in closing socio-economic gaps that still exist between Māori and Pakeha (Else 1997). It is also an important indicator of the differences between the two major ethnic groups (Te Puni Kokiri 2000). For the present study the education level of the regional populations can be an indicator of the degree of “exclusion” faced by a region; of its capacity to participate in “mainstream” New Zealand development.

3. *Stocks of Human Capital: Qualifications*

This first section looks at qualification, by analysing educational attainment. This variable is divided into four categories as follows:

- 1 *University qualifications*: people with undergraduate or post-graduate degrees.
- 2 *Other tertiary qualifications*: including people with trade or teaching/nursing diplomas and other certificates.
- 3 *School qualifications*: including people with high school qualifications, school certificate, sixth form certificate, bursary and scholarship.
- 4 *No qualifications*. including those not in the above three categories.

In the present study only age groups 20 years and over are used. In 1986 and 1991 there has been a category “still at school” but in 1996 and 2001 these people were classified as having no qualification and school qualification. This makes comparisons over time difficult for the 15-24 years age group, so 15-19 year olds were excluded, and two new alternative age groups were used: 20-29 and 30-44 years. Results other than for age-specific rates are standardised by age and gender to New Zealand total population 1996.

In this analysis the category “not specified” is excluded, it is important to note that the level varied considerably between the different censuses, ages and ethnic groups (see Appendix Table 1). The level was especially high in 2001 and to a lesser extent in 1986 and with those in the older age groups, as well as the Asian, Pacific Island and Māori ethnic groups. This is not the ideal solution as those not specified are probably not evenly distributed across all the categories. But they are more likely to be concentrated in the category “no qualification” and maybe among those with “other tertiary” qualifications, particularly where these are “job-training” courses.

This analysis will focus on 1986 and 2001 because of the differences in census questions mentioned earlier. Educational attainment levels and patterns vary by cohort as each has different opportunities. But this gives an indication of how educational patterns changed over the time period, as the results are reasonably linear over time.

3.1 *Qualifications for the Total Population*

At the start of this period, relative to some OECD countries the New Zealand population had low levels educated at a university level (Pool 1987). By 2001 13 per cent of New Zealanders had a bachelors, graduate or post-graduate qualification, this was an increase of eight per cent from 1986 (Table 1), in comparison, 13.6 per cent of Australians and 13.7 per cent of people in Denmark have degrees (McLennan 1999; Nordic Statistical Secretariat 1996). There has been a decline in other tertiary qualifications that are not degrees going from 27 per cent of the population in 1986 to 22 per cent in 2001. These qualifications span a huge range from

teaching and nursing diplomas and trade certificates, to some other service-oriented and work-training courses such as hairdressing and cleaning offered by polytechnics, community colleges as well as a variety of private training institutions. Because of the wide variety of training and skills comprised within this grouping, it is difficult to assess how the exact contribution persons in this category make to the stocks of human capital. As will be seen, it varies little either over time or between regions. Finally over the period 1986 to 2001 the percentage of the total population with no qualifications decreased from 43 per cent to 27 per cent, whereas those with school qualifications increased from 22 per cent to 38 per cent. This reflects the increases in school retention rates discussed further in section 4.

Like other variables that have been examined in this report, there were market inter-regional² differentials in levels of educational attainment as shown in Table 1. The proportions of regional populations with university qualifications ranged from a relatively stationary four and six per cent in the West Coast for 1986 and 2001 respectively, to an increasing 13 and 20 per cent respectively for Wellington³. There was a high inverse correlation between percentage of the populations with no qualifications and the per cent of the population with university degrees. Regions can, therefore, be easily characterised in terms of educational attainment. Interestingly, census data shows that there was, a significant gap between Wellington, which had a relatively high proportion of its population with a university degree and the other five regions with Universities. In 1986 they ranged from Auckland with 9 per cent with University qualifications, to Waikato with 7 per cent. This gap increased in 2001 with Auckland⁴ being 16 per cent, producing a very slight narrowing of the gap between it and Wellington, yet Waikato and Manawatu-Wanganui only increased to 10 per cent. Canterbury and Otago are well above the last two regions, but the gap between them and Wellington and Auckland has widened. For regions not containing universities, levels in 2001 ranged from the region with the lowest proportion of its population with a University degree, the West Coast to Nelson-Tasman (just lower than the Waikato region). Added to the distribution of University centres are the effects of the concentration of business and financial occupations in Auckland, Christchurch and the public service in Wellington, both of which sectors attract higher qualified recruits (Pool et al. forthcoming-c).

The proportion of the population with no qualifications ranged from the lowest and declining rates in Wellington (36 per cent in 1986 and 22 per cent in 2001), to the highest values in 1986 in Southland (53 per cent) and in 2001 in the West Coast (38 per cent). Between the two periods, however, levels with no qualifications decrease everywhere. Auckland region also had a low percentage of its population with no qualifications. Taranaki and Gisborne had high levels in both 1986 and 2001. For those regions which tended to have high percentages of people with no qualification, namely West Coast and Southland, there were also low proportions of people with Other Tertiary qualifications.

² In this paper we use 15 regions instead of the usual 16. Nelson and Tasman are combined into one region as they operate essentially as one region other than administratively. As the division was made on the basis of river catchments not communities or social and economic interest anomalies occur. For example, Nelson urban area has some of its population in the Tasman region.

³ In Wellington Central in 2001 31 per cent of the specified population had university qualifications compared to 10 to 14 per cent for the other three urban areas with Upper Hutt being the lowest. The opposite trend for no qualifications applies with Wellington Central having 14 per cent, Porirua being 29 per cent and Lower and Upper Hutt being 26 and 27 per cent respectively.

⁴ Central Auckland in 2001 had 24 per cent of the specified population with university qualifications compared to 17 per cent in the North Shore, 10 per cent in Western Auckland and 9 per cent in Southern Auckland. For no qualification North Shore and Central Auckland had about 17 per cent with Western Auckland 27 per cent and Southern Auckland 30 per cent.

Table 1: Standardised¹ Percentage Distribution of Highest Educational Attainment, by Region, 1986 and 2001

Region	Highest Qualification				Total
	No	School	Other Tertiary	University	
	1986				
Northland	45.2	21.4	27.9	5.5	100.0
Auckland	39.7	23.3	28.1	8.9	100.0
Waikato	46.4	20.9	26.3	6.5	100.0
Bay Of Plenty	44.6	21.6	28.0	5.8	100.0
Gisborne	50.2	20.7	23.8	5.3	100.0
Hawke's Bay	47.7	21.5	25.0	5.9	100.0
Taranaki	49.3	19.3	26.0	5.3	100.0
Manawatu-Wanganui	46.8	21.2	24.9	7.1	100.0
Wellington	36.2	22.9	27.7	13.2	100.0
West Coast	51.4	19.8	24.6	4.2	100.0
Canterbury	42.7	22.4	26.5	8.3	100.0
Otago	43.8	20.6	26.5	9.1	100.0
Southland	52.6	19.1	23.2	5.1	100.0
Nelson-Tasman	42.0	21.4	29.6	7.0	100.0
Marlborough	43.9	22.2	28.2	5.7	100.0
New Zealand	42.9	22.0	26.9	8.2	100.0
<i>Range</i>	<i>16.4</i>	<i>4.2</i>	<i>6.4</i>	<i>9.1</i>	
	2001				
Northland	33.0	37.1	22.8	7.1	100.0
Auckland	22.6	40.8	20.6	16.0	100.0
Waikato	30.8	36.7	22.3	10.2	100.0
Bay Of Plenty	30.5	37.0	24.4	8.2	100.0
Gisborne	35.3	35.3	22.3	7.2	100.0
Hawke's Bay	32.7	36.4	22.9	8.0	100.0
Taranaki	34.3	34.1	24.2	7.4	100.0
Manawatu-Wanganui	31.6	36.0	22.1	10.4	100.0
Wellington	21.5	36.5	21.8	20.2	100.0
West Coast	37.6	35.4	21.1	5.9	100.0
Canterbury	26.8	38.7	22.2	12.3	100.0
Otago	26.5	36.7	22.6	14.2	100.0
Southland	36.5	35.1	21.5	7.0	100.0
Nelson-Tasman	27.4	37.3	26.0	9.4	100.0
Marlborough	29.3	38.8	24.5	7.3	100.0
New Zealand	26.8	38.0	22.0	13.2	100.0
<i>Range</i>	<i>16.2</i>	<i>6.8</i>	<i>5.4</i>	<i>14.3</i>	

Note: This percentage is of only those who specified a highest educational attainment (for not specified see Appendix Table 1).

(1) Standardised for age and gender to the total 1996 New Zealand population for those 20 years and over.

Source: In this table and except where otherwise noted data used in this paper comes from published census data, or from Supermap3, or from special tabulations from the Censuses of Population and Dwellings from Statistics New Zealand.

As noted the other tertiary category varies little between regions and over time. But, regions with high percentages of the population with Other Tertiary qualifications were Nelson-Tasman, Marlborough and the Bay of Plenty⁵ for both 1986 and 2001 with Auckland also being high in 1986 and Taranaki in 2001. Three of the regions contain sunbelt retirement zones with high growth, and are some of the fastest growing regions, requiring trades people and persons in service occupations, such as nursing, with Other Tertiary qualifications. Auckland had the lowest percentage in 2001 for Other Tertiary qualifications.

Among the regions, the variation in the percentage of the population with school qualifications only was small in 1986 with a difference of only four per cent, but by 2001 this difference had increased to seven per cent. Auckland stands out in 2001 with the highest proportion of its population with school qualifications (41 per cent) where as the lowest was in Taranaki (34 per cent) followed by Gisborne and Southland.

3.2 Qualifications by Ethnic Group⁶

The distribution for standardised highest educational level attained by Pakeha and Māori are quite different, with Pakeha typically being more highly educated than Māori (see Table 2). The main differences, however, are between the proportions of Pakeha and Māori who have no qualifications and those with university qualifications. Nationally the percentage of Māori with no qualification was over 20 percentage points higher than that for Pakeha, in 1986 and this difference remained so in 2001. In contrast, Pakeha have higher percentages of those with School, Other Tertiary and University qualifications. The educational level of both ethnic groups has improved over time with fewer people in the no qualification group and an increase in those with school qualifications, as well as increments in proportions with university qualifications. Possession of Other Tertiary qualifications increased for Māori, but decreased for Pakeha, leading to a small narrowing of the gap between ethnic groups. But, it is important to note the largest improvement occurred in the attainment of school qualifications rather than university qualifications.

The Pacific Island people have smaller age and gender percentages of their population with no, other tertiary and university qualifications than Māori but a higher percentage with a school qualification. Asians have high proportions of their population with university and school qualifications with a small percentage without qualifications.

The highest educational qualifications for the Pakeha and Māori ethnic groups by region in 1986 and 2001, are given in Appendix Tables 3 and 4. The gap between Māori and Pakeha with no qualification in the regions is large, and is not uniform (see Figure 1). The ethnic gap for the South Island regions are less than for the North Island regions, over time these gaps have narrowed a little. For Pakeha, the regions with high percentages of people with no qualifications are the West Coast, Southland and Taranaki for both 1986 and 2001. The regions with low percentages are Auckland and Wellington. For Māori, the regions with a low proportion of the population with no qualifications are quite different from Pakeha, with

⁵ The Eastern Bay of Plenty had 37 per cent of the specified population with no qualification compared to 28 per cent in the Western Bay of Plenty. This difference is reflected in the Western Bay of Plenty being higher than the Eastern Bay of Plenty in the other qualification groupings.

⁶ The percentage not specified is excluded from the total as the levels are high in 2001 with Māori being much higher than Pakeha (see Appendix Table 1). The levels for 1986 is also high but not as high as 2001. The Pacific Island level is higher than Māori in 2001.

Otago being the lowest for both years, West Coast was also low in 1986, and Nelson-Tasman and Wellington were low in 2001. The regions with high proportions of Māori with no qualifications are Waikato and Hawke’s Bay for both years, with high proportions also experienced for Gisborne and Southland in 1986, and Northland and Taranaki in 2001. It is important to note that changes have been such that the lowest level in 1986 with no qualifications is higher than the highest level in 2001.

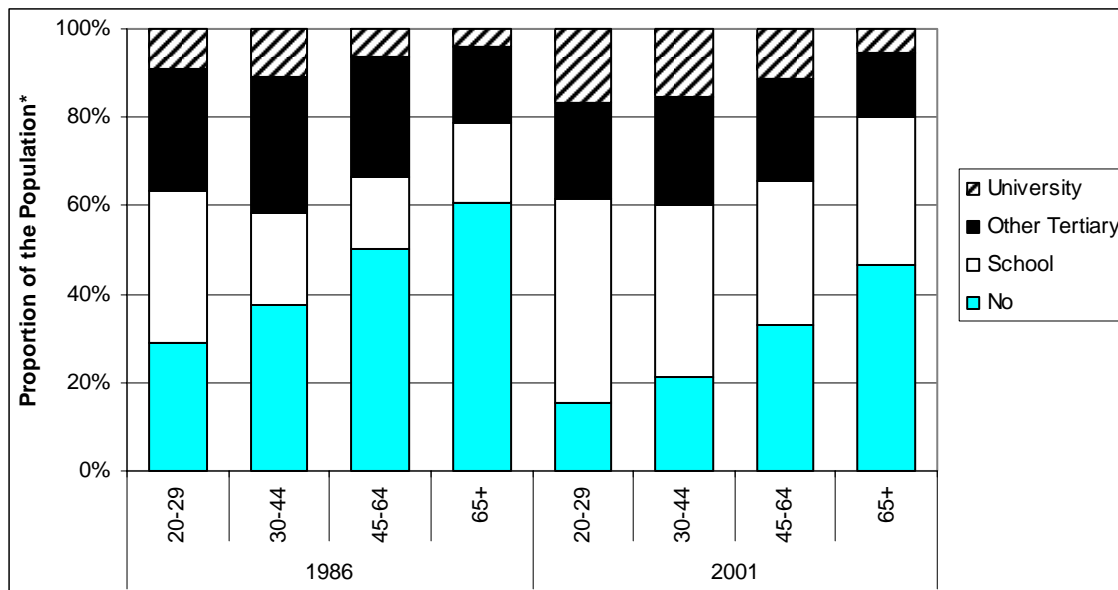
Table 2: Standardised¹ Percentage Distribution of Highest Education Attainment, by Ethnicity, New Zealand and Inter-Regional Ranges, 1986 and 2001

Highest Qualifications	1986		2001			
	Pakeha	Māori	Pakeha	Māori	Pacific Island	Asian
New Zealand						
No	39.5	67.7	24.1	47.1	40.8	17.9
School	22.9	14.8	37.9	30.7	42.9	45.4
Other Tertiary	28.7	15.5	24.0	17.0	12.3	11.3
University	8.9	2.1	14.0	5.2	3.9	25.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
Inter-regional Ranges						
No	18.6	15.1	18.3	14.7	--	--
School	4.9	8.6	4.9	5.7	--	--
Other Tertiary	7.0	9.2	5.5	7.6	--	--
University	10.2	4.2	16.1	7.4	--	--

Note: This percentage is of only those who specified a highest educational attainment (for not specified see Appendix Table 1).

(1) Standardised by age and gender standardised to the 1996 total New Zealand population for those 20 years and over.

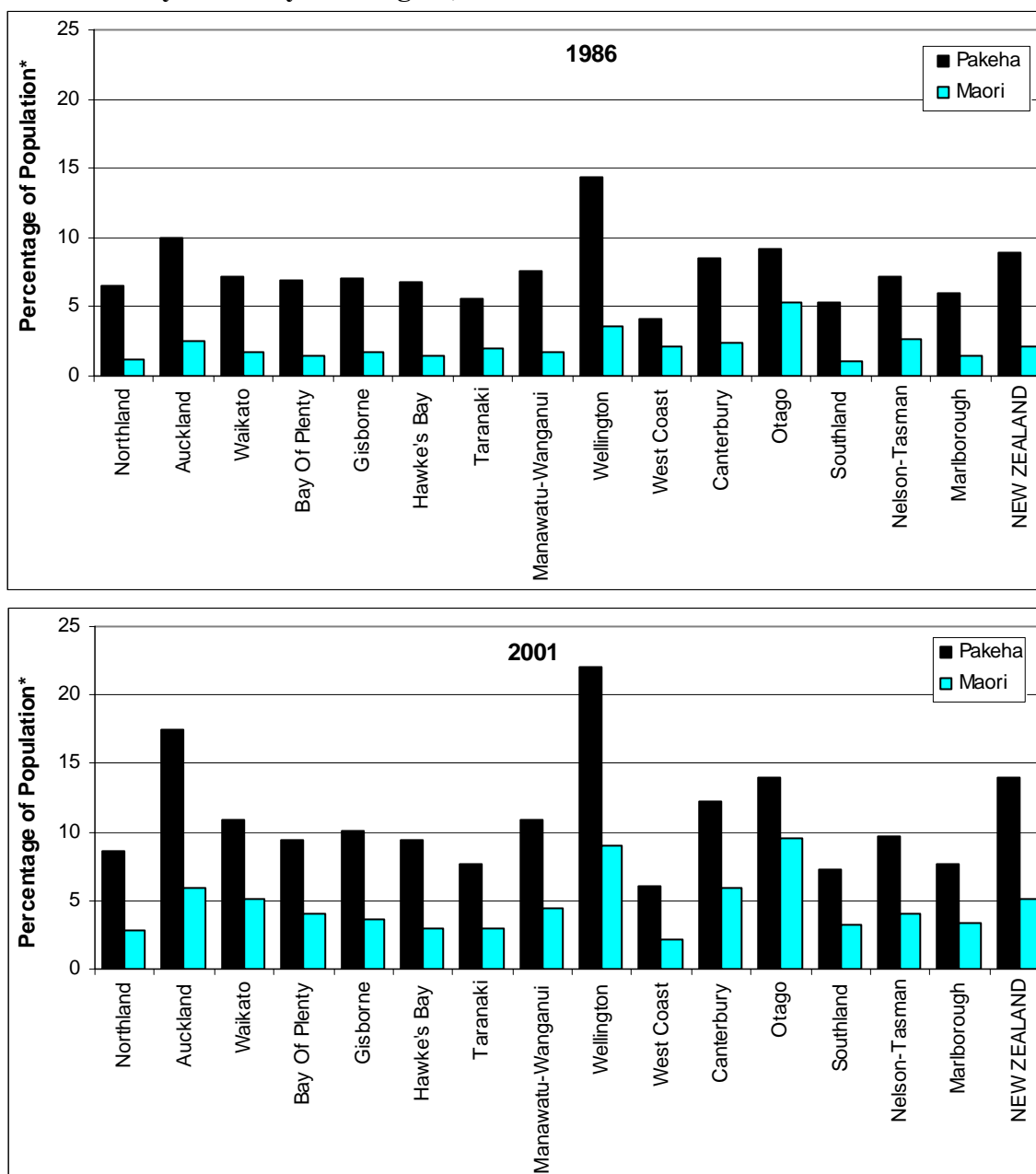
Figure 1: Standardised¹ Percentage of the Population with No Qualifications by Ethnicity and Region, 1986 and 2001



* This percentage is of only those who specified a highest educational attainment (for not specified see Appendix Table 1).

(1) Standardised by age and gender standardised to the 1996 total New Zealand population for those 20 years and over.

Figure 2: Standardised¹ Percentage of the Population with University Qualifications by Ethnicity and Region, 1986 and 2001



* This percentage is of only those who specified a highest educational attainment (for not specified see Appendix Table 1).

(1) Standardised by age and gender standardised to the 1996 total New Zealand population for those 20 years and over.

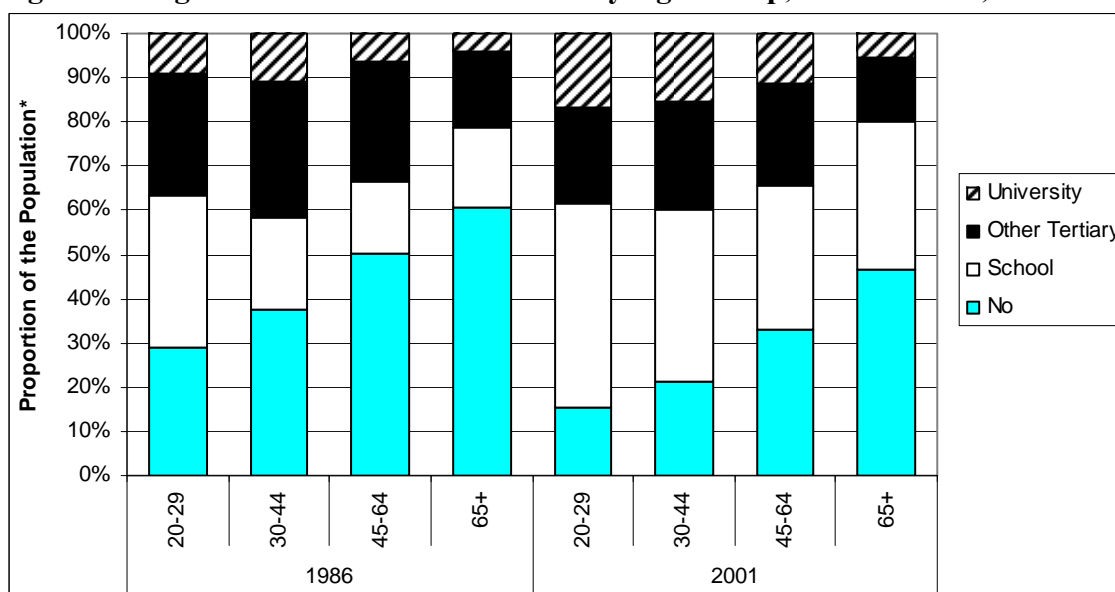
The highest concentrations of Pakeha with University qualifications was in the Wellington region, with Auckland and Otago second and third respectively, and with percentages ranging between 14 and 22 per cent in 2001 as shown in Figure 2 (see Appendix Table 3). For the Māori population there was a concentration of people with university qualifications in Auckland, Wellington, Otago and Canterbury with percentages ranging between six and ten per cent in 2001 (see Appendix Table 4). For both Pakeha and Māori the proportion of the population with University qualifications had grown between 1986 and 2001. The low levels of University-qualified Māori in all regions is of concern, especially when seen in

combination with the lower level with Other Tertiary qualifications, of Māori compared to Pakeha.

3.3 Qualifications by Age Group

For New Zealand as a whole the older age groups tended to have higher proportions with no qualifications (see Figure 3). The largest difference between the youngest and oldest age group was for those with no qualifications and this difference is getting larger for the New Zealand population as each succeeding generation becomes better educated. The opposite is true for the groups with school, other tertiary and university qualifications.

Figure 3: Highest Educational Attainment by Age Group, New Zealand, 1986 and 2001



* This percentage is of only those who specified a highest educational attainment (for not specified see Appendix Table 1).

There has been a marked increase in range between the regions between 1986 and 2001 for university qualifications for all age groups as shown in Table 3 (see also Appendix Table 4). The ranges between the regions are particularly high for the 45-64 and 65 years and over age groups for those with no qualifications. It is also high for the younger age group in the same category. In 2001 for the two youngest age groups 20-29 and 30-34 years there were high levels with university qualifications. Generally the age-specific rates follow the overall standardised levels. The large differences being higher levels of those with no qualification amongst those aged 65 years and over, the highest region of Southland at 62 per cent, but with Gisborne, Taranaki and West Coast being over 52 per cent, all being substantially rural areas. Wellington and Auckland are at the other end of the scale having low levels of those with no qualification, less than 42 per cent.

Table 3: Inter-Regional Ranges¹ of Highest Educational Attainment by Age, 1986 and 2001

Highest Qualification	1986				2001			
	20-29	30-44	45-64	65+	20-29	30-44	45-64	65+
No	15.1	16.7	19.3	19.2	15.0	14.6	20.0	22.0
School	7.6	5.4	5.4	6.2	8.8	6.5	11.1	13.0
Other Tertiary	6.4	7.6	7.4	8.5	7.1	6.2	6.0	5.8
University	9.8	10.6	8.2	5.5	17.4	16.6	12.7	7.4

(1) Difference between the highest lowest regions (excluding people who did not specify their highest qualification) in Appendix Table 4.

3.4 Qualifications by Age Group and Ethnicity

For both Pakeha and Māori the young are becoming better qualified (see Table 4) although this was much more noticeable for Pakeha in 2001. There was a larger difference between the old and the young for Māori as well as Pakeha.

Table 4: Highest Educational Attainment by Age and Ethnicity, New Zealand, 1986 and 2001

Year	Highest Qualification	Pakeha				Māori			
		20-29	30-44	45-64	65+	20-29	30-44	45-64	65+
1986	No	23.4	33.9	48.2	59.7	56.4	64.1	71.7	82.7
	School	36.0	21.6	16.6	18.4	25.1	14.5	11.2	8.2
	Other Tertiary	30.4	32.8	28.2	17.8	16.3	18.7	15.3	8.1
	University	10.2	11.7	6.9	4.2	2.2	2.7	1.8	1.0
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2001	No	12.0	17.9	31.4	45.4	31.0	43.1	55.4	66.9
	School	45.0	39.2	32.4	33.8	43.1	32.3	23.1	21.6
	Other Tertiary	23.8	27.2	24.6	15.1	19.6	18.9	16.5	9.2
	University	19.2	15.7	11.6	5.7	6.4	5.7	4.9	2.3
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: This percentage is of only those who specified a highest educational attainment (for not specified see Appendix Table 1).

Asian and Pacific Island people have very different age-specific highest qualification patterns than do Pakeha and Māori in 2001 (see Table 4 and Appendix Table 2). Very few Asian under 45 years of age have no qualification (less than 10 per cent) with high percentages finishing school or university degrees; even those 45 years and over have high percentages with university qualifications (22 per cent for 45-64 years compared with Pakeha 12 per cent, Māori five per cent and 10 per cent 65 years and over compared with Pakeha six per cent, Māori two per cent). Though the Asian population is well qualified, among these are people who have received overseas qualifications that are not necessarily recognised in the New Zealand job market (Henderson 2003; Ho 2003; Ip 2003). The Pacific Island people have high percentages with school qualifications (54 per cent 20-29 years and 49 per cent 30-44 years) especially in the age groups under 45 years (see Appendix Table 2).

Generally the age-specific trends for the regions reflect the overall age standardised trends and the trends for the age-specific rates for the total population. The inter-regional ranges show the largest variation between the regions in 1986 was for those with no qualifications for all age groups and for both Pakeha and Māori as shown in Table 5. This was almost the case

for 2001 with the exception being Pakeha in the age groups 20-29 and 30-44 years which had higher inter-regional ranges for those with university qualifications. In 2001 the lowest inter-regional ranges for Pakeha was in other tertiary qualifications for all age groups, in 1986 this group was low but not always the lowest with school qualifications being lowest for age groups 30-64 years and university qualifications for 65 years and over. For Māori the lowest inter-regional ranges in 1986 were for university qualifications but in 2001 this changed with other tertiary qualifications being the lowest in all age groups except 45-64 years where school qualifications were the lowest. The results for the individual regions are not shown as the general pattern generally reflects the standardised rates and the age-specific rates.

Table 5: Inter-Regional Ranges for Highest Educational Attainment by Age and Ethnicity, 1986 and 2001

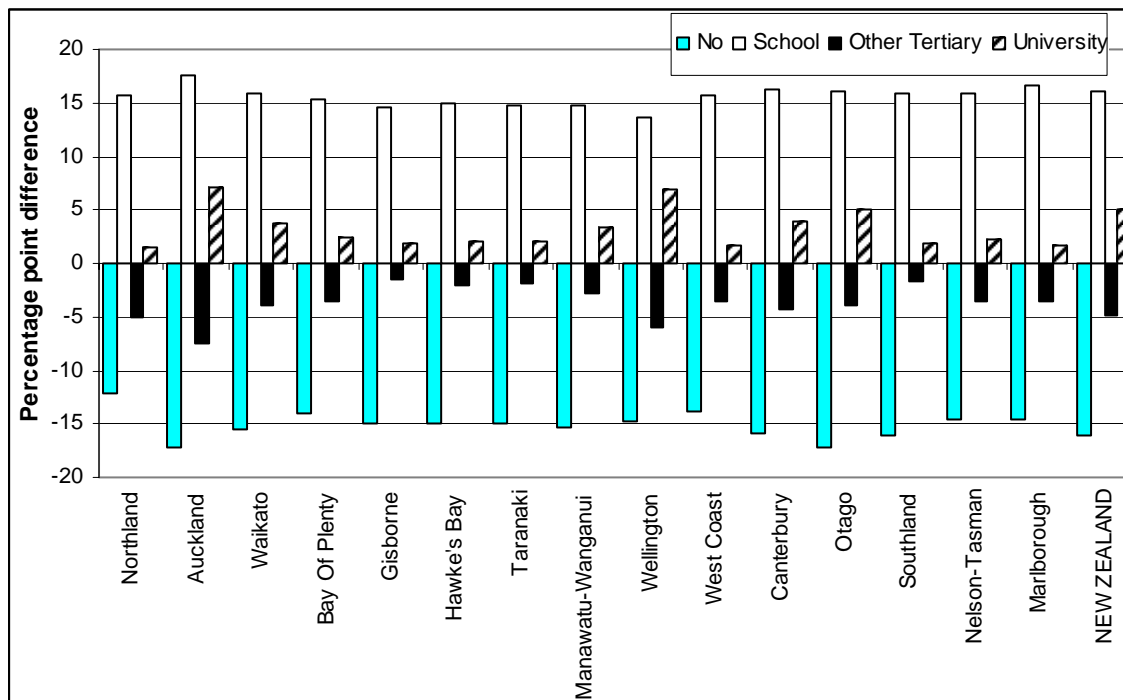
	Pakeha				Māori			
	20-29	30-44	45-64	65+	20-29	30-44	45-64	65+
	1986							
No	15.0	19.9	21.3	20.2	18.2	14.1	16.0	35.7
School	6.8	6.1	6.2	7.1	10.6	5.2	10.9	9.2
Other Tertiary	5.7	7.9	8.6	8.9	9.8	13.0	12.5	25.1
University	11.3	12.1	8.9	6.0	2.8	4.3	4.4	8.3
	2001							
No	15.2	17.2	22.2	23.2	21.5	16.2	13.1	14.5
School	9.5	6.6	10.4	13.4	10.4	9.8	7.3	13.1
Other Tertiary	8.1	6.4	5.6	5.8	8.2	6.5	11.7	5.9
University	21.3	18.2	13.8	7.6	10.9	7.1	7.6	6.1

3.5 Qualifications Change 1986-2001

In interpreting this data, it must be stressed that these results are standardised to the 1996 New Zealand population. The change over the time period 1986 to 2001 is especially notable for the “no” and “school” qualification category with the former reducing by approximately the same amount the category “school” qualifications increases (see Figure 4). This indicates that there has been a move from not having any qualification to passing a basic school based exam, a factor of increased school retention (see Section 4). To a lesser extent there has been a shift from other tertiary qualifications to university qualifications in the period 1986 to 2001. The decline in “no qualifications” is seen across the regions as is shown in Figure 3. Across all the regions there are counterbalances to the decline in “no qualifications” by increases in “school” qualifications. A similar shift is seen in the tertiary sectors. But there are regional differences in the degree to which qualification levels improve, especially the tertiary level.

Auckland and Wellington had the largest gains in the per cent with university qualifications, and the largest change in a negative direction for other tertiary qualifications. Gisborne, Hawke’s Bay, Taranaki and Southland had the smallest drop in other tertiary qualifications. These same regions had the smallest increase in university qualifications with Northland, Bay of Plenty, West Coast, Nelson-Tasman and Marlborough also having a small increase. All these regions are more rural and do not have large-scale industrial or public sector employment opportunities. Auckland and Otago had the largest drop in no qualification with Northland having the smallest. For school qualification, Auckland had the largest increase with Wellington having the smallest. Wellington had the largest increase in university qualified people which means the increase for school qualified people was not as large.

Figure 4: Percentage Point Difference 1986 to 2001 in the Distribution¹ of Highest Educational Attainment, for Total Population, by Region



Note: This percentage is of only those who specified a highest educational attainment (for not specified see Appendix Table 1).

(1) Standardised by age and gender standardised to the 1996 total New Zealand population for those 20 years and over.

4. *Early Childhood Education Participation Rates*

Attention now turns to participation in educational institutions, in the first instance to the younger ages. For the long-term, pre-compulsory education plays a critical role in creating better “quality” flows of human capital, and differentials are an indicator of exclusion.

Early childhood education (ECE) refers to a range of services. As noted by Newell (Newell 2000) in a report to the Ministry of Māori Development (Te Puni Kokiri) “statistics on comparative Māori and non-Māori early childhood education enrolments are difficult to obtain before 1990”. ECE centres receiving government funding are surveyed by the Ministry of Education. Other sources that have been drawn on by Newell include data on children enrolled in Te Kohanga Reo, Playgroups and Pacific Island Language nests.

Inter-regional ranges for these services are very wide, and non-Māori are served better than Māori. But, unlike most other data presented in this set of work (Pool et al. forthcoming-a) there do not seem to be significant patterns. A resulting factor of this trend is that access to pre-school services is likely to be by chance and not a function of underdevelopment.

In 1998, participation by Māori under five year olds in early childhood education ranged from a low of 31 per cent in the Auckland region to a high of 52 per cent in the Hawke's Bay (Table 6). The West Coast and Waikato are regions that also have low participation rates for Māori children in this age group.

In comparison, the non-Māori participation rate for ECE for the under five year age group ranged from low of 43 per cent in the West Coast and 44 per cent in Southland to a high of 74 per cent in the Hawke's Bay region. It is interesting to note that the Hawke's Bay region has the highest rate of ECE participation across both ethnic groups. However, while the Hawke's Bay participation rate for non-Māori is virtually three-quarters of the total population of that age, the rate for Māori in the same region in the same age group is just over half the total population of under five year olds. The Bay of Plenty also has an ECE participation rate of more than 70 per cent for the non-Māori under five year olds, and 43 per cent for Māori.

Table 6: Estimated Early Childhood Education Participation Rates Māori and Non-Māori, 1998

Region	Est. under 5 ECE ¹ participation rate		
	Māori	Non-Māori	Total
Northland	38	61	50
Auckland	31	58	52
Waikato	35	58	50
Bay of Plenty	43	72	59
Gisborne	39	61	47
Hawke's Bay	52	74	66
Taranaki	47	54	52
Manawatu-Wanganui	44	56	52
Wellington	44	67	62
West Coast	33	43	41
Canterbury	41	65	62
Otago	37	60	57
Southland	36	44	42
Nelson-Tasman	38	61	58
Marlborough	43	64	60
New Zealand	39	61	55
<i>Range</i>	<i>21</i>	<i>29</i>	<i>25</i>

Note: ¹ Early childhood education

Source: Newell, 2000, Table 7.

5. Secondary School Retention Rates⁷

Retention through high school to a level permitting the student to have the option of following a range of post-compulsory educational/training and/or career opportunities is the most fundamental factor in establishing significant flows of human capital. This is measured here by the per cent of a cohort or an enrolment cohort remaining at school either to age 17 or to Year 13.⁸

The New Zealand secondary school system starts at Year 9 (Historically Form Three) and ends at Year 13 (Historically Form Seven). These categories correspond approximately to ages 13 to 17 years. For most of the post-war period compulsory schooling finished when the

⁷ The data for this section are supplied by J. Newell of Monitoring and Evaluation Research Associates Ltd.

⁸ The data set comprised raw secondary school retention rates for 1992 through to 1996. Regional Council areas are used. These data include private and public schools but exclude correspondence and special schools.

student reached age 15, but in the early 1990s the school leaving age was increased to 16 years (*Education Amendment Act No 4 1991*).

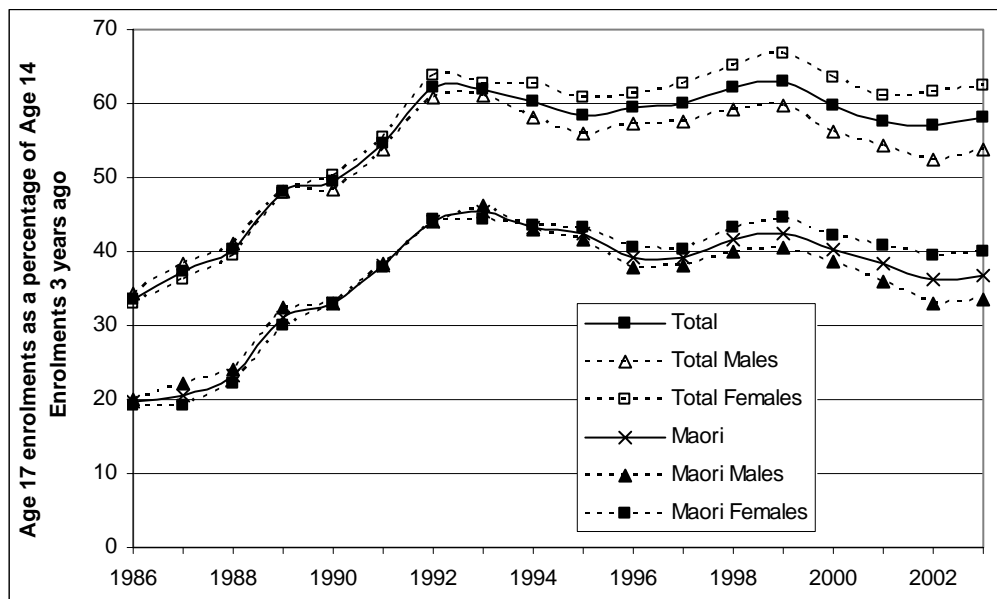
Secondary schooling is structured into two periods: Years 9 and 10 in the past referred to as Forms 3 and 5 (Junior High School) and Years 11, 12 and 13 in the past referred to as Forms Five, Six and Seven (Senior High School). Year 11 or Form Five traditionally signalled the end of compulsory schooling and the first major national examination, School Certificate (now National Certificate of Education Achievement (NCEA) Level 1). In the 1990s this Certificate began to hold an ambiguous status. Rather than a significant qualification in its own right the School Certificate examination provided the foundation for Form Six. Students who completed Form Six received the Sixth Form Certificate (NCEA Level 2) (equivalent to the University Entrance qualification of the pre-1990s). Students who completed high school with this certificate tended to go to a polytechnic institute (or other non-university tertiary education providers, apprenticeships and other training schemes) or to enter the workforce.

The Year 13 or Seventh Form used to be seen as the preparatory year for University education. However, in the 1990s with high levels of youth unemployment (Pool et al. forthcoming-d) and with the increase to age 16 as the end of compulsory schooling, increasingly Year 13 students could be a mixture of students studying at one or all three levels in the senior school. Some students could be sitting one or two School Certificate courses, in addition to sitting several sixth Form Certificate subjects. Some Year 13 students could be sitting a mixture of fifth and sixth form courses with maybe an additional bursary course. Other Year 13 students could be sitting five bursary subjects, hoping to obtain an A or B Bursary or maybe a Scholarship and planning to continue their education at a University (now NCEA Level 3 and 4).

For 1986 only national data were available, and none at a regional level. For the New Zealand population over the next few years there was an obvious increase in the percentage of the population staying on at school. For the total population in 1986 only 34 per cent of the 14 year age group had remained at school to age 17 years compared to 58 per cent in 2001 as is seen in Figure 5. Two peaks in this occurred for the total population in 1992 and 1999. For Māori the school retention rate was lower than for the total New Zealand population, but over recent decades the gap firstly decreased and then widened again. In 1986 the school retention for total population was 14 percentage points higher than for Māori whereas by 2001 there was a 19 percentage point difference between the total population and Māori. A failure to “Close the Gaps” explains this; Māori retention grew, but Pakeha grew quicker.

Over time there has been a considerable widening of the gap between males and females in school retention to the age of 17. There were minimal gender differences up until 1992 when the gap widened to where females have considerably higher retention than males. By 2003 the gap between male and females was nine percentage points for the overall population and seven percentage points for Māori.

Figure 5: School Retention Rates, Cohort (%), by Age, for Māori and Total Population, New Zealand 1986-2003



Sources: Ministry of Education (2002) School Retention Rates viewed May 27 2002 http://www.minedu.govt.nz/web/downloadable/dl6879_v1/retention.xls
 Ministry of Education (2004) School Retention Rates viewed September 2004 http://www.minedu.govt.nz/web/downloadable/dl6879_v1/6879-retention-03.xls

School retention rates vary considerably for the period 1992-96 between the regions as is shown in Table 7. The West Coast stands out as having considerably lower levels than any other (see also Baxendine *et al.* 2002). Other regions with low rates, although not as low as that of West Coast, are Northland, Marlborough, Waikato and Southland for males and Gisborne for females, and Bay of Plenty for both sexes combined. Regions with high secondary school retention rates are Wellington, Otago, Nelson-Tasman and Canterbury. Taranaki had higher retention rates for females and lower retention rates for males.

These patterns seem to be a result of two different factors. Firstly, there is a function of social inertia, an underlying structural factor probably having socio-cultural origins. There has always been North-South gradient in school retention and also in University participation ((Pool 1987).⁹ This goes back to early Pakeha settlement – from the outset the Otago, Canterbury and Nelson settlements favoured education and, in any case, became more established and developed at an earlier stage than were their North Island counterparts, some of which, even in the early 20th century, were still pioneer zones. It is apparent that the South Island regions and some North Island regions stocks of highly qualified workers are increasingly moving to Auckland and Wellington.

⁹ This inertia extends far beyond attendance at university: if one looks at scientific achievement as measured by election to the Fellowship of the Royal Society of New Zealand, the distribution of the number of Fellows per 1,000 population by university district, shows a similar gradient – Otago, Canterbury, Victoria, then Auckland followed by Massey and lastly Waikato.

Table 7: School Retention Rates, Cohort (%), by Attainment: Percentage Staying from Form 3 to Form 7 (Migration Adjusted) by Gender and Region, 1992-1996

Region	School Retention Rate (%)			Percentage Point Difference to NZ		
	Male	Female	Total	Male	Female	Total
Northland	45.2	56.7	51.1	-10.1	-2.3	-6.1
Auckland	52.6	55.5	54.0	-2.7	-3.5	-3.1
Waikato	46.3	55.2	50.8	-9.0	-3.7	-6.3
Bay Of Plenty	50.6	50.5	50.6	-4.7	-8.5	-6.5
Gisborne	57.3	50.2	53.7	2.0	-8.8	-3.4
Hawke's Bay	56.0	58.4	57.2	0.7	-0.5	0.1
Taranaki	52.3	61.4	56.7	-3.0	2.5	-0.4
Manawatu-Wanganui	55.8	57.1	56.4	0.5	-1.9	-0.7
Wellington	63.6	65.0	64.3	8.3	6.0	7.2
West Coast	35.6	41.3	38.3	-19.7	-17.7	-18.8
Canterbury	59.5	64.8	62.1	4.2	5.8	5.0
Otago	64.6	60.8	62.7	9.3	1.8	5.6
Southland	46.4	56.8	51.5	-8.9	-2.2	-5.6
Nelson-Tasman	63.0	63.4	63.2	7.7	4.5	6.1
Marlborough	45.4	59.6	52.5	-9.9	0.7	-4.6
NEW ZEALAND	55.3	59.0	57.1			
<i>Range</i>	<i>29.0</i>	<i>23.7</i>	<i>26.0</i>			

Source: Department of Education Data supplied by J. Newell of Monitoring and Evaluation Research Associates Ltd., Statistics New Zealand, 1991 and 1996 Census of Population and Dwellings

Secondly, cutting across this is the level of regional development as measured in other papers in this series (Pool et al. forthcoming-c; Pool et al. forthcoming-d). The West Coast, and even Southland and Marlborough do not follow the South-North gradient; while in the North the Bay of Plenty is an obvious case of low development and low retention. Underlying the under development factor is, of course, also the proportion of the population who are Māori, and in Auckland the per cent who are from the Pacific.

In Table 8 the results are updated for the 2000 to 2003 period but these are not directly comparable to the 1992 to 1996 results. The time span is shorter and it is not based on the year of schooling but the age of the pupil, also it is not migration adjusted. The results are comparable to the New Zealand information in Figure 5. The only four regions above New Zealand for school retention are Auckland, Wellington, Canterbury and Otago all regions with strong traditions in schooling. These regions also could be affected by pupils moving in to complete their schooling. West Coast had the lowest levels of school retention by a substantial distance with Northland and Marlborough also low. These regions could have the opposite affect of some pupils moving to complete there education.

Table 8: School Retention Rates¹, Cohort (%): Percentage Staying from Age 14 to Age 17 by Region, 2000-2003

Region	2000 Age 14	2003 Age 17	School Retention Rate (%)	Percentage Point difference to New Zealand
Northland	2,282	994	43.6	-19.0
Auckland	15,955	11,669	73.1	10.6
Waikato	5,478	2,849	52.0	-10.5
Bay of Plenty	3,593	1,853	51.6	-11.0
Gisborne	725	376	51.9	-10.7
Hawkes Bay	2,280	1,233	54.1	-8.5
Taranaki	1,659	869	52.4	-10.2
Manawatu-Wanganui	3,488	1,825	52.3	-10.2
Wellington	5,548	3,779	68.1	5.6
West Coast	395	132	33.4	-29.1
Canterbury	6,418	4,238	66.0	3.5
Otago	2,471	1,695	68.6	6.1
Southland	1,468	744	50.7	-11.9
Nelson-Tasman	1,242	739	59.5	-3.0
Marlborough	528	227	43.0	-19.6
New Zealand	53,942	33,738	62.5	
<i>Range</i>			39.7	

(1) The information is not directly comparable to the 1996 results as there is a different basis for the calculation including the time span and is not adjusted for migration which could have affect on numbers.

Source: Ministry of Education, Unpublished Statistics.

6. *Qualification when Leaving School*

The qualification a person has attained when leaving school is a good indication of how good their education is and how well equipped they are to gain employment or go onto university. This also gives an indication of the quality of school retention. For New Zealand as a whole in 2001 there is an obvious difference between males and females with females leaving school better qualified than males. When disaggregating by ethnicity there is an obvious difference with Asian students leaving school better qualified than any other ethnic group. The most noticeable trend, however, is that Maori leave school with the least qualifications followed by Pacific people.

Table 9: Students Leaving Secondary Schools During 2001 by Level of Highest Attainment, Ethnic Identification and Gender

Ethnic Group	Gender	Level of Highest Attainment						Total
		A or B Bursary or National Certificate Level 3	Entrance Qualification * or 40 or more credits at National Certificate Level 3 or above	Higher School Certificate or 12-39 credits at National Certificate Level 3 or above	6th Form Certificate# or 12 or more credits at National Certificate Level 2 or above	School Certificate# or 12 or more credits at National Certificate Level 1 or above	No Formal Qualifications or Less than 12 credits at National Certificate Level 1	
Pakeha	Male	18.0	7.6	10.4	27.8	21.7	14.5	100.0
	Female	24.7	9.9	11.8	27.2	16.2	10.2	100.0
Maori	Male	2.8	3.3	7.3	23.7	26.0	37.0	100.0
	Female	5.2	3.6	9.6	25.9	25.9	29.9	100.0
Pacific	Male	3.8	4.2	12.3	29.1	21.6	28.9	100.0
	Female	5.5	5.9	16.3	32.1	19.5	20.5	100.0
Asian	Male	39.1	10.8	11.9	20.5	8.1	9.6	100.0
	Female	45.5	11.9	11.7	18.1	6.5	6.2	100.0
Other	Male	18.0	4.8	12.6	24.0	14.7	26.0	100.0
	Female	23.5	4.4	12.3	28.6	10.4	20.7	100.0
Total	Male	15.8	6.8	10.2	26.6	21.3	19.3	100.0
	Female	21.2	8.5	11.7	26.7	17.4	14.5	100.0

Note: Excludes international and adult students.

* Minimum of 3 Cs in the University Bursary Examinations.

1 or more subjects irrespective of grade awarded.

Source: Ministry of Education (2002) School Leavers 2001 viewed 18 March 2004 http://www.minedu.govt.nz/web/downloadable/dl7468_v1/leavers01.xls

When comparing 1993 levels with 2001 levels (see Table 10 and 11) it is evident that there have been some changes. In 1993 Southland and Gisborne had high levels of school leavers attaining 6th form certificate, although compared to other regions these levels were again high in 2001, 2001 levels were lower than those in 1993. In 1993 Wellington had the highest proportion of school leavers attaining University Bursary while the West Coast had the lowest. By 2001 Auckland had the highest proportion of school leavers attaining University Bursary while the West Coast again had the lowest. Interestingly, in 1993 Northland had the highest proportion of school leavers attaining No Qualifications while Southland had the lowest. By 2001 the West Coast had the highest proportion with No Qualifications while Otago had the lowest.

Table 10: Students Leaving Secondary Schools during 1993 by Level of Highest Attainment and Region

Region	University Bursary	Entrance Qualification or Higher School Certificate	6th Form Certificate #	School Certificate #	No qualifications	Total	Number
Northland	12.3	13.0	27.1	22.8	24.7	100.0	2,219
Auckland	21.9	16.4	26.3	18.5	16.9	100.0	16,502
Waikato	16.7	17.5	27.7	21.3	16.8	100.0	5,524
Bay of Plenty	13.6	14.5	29.8	20.6	21.6	100.0	3,613
Gisborne	12.4	21.0	34.1	18.0	14.5	100.0	628
Hawkes Bay	19.1	14.9	29.9	19.8	16.3	100.0	2,371
Taranaki	17.6	14.9	32.9	21.0	13.6	100.0	1,797
Manawatu/ Wanganui	17.5	16.9	28.7	21.1	15.8	100.0	3,655
Wellington	24.6	21.6	25.6	13.8	14.5	100.0	6,241
West Coast	11.8	16.1	31.7	22.6	17.8	100.0	398
Canterbury	22.4	20.5	29.2	16.7	11.2	100.0	6,702
Otago	20.8	26.5	28.8	14.4	9.4	100.0	2,930
Southland	15.1	17.2	39.2	20.3	8.3	100.0	1,401
Nelson/Tasman/ Marlborough	18.6	21.5	32.9	17.1	9.8	100.0	1,732
New Zealand	19.6	17.9	28.1	18.5	16.0	100.0	56,240
<i>Range</i>	<i>12.8</i>	<i>13.5</i>	<i>13.6</i>	<i>9.0</i>	<i>16.4</i>		

1 or more subjects irrespective of grade awarded.

Source: School Leaver Summary Tables, Data Management Unit, Ministry of Education.

Table 11: Students Leaving Secondary Schools during 2001 by Level of Highest Attainment and Region

Region	A or B Bursary or National Certificate Level 3	Entrance Qualification * or 40 or more credits at National Certificate Level 3 or above	Higher School Certificate or 12 - 39 credits at National Certificate Level 3 or above	6th Form Certificate# or 12 or more credits at National Certificate Level 2 or above	School Certificate# or 12 or more credits at National Certificate Level 1 or above	No formal qualifications or less than 12 credits at National Certificate Level 1	Total	Number
Northland	10.4	5.9	8.8	23.6	28.3	22.9	100.0	2,089
Auckland	24.5	7.2	11.0	25.4	16.3	15.6	100.0	15,489
Waikato	13.8	7.1	9.0	29.8	22.1	18.3	100.0	5,555
Bay of Plenty	12.8	6.5	10.6	26.8	23.7	19.6	100.0	3,423
Gisborne	12.4	8.7	12.4	27.6	18.7	20.3	100.0	631
Hawke's Bay	15.1	7.9	11.3	25.9	20.4	19.3	100.0	2,239
Taranaki	17.0	7.0	10.8	25.8	25.1	14.3	100.0	1,643
Manawatu-Wanganui	17.1	8.6	11.3	25.6	20.0	17.4	100.0	3,192
Wellington	20.4	8.5	10.0	27.1	18.9	15.1	100.0	5,668
West Coast	5.9	7.3	10.5	24.3	28.8	23.2	100.0	354
Canterbury	18.7	8.2	12.3	29.4	17.4	13.9	100.0	6,637
Otago	18.5	10.5	14.8	27.9	16.6	11.6	100.0	2,674
Southland	13.0	8.0	12.5	29.6	20.8	16.2	100.0	1,380
Nelson-Tasman	15.4	8.5	12.2	24.0	19.9	20.1	100.0	1,347
Marlborough	16.5	8.9	12.6	24.4	21.1	16.5	100.0	492
New Zealand	18.4	7.6	10.9	26.7	19.4	17.0	100.0	53,517
<i>Range</i>	<i>18.5</i>	<i>4.7</i>	<i>6.0</i>	<i>6.1</i>	<i>12.5</i>	<i>11.5</i>		

Note: Excludes international and adult students.

* Minimum of 3 Cs in the University Bursary Examinations.

1 or more subjects irrespective of grade awarded.

Source: Ministry of Education (2002) School Leavers 2001 viewed 18 March 2004 http://www.minedu.govt.nz/web/downloadable/dl7468_v1/leavers01.xls

7. Conclusion

This paper shows that the stocks and flows of human capital are not equitably spread throughout the regions of New Zealand. As in other papers in this series there are clear disadvantaged and advantaged regions, especially Auckland, Wellington and Canterbury among the latter. But in terms of stocks of university qualified one can add Otago, and, to a lesser extent, Nelson-Tasman. By virtue of their being regions with universities, Waikato and Manawatu-Wanganui also just enter this list. But when one turns to flows of human capital being newly generated Auckland does not stand out, but fits instead with other northern regions where school retention rates are lower. In contrast, Wellington, Canterbury, Otago and Nelson-Tasman are notable for their strong flows of new human capital.

Highly qualified human capital typically provides the impetus for regional development. Such a resource can be generated internally (e.g., Otago and Canterbury) or can migrate to zones in which economic growth is being generated (e.g., Auckland). In Wellington's case, both factors are operating. At the other end of the spectrum are the regions with both low stocks

and weak flows (e.g., Bay of Plenty). This correlates with the low levels of development noted in other papers in this series.

Thus, this paper has touched upon a keystone of regional development and of disparity. The country's stock of highly qualified human capital is increasingly clustered in two, possibly three areas. Most other regions lose some of their resources; Auckland is not good at forming it but certainly amasses it; Wellington generates it and then holds it, and Canterbury and Otago form it and lose some of it but manage to retain a part.

Today the so-called knowledge-economy demands more than simply completing school. Tertiary study or technical training is a pivotal fact. The latter mode of generation is as this paper shows decreasing across the regions, in part perhaps because of secondary industries, which were the seed base for much of the formation of these skills, have lost so much of their labour force (Pool et al. forthcoming-c). As University-level education is a significant key to the most skilled human capital formation, and as most of those resources are located in only six regions there is a built in momentum for the migration of youth to university centres and this impetus obviously carries across into careers.

Appendix Table 1: Respondent Reporting “Not Specified” as Highest Qualification ,as a Percentage of the Population, by Age Group and Ethnicity, New Zealand, 1986-2001

Ethnicity	Years	Age Group (years)				Total ⁽¹⁾
		20-29	30-44	45-64	65+	
Pakeha	1986	3.5	4.3	7.1	14.8	6.6
	1991	3.4	3.1	4.5	9.6	4.6
	1996	0.9	0.8	1.1	2.9	1.2
	2001	4.1	4.6	9.3	24.8	9.1
Māori	1986	5.8	8.0	12.4	18.0	10.6
	1991	5.3	5.6	7.7	11.3	7.1
	1996	1.5	1.5	2.8	4.8	2.5
	2001	10.2	12.0	19.8	35.3	18.1
Pacific Island	2001	13.0	16.0	24.2	31.7	20.5
Asian	2001	12.8	8.4	11.1	18.6	12.1
Total	1986	4.7	5.5	8.1	15.6	7.7
	1991	4.9	4.3	5.6	10.5	5.8
	1996	5.4	4.6	4.7	6.5	5.1
	2001	10.3	9.8	14.0	27.9	14.1

(1) Standardised by age and gender standardised to the 1996 total New Zealand population for those 20 years and over.

Appendix Table 2: Highest Educational Attainment by Age and by Ethnicity (Pacific Island People, Asian), New Zealand, 2001

Highest Qualification	Pacific Island people				Asian			
	20-29	30-44	45-64	65+	20-29	30-44	45-64	65+
No	22.9	32.6	50.6	69.3	5.8	9.9	19.7	45.1
School	53.6	48.5	36.4	25.9	54.4	43.2	47.0	39.8
Other Tertiary	18.2	13.8	10.1	4.2	14.0	12.9	11.0	4.9
University	5.4	5.1	2.9	0.7	25.8	34.0	22.3	10.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: This percentage is of only those who specified a highest educational attainment (for not specified see Appendix Table 9.1).

Appendix Table 3: Standardised¹ Percentage of the Population by Highest Educational Attainment for Pakeha, by Region, 1986 and 2001

Region	Highest Qualification				Total
	No	School	Other Tertiary	University	
	1986				
Northland	39.7	23.3	30.5	6.5	100.0
Auckland	34.8	24.5	30.8	9.9	100.0
Waikato	42.2	22.2	28.5	7.2	100.0
Bay Of Plenty	38.6	23.4	31.0	6.9	100.0
Gisborne	40.9	23.6	28.6	7.0	100.0
Hawke's Bay	42.8	22.9	27.6	6.7	100.0
Taranaki	47.4	19.8	27.1	5.6	100.0
Manawatu-Wanganui	43.8	22.1	26.4	7.6	100.0
Wellington	32.5	23.5	29.6	14.4	100.0
West Coast	51.0	19.9	24.9	4.2	100.0
Canterbury	41.9	22.5	27.1	8.5	100.0
Otago	43.1	20.7	27.0	9.2	100.0
Southland	51.2	19.6	24.0	5.3	100.0
Nelson-Tasman	41.2	21.6	30.1	7.2	100.0
Marlborough	42.9	22.5	28.5	6.0	100.0
New Zealand	39.5	22.9	28.7	8.9	100.0
<i>Range</i>	<i>18.6</i>	<i>4.9</i>	<i>7.0</i>	<i>10.2</i>	
	2001				
Northland	26.6	39.4	25.4	8.6	100.0
Auckland	18.9	39.7	24.0	17.4	100.0
Waikato	26.8	37.9	24.3	10.9	100.0
Bay Of Plenty	25.1	38.4	27.0	9.5	100.0
Gisborne	26.3	37.8	25.8	10.1	100.0
Hawke's Bay	27.4	37.8	25.3	9.5	100.0
Taranaki	32.3	34.8	25.2	7.7	100.0
Manawatu-Wanganui	28.8	36.7	23.6	10.9	100.0
Wellington	18.5	35.9	23.5	22.1	100.0
West Coast	36.9	35.6	21.4	6.0	100.0
Canterbury	26.3	38.3	23.2	12.2	100.0
Otago	26.2	36.5	23.2	14.0	100.0
Southland	35.1	35.5	22.2	7.2	100.0
Nelson-Tasman	26.5	37.5	26.4	9.6	100.0
Marlborough	28.0	39.2	25.2	7.6	100.0
New Zealand	24.1	37.9	24.0	14.0	100.0
<i>Range</i>	<i>18.3</i>	<i>4.9</i>	<i>5.5</i>	<i>16.1</i>	

Note: This percentage is of only those who specified a highest educational attainment (for not specified see Appendix Table 1).

(1) Standardised by age and gender standardised to the 1996 total New Zealand population for those 20 years and over.

Appendix Table 4: Standardised¹ Percentage of the Population by Highest Educational Attainment for Māori, by Region, 1986 and 2001

Region	Highest Qualification				
	No	School	Other Tertiary	University	Total
1986					
Northland	67.7	13.8	17.3	1.2	100.0
Auckland	65.8	15.7	16.0	2.5	100.0
Waikato	71.7	12.7	13.9	1.7	100.0
Bay Of Plenty	68.3	14.2	16.1	1.5	100.0
Gisborne	70.4	14.2	13.7	1.7	100.0
Hawke's Bay	72.0	14.5	12.0	1.5	100.0
Taranaki	69.6	13.4	15.1	2.0	100.0
Manawatu-Wanganui	69.9	14.2	14.2	1.7	100.0
Wellington	62.4	17.6	16.5	3.5	100.0
West Coast	57.3	21.3	19.3	2.1	100.0
Canterbury	62.0	17.2	18.4	2.4	100.0
Otago	57.7	15.8	21.2	5.3	100.0
Southland	72.4	13.0	13.5	1.1	100.0
Nelson-Tasman	62.8	14.5	20.1	2.6	100.0
Marlborough	63.8	15.5	19.2	1.5	100.0
New Zealand	67.7	14.8	15.5	2.1	100.0
<i>Range</i>	<i>15.1</i>	<i>8.6</i>	<i>9.2</i>	<i>4.2</i>	
2001					
Northland	51.3	29.6	16.4	2.8	100.0
Auckland	45.0	32.5	16.6	5.9	100.0
Waikato	51.0	28.3	15.6	5.1	100.0
Bay Of Plenty	48.5	29.6	18.0	4.0	100.0
Gisborne	48.3	30.3	17.9	3.6	100.0
Hawke's Bay	53.1	28.4	15.4	3.0	100.0
Taranaki	51.0	28.1	17.9	3.0	100.0
Manawatu-Wanganui	49.1	30.1	16.5	4.4	100.0
Wellington	40.8	32.2	18.0	9.0	100.0
West Coast	48.5	31.3	18.0	2.1	100.0
Canterbury	42.6	33.8	17.7	6.0	100.0
Otago	38.4	32.6	19.5	9.5	100.0
Southland	49.7	30.6	16.6	3.2	100.0
Nelson-Tasman	41.2	31.6	23.1	4.1	100.0
Marlborough	43.8	33.2	19.7	3.3	100.0
New Zealand	47.1	30.7	17.0	5.2	100.0
<i>Range</i>	<i>14.7</i>	<i>5.7</i>	<i>7.6</i>	<i>7.4</i>	

Note: This percentage is of only those who specified a highest educational attainment (for not specified see Appendix Table 1).

(1) Standardised by age and gender standardised to the 1996 total New Zealand population for those 20 years and over.

Appendix Table 5: Percentage of the Population⁽¹⁾ by Highest Educational Attainment, by Age Group and Region, 1986 and 2001

Region	1986					2001				
	No	School	Other Tertiary	Univer-sity	Total	No	School	Other Tertiary	Univer-sity	Total
20-29 years										
Northland	32.1	33.8	29.1	4.9	100	24.3	45.0	22.7	7.9	100
Auckland	28.1	34.4	28.0	9.5	100	12.8	47.1	21.0	19.1	100
Waikato	33.2	32.3	27.5	7.0	100	19.4	45.1	22.1	13.4	100
Bay Of Plenty	33.5	32.4	28.1	6.0	100	22.0	43.1	25.4	9.5	100
Gisborne	38.9	31.4	23.9	5.9	100	25.5	42.2	23.3	8.9	100
Hawke's Bay	36.3	32.9	24.1	6.6	100	24.6	43.1	22.9	9.4	100
Taranaki	34.0	30.2	29.7	6.1	100	21.6	43.2	25.9	9.2	100
Manawatu-Wanganui	31.8	34.6	25.8	7.8	100	17.9	47.5	21.5	13.2	100
Wellington	23.8	34.7	26.9	14.7	100	11.3	42.6	21.2	24.9	100
West Coast	34.6	33.5	27.0	5.0	100	24.5	45.3	22.7	7.5	100
Canterbury	25.3	37.1	27.9	9.8	100	14.3	48.1	21.8	15.9	100
Otago	25.5	36.4	27.2	11.0	100	10.5	51.1	19.8	18.7	100
Southland	34.5	31.6	27.4	6.5	100	21.7	44.8	23.5	10.0	100
Nelson-Tasman	27.9	35.5	30.2	6.3	100	18.3	46.2	26.8	8.7	100
Marlborough	27.5	37.8	29.4	5.4	100	18.1	47.4	25.4	9.1	100
New Zealand	29.1	34.3	27.5	9.1	100	15.5	46.1	21.8	16.6	100
<i>Range</i>	<i>15.1</i>	<i>7.6</i>	<i>6.4</i>	<i>9.8</i>		<i>15.0</i>	<i>8.8</i>	<i>7.1</i>	<i>17.4</i>	
30-44 years										
Northland	39.1	20.3	33.0	7.6	100	28.1	39.1	25.0	7.8	100
Auckland	34.8	22.5	31.2	11.5	100	17.3	40.9	22.4	19.4	100
Waikato	41.0	19.7	30.8	8.5	100	26.0	37.7	24.9	11.4	100
Bay Of Plenty	39.6	20.5	32.2	7.7	100	25.3	38.2	26.7	9.7	100
Gisborne	43.7	21.0	28.1	7.3	100	30.1	37.5	24.1	8.3	100
Hawke's Bay	42.6	20.6	29.1	7.7	100	27.0	38.1	25.5	9.4	100
Taranaki	42.5	19.0	31.0	7.5	100	28.2	35.8	27.4	8.6	100
Manawatu-Wanganui	41.9	19.8	28.7	9.5	100	26.7	36.4	25.3	11.6	100
Wellington	31.0	21.6	30.3	17.1	100	16.1	36.5	24.0	23.4	100
West Coast	47.0	17.1	29.3	6.5	100	30.7	39.4	23.1	6.8	100
Canterbury	37.3	21.3	30.4	10.9	100	20.3	40.7	25.2	13.8	100
Otago	38.8	18.7	30.6	12.0	100	20.5	37.9	25.9	15.7	100
Southland	47.7	18.5	26.8	7.0	100	28.6	38.6	24.9	7.9	100
Nelson-Tasman	35.8	19.9	34.4	9.9	100	21.7	38.9	28.6	10.7	100
Marlborough	38.7	20.9	32.6	7.8	100	22.6	42.2	27.2	8.0	100
New Zealand	37.6	20.9	30.7	10.8	100	21.1	39.1	24.4	15.4	100
<i>Range</i>	<i>16.7</i>	<i>5.4</i>	<i>7.6</i>	<i>10.6</i>		<i>14.6</i>	<i>6.5</i>	<i>6.2</i>	<i>16.6</i>	

(continues on next page)

Appendix Table 5: (continued)

Region	1986					2001				
	No	School	Other Tertiary	Univer- sity	Total	No	School	Other Tertiary	Univer- sity	Total
44-64 years										
Northland	53.0	15.1	26.9	4.9	100	38.0	31.0	23.8	7.2	100
Auckland	45.7	18.1	28.9	7.3	100	27.4	37.3	21.3	14.0	100
Waikato	53.9	15.4	25.3	5.4	100	37.1	30.6	23.3	9.0	100
Bay Of Plenty	51.6	16.0	27.7	4.8	100	36.4	31.7	24.7	7.2	100
Gisborne	57.3	14.8	24.2	3.8	100	40.7	29.7	23.2	6.5	100
Hawke's Bay	54.3	15.9	25.0	4.8	100	38.2	31.0	23.7	7.1	100
Taranaki	58.7	13.2	24.1	4.1	100	41.7	27.9	24.0	6.4	100
Manawatu- Wanganui	54.5	15.1	24.5	5.8	100	39.3	28.7	22.5	9.5	100
Wellington	42.6	17.6	29.1	10.6	100	27.0	32.2	22.8	18.0	100
West Coast	60.0	14.4	23.2	2.4	100	46.8	26.2	21.6	5.3	100
Canterbury	52.3	15.4	25.8	6.4	100	34.4	32.0	22.9	10.7	100
Otago	53.2	13.6	26.4	6.8	100	35.8	27.9	24.2	12.2	100
Southland	62.0	12.7	21.9	3.5	100	46.9	27.1	20.6	5.5	100
Nelson-Tasman	50.5	14.4	29.3	5.8	100	32.4	30.7	26.5	10.3	100
Marlborough	53.7	13.9	27.7	4.6	100	38.2	30.6	24.5	6.7	100
New Zealand	50.4	16.1	26.9	6.6	100	33.2	32.6	22.8	11.4	100
<i>Range</i>	<i>19.3</i>	<i>5.4</i>	<i>7.4</i>	<i>8.2</i>		<i>20.0</i>	<i>11.1</i>	<i>6.0</i>	<i>12.7</i>	
65+ years										
Northland	62.4	17.1	17.3	3.2	100	48.8	32.2	15.1	3.9	100
Auckland	56.8	19.7	18.9	4.6	100	41.3	38.0	14.0	6.7	100
Waikato	63.2	17.2	16.5	3.2	100	49.1	32.4	14.1	4.4	100
Bay Of Plenty	57.7	19.7	18.9	3.6	100	44.8	35.0	15.9	4.2	100
Gisborne	66.1	16.2	14.5	3.3	100	52.6	30.0	14.1	3.2	100
Hawke's Bay	63.2	17.5	16.4	2.8	100	49.0	32.3	14.7	4.0	100
Taranaki	68.7	15.4	13.6	2.3	100	56.5	26.8	13.5	3.2	100
Manawatu- Wanganui	65.3	16.9	15.1	2.7	100	51.2	30.7	13.7	4.3	100
Wellington	53.6	19.0	20.4	7.0	100	39.7	35.6	15.3	9.4	100
West Coast	68.6	15.0	14.8	1.5	100	59.8	25.5	12.3	2.4	100
Canterbury	62.6	17.2	16.2	4.0	100	49.0	31.7	14.0	5.3	100
Otago	63.5	16.1	16.1	4.2	100	50.1	29.1	14.9	5.9	100
Southland	72.8	13.5	11.8	1.9	100	61.7	25.0	11.3	2.0	100
Nelson-Tasman	59.4	17.6	18.5	4.4	100	45.2	32.1	17.0	5.6	100
Marlborough	60.8	18.0	17.6	3.6	100	47.3	32.0	16.7	3.9	100
New Zealand	60.6	17.9	17.4	4.1	100	46.4	33.5	14.4	5.6	100
<i>Range</i>	<i>19.2</i>	<i>6.2</i>	<i>8.5</i>	<i>5.5</i>		<i>22.0</i>	<i>13.0</i>	<i>5.8</i>	<i>7.4</i>	

Note: This percentage is of only those who specified a highest educational attainment (for not specified see Appendix Table 1).

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