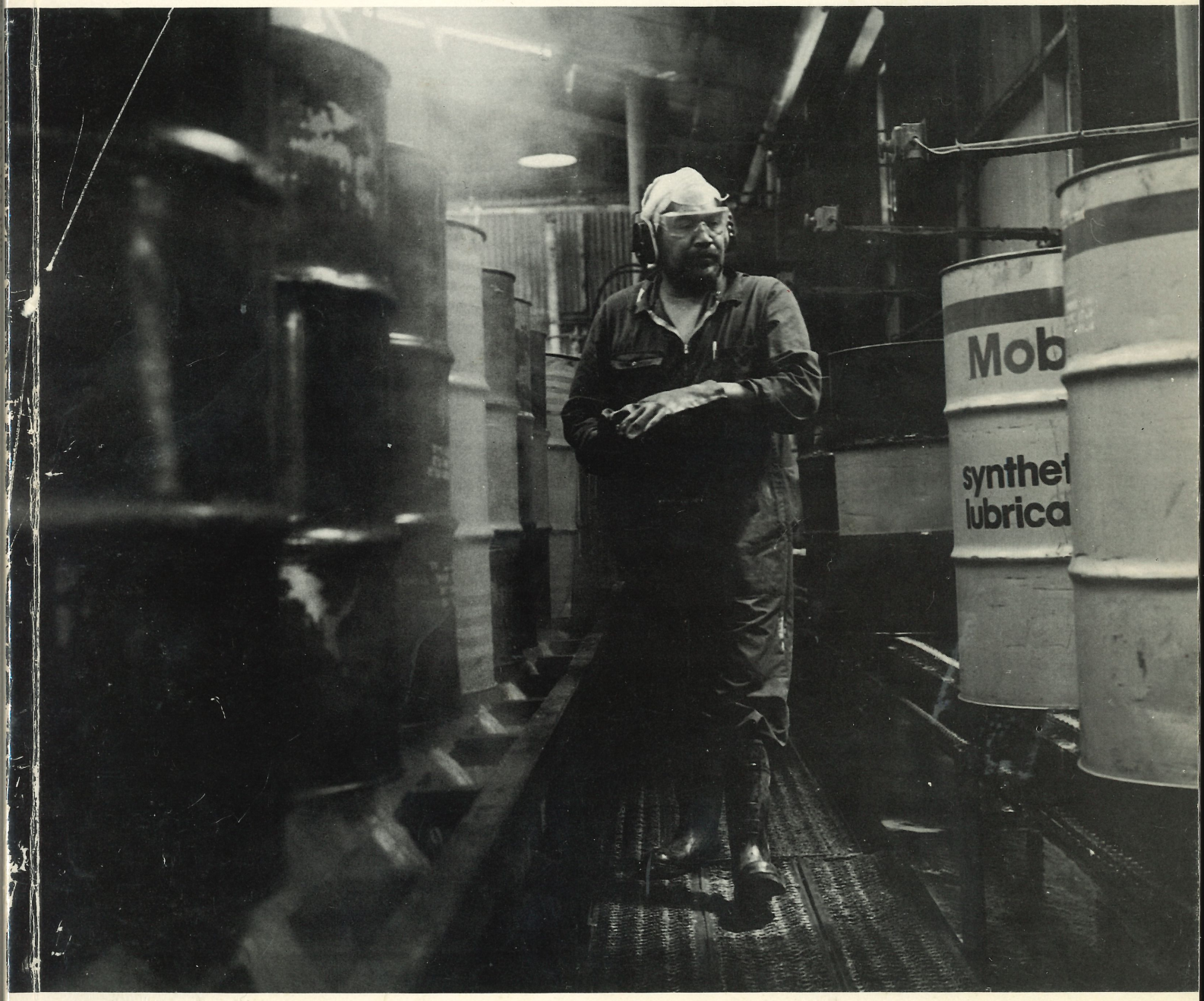
Work Today:

EMPLOYMENT TRENDS TO 1989



NEW ZEALAND
Planning Council

Te Kaunihera Whakakaupapa
Mo Aotearoa

Work Today:
Employment Trends to 1989

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Foreword

This report sets out to provide an overview of what we know about employment in New Zealand. It is not intended to provide answers to the problems — but is rather a starting point for a more effective search for those answers.

Employment issues have featured prominently in the Planning Council's agenda since its establishment with published output, including *Working Together* (1978) and *Employment and the Economy* (1985). Recognising the continuing and pressing importance of the topic of employment, the Council decided in 1988 to strengthen its efforts by establishing an Employment Working Group (EWG) along the lines of its other major monitoring programmes. The Group will produce an overview every two or three years, monitoring the performance of New Zealand society in providing satisfactory employment for its members.

Work Today provides a starting point, and a benchmark for that ongoing, medium-term programme. It was designed initially to meet that internal need for the Council's own work.

It has been published in the hope that it will also have wider use — as resource material for all those concerned with employment issues, as policy makers, social scientists, unions and employers, and members of the general public.

On behalf of the Employment Working Group and the Council I want to record our appreciation of Lesley Haines' work in researching and writing the report.

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Introduction

Work Today is a picture, a collection of information, about paid employment in New Zealand now, coming up to 1990. It is not where we would like to be. The Planning Council has described the position we would like to be in as 'sustainable full employment with high incomes'. Next year the Council will publish a picture of that sustainable, fully-employed, high-income society.

Those two pictures of 'where we are' and 'where we would like to be' form the basis for the Council's work, with its own resources and alongside other organisations, on improving the way New Zealand society engages and rewards the talents and energies of all its members.

If there was a simple, one-step way of reaching full employment and staying there, we would not plan for it. We would just do it. The lesson of the 1970s and 1980s is that there is no quick, simple way out of unemployment. It is a complicated task, requiring changes and actions by many different people and organisations over a period of years.

It is a task that requires planning — rather than believing in the 'tooth fairy', or asking one set of people, government, unions, investors — to pull a magic switch that solves all the problems. Planning requires good, realistic information about where you are, where you want to be, and the direction of the various routes out from your present position. That information needs to be available to all those involved so they can argue through to some common picture of what is important and what is not, and make well-informed choices and decisions.

Work Today is a starting point, a contribution to that.

Work Today covers the general picture of our labour force, employment and unemployment, and two areas of particular concern — Maori employment and women in the paid workforce. The report ends with a note on technology — one of the crucial factors affecting growth in employment and incomes.

Chapter One sketches the size and age structure of the labour force — the people of working age, what proportion of them seek paid work, and the general level of skills of the labour force.

Chapters Two and Three cover employment and unemployment. The growth and recent decline in total employment is outlined along with trends in its pattern and structure — by sectors and occupations, regionally, in full-time and part-time jobs, and by size of business. The chapter on unemployment deals first with the confusion that arises from the many different ways of measuring unemployment — describing each statistical measure and indicating which should be used, for example, for international comparison, and for monitoring New Zealand's performance over the medium term. The chapter also sketches briefly the historical background and current prospects; who are the unemployed, the duration of unemployment, and programmes to assist the unemployed.

From these general issues, *Work Today* turns to three more specific subjects — Maori employment, women's paid employment and technology.

Maori, and notably young Maori, are more liable to be unemployed than the rest of the population. Chapter Four focuses on Maori employment and the particular demographic, occupational, skill and income factors affecting employment prospects for Maori.

One of the major structural trends affecting employment now and in the future is the shift from unpaid to paid employment by women. The changes in women's paid work which have taken place and can be expected to continue are outlined in Chapter Five.

Waves of technological change affect what we do and how we do it in unpaid as well as in paid employment. Chapter Six provides a review of the arguments between those who believe current technological changes threaten mass unemployment and those who see this as another stage in the long progression from the first tools and the wheel, and the basis for a new expansion of human activity.

Each chapter contains its own summary, and the major points are brought together in a separate concluding section.

The essential base of the Planning Council's work on employment is the argument that a return to sustainable full employment with high incomes is not a simple, easy thing to achieve. It will require well-informed debate, choices and actions by many individuals and groups — in workplaces, schools, government, unions, financial institutions, and in families. *Work Today* will assist with that process.

CHAPTER ONE

The Labour Force

The number of people in paid employment is influenced by both supply and demand factors. This chapter focuses on the supply side — the labour force. New Zealand's labour force has shown strong growth over the last twenty years although somewhat less rapid growth is expected through to 2000.

The labour force comprises those people in paid employment plus those seeking paid employment, and includes both full- and part-time workers. The size of the labour force is clearly dependent on the size of the working-age population[1] and on the percentage of that group which has, or seeks, paid work. That percentage is commonly referred to as the labour-force participation rate.

The size of the present working-age population is determined by earlier fertility and current mortality patterns and migration flows. During the baby boom of the 1950s and 1960s, New Zealand's total population grew very rapidly, primarily due to high rates of natural increase. For example, in 1962 the average number of births per woman was 4.16, over twice what it is today. As the baby-boom generation has reached working age, the 1970s and 1980s have seen rapid growth in the size of the working-age population (see Infogram 1.1).

Between 1981 and 1986 the working-age population increased rapidly, but the labour force increased more rapidly. This is because the labour force participation of women rose steadily throughout the period. Men's labour force participation has declined gradually but has been more than offset by the increase in the proportion of women working (see Infogram 1.2).

For each intercensal period between 1966 and 1986, the growth of the working-age population accounts for 50% or more of total labour force growth, and participation rate changes account for between 20% and 50% (see Infogram 1.2).

The part-time labour force has expanded more rapidly than the full-time labour force throughout the last twenty years. This is associated with the rising participation of women in the workforce, 30% of whom were employed part time in 1986 (1986 definition). The male part-time workforce has also grown more rapidly than the full-time labour force, particularly in the 1981-86 period. Thus the full-time equivalent labour force (the number of full-time workers plus half the number of part-time workers) has risen, but less rapidly than the labour force in its usual sense (see Infogram 1.1).

Over the last twenty years the number of people of working age has increased rapidly, as has the proportion which has or seeks paid work. The numbers of both full- and part-time workers have shown strong growth, particularly part-time workers.

[1] Here defined as 15-64 years of age.

Infogram 1.1

New Zealand Population, Working-age Population, Labour Force 1961-86

	Population		Working-age population		Labour force	
	Number	Annual average increase	Number[1]	Annual average increase	Number[1,2]	Annual average increase
1961	2,414,984					
		2.06				
1966	2,676,919		1,581,427		998,833	
		1.34		1.56		2.83
1971	2,862,631		1,708,841		1,148,311	
		1.78		2.38		2.91
1976	3,129,383		1,921,671		1,325,387	
		0.29		0.91		1.44
1981	3,175,737		2,010,966		1,423,452	
		0.82		1.12		2.20
1986	3,307,084		2,126,193		1,586,787	

Note 1: defined as 15-64 year-olds
Note 2: 1966 excludes all part-timers, 1971-81 excludes unemployed part-timers

Source: Department of Statistics, Census of Population and Dwellings 1961-86

What can we expect over the next fifteen years? We begin with a good knowledge of the size of the working-age population. In addition we make two assumptions: long-term net migration of zero (close to it during the period 1970-86), and a modest continuing increase in the labour-force participation rate.

We find that over the next fifteen years both the working-age population and the labour force will grow much more slowly than in the past, particularly in the latter half of the period.

Infogram 1.2

Labour Force Growth and its Components 1966-86

	Labour force participation rate[1]			Proportion of labour force growth due to increase in working-age population	Proportion attributable to participation rate changes
	Women	Men	Total		
1966	35.9	90.1	63.1		
				54	46
1971	44.5	89.5	67.2		
				81	19
1976	49.3	88.2	69.0		
				62	38
1981	54.6	86.8	70.8		
				49	51
1986	62.7	86.4	74.6		

Note 1: 1966 excludes all part-timers, 1971-81 excludes unemployed part-timers

Source: Infogram 1.1

Infogram 1.3

Projected New Zealand Population, Working-age Population and Labour Force 2001
(000s)

		Population		Working-age population		Labour force	
		Number	% annual increase since 1986	Number	% annual increase since 1986	Number	% annual increase since 1986
1986[1]	Actual	3,307		2,126		1,587	
2001[2]	Projected	3,571	0.51	2,405	0.83	1,830	0.95

Source: 1. Department of Statistics, Census of Population and Dwellings 1986
2. Department of Statistics, Series 5 1985 based Population Projections

We expect that women's participation rates will continue to increase, although at a slower rate than in the early 1980s, and that the participation rate of men in the workforce will continue to decline gradually. Thus women's share of the paid workforce will continue to increase.

The Maori share of the workforce will increase over the next twenty years. This is mainly because of the high fertility levels of Maori women during the 1960s and 1970s and, although the level has since decreased, it is still higher than for non-Maori women. At present Maori are 12% of the New Zealand population and around 9% of the workforce. By 2001 the proportion is likely to be around 15% for both.

The age structure of the labour force

Declining fertility, and the greater participation in the labour force of women in their middle years, suggest that the median age of the labour force has increased since 1966 and will continue to increase over the next twenty years.

As the baby-boom generation is absorbed into the workforce, so the size of the new-entrant cohort to the labour market will decline (see Infogram 1.4).

Infogram 1.4

New Entrants to the Labour Market 1976-2006[1]

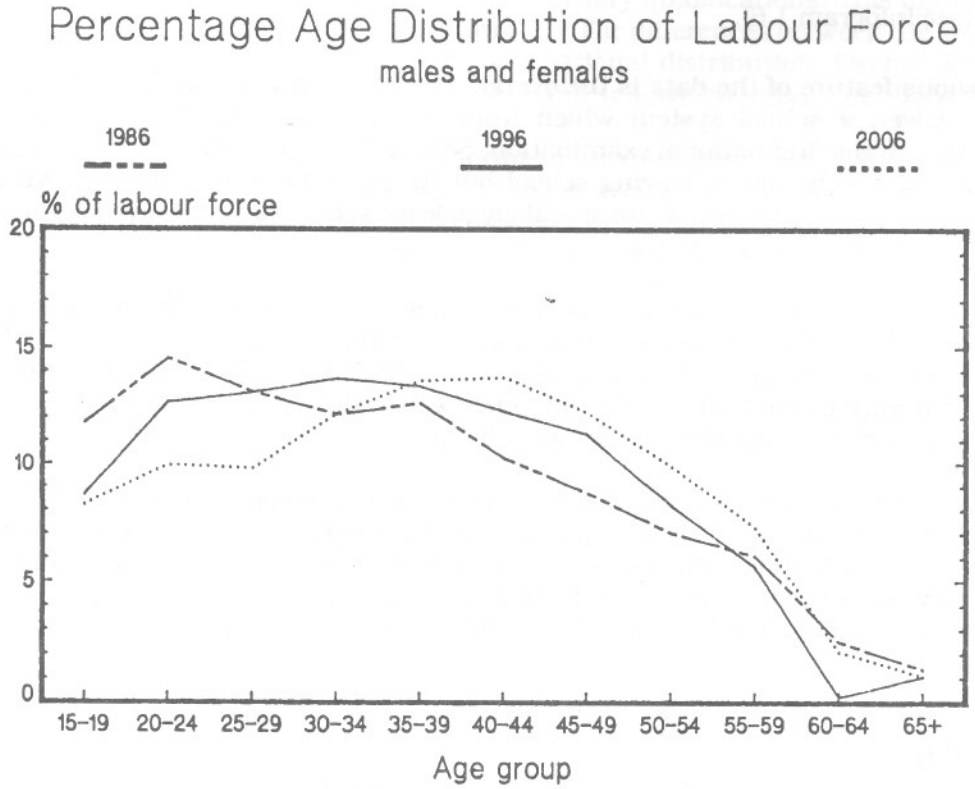
	1976	1986	1996	2006
Size of cohort	200,624	233,700	234,800	199,600
Proportion of labour force	14.8	14.5	12.6	10.0

Note: 1. Cohort of those aged 20-24 years (15-19 year-olds not chosen as participation rates assumed to continue falling)

Source: Department of Statistics, Series 5 1985 based Population Projections

Overall the labour force will become older, comprising relatively fewer young people and more in the 30-60 year age group (see Infogram 1.5).

Infogram 1.5



Source: Census 1986; 1985 Series 9 Labour Force Projec

This may have important implications for education and training policy. In a world of rapid structural and technological change the need for freshly skilled workers is increasing. One of the chief, and traditional, sources of newly skilled workers, the young entrants, will decline. This signals the need for education and training policies which place more emphasis on the reskilling and upskilling of the older members of the labour force.

Skills of the labour force

The skills of the labour force can be divided into at least three groups: skills learnt at school, skills learnt at tertiary educational institutions, and skills learnt on the job. What is most important from an employment viewpoint is what skills the potential worker has available for use on the job. In the absence of other more appropriate data, formal qualifications are used here as a substitute for skills.

School qualifications

The Household Labour Force Survey gives information on the highest school qualifications of the labour force (see Infogram 1.6).

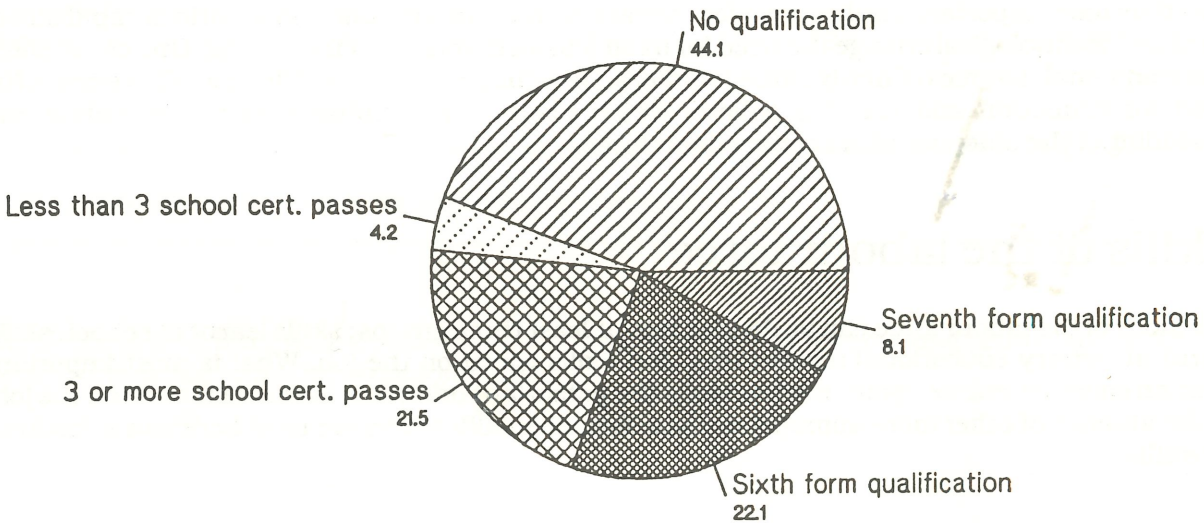
The most obvious feature of the data is the overall 44% of the labour force who have no school qualification. Given a school system which until recently only allowed about 50% of the candidates through the first national examination, School Certificate, this is hardly surprising. A better indicator would be age of leaving school but no such data are available. We do know, however, that young New Zealanders are still likely to leave school earlier than their counterparts in most OECD countries (Haines 1988).

Women in the labour force are less likely than men to have no school qualification and more likely to have a fifth or sixth form qualification. A smaller proportion of women than men in the labour force have a seventh form qualification. Current seventh form numbers are close to equal by gender, so indications are that this gender difference will gradually disappear in the new entrants to the workforce, and eventually in the workforce itself.

In the working-age population men and women have a very similar distribution of school qualifications, the only notable difference being that a greater proportion of men have a seventh form qualification. The observation that women in the labour force are more likely to have a school qualification than men reflects the fact that not all women of working age are in the labour force. Those who are, on average, have higher school qualifications.

Infogram 1.6

Labour Force and Highest School Qualification
1989



Note: excludes 'not specified'

Source: Household Labour Force Survey, March 1989

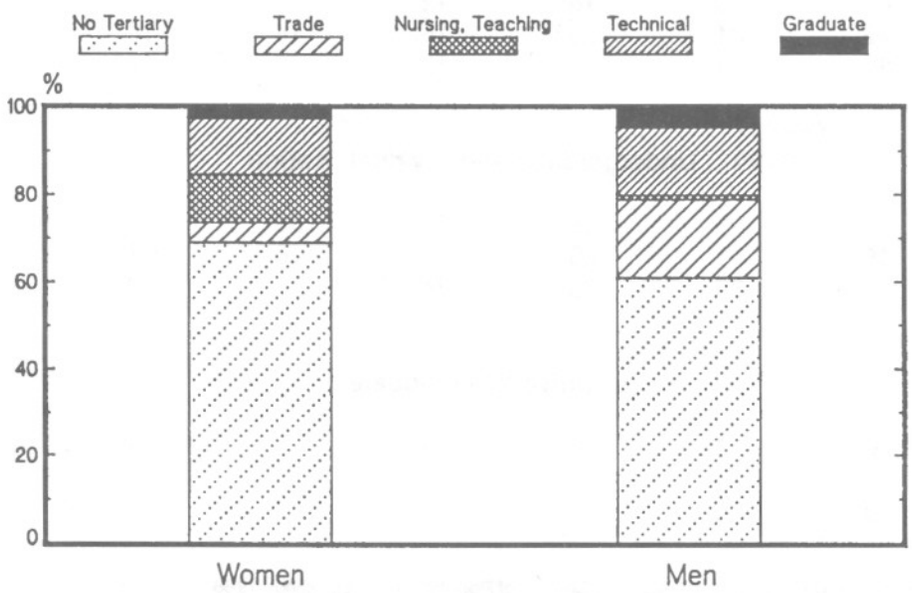
Tertiary qualifications

Sixty percent of workers in New Zealand have no tertiary qualifications. This figure is high compared with other OECD countries (see Infogram 1.7).[2] The differences between the level of male and female qualifications reflects their different occupational distribution. Overall women are less likely to have university qualifications and more likely to have no tertiary qualifications.

Over 40% of all full-time workers have no formal educational qualification of any kind (see Infogram 1.8). The younger members of the workforce are somewhat more likely to have a school or tertiary qualification.[3] Given a continuation of present trends we expect that in the year 2000 the average worker will have more educational qualifications than today.

Infogram 1.7

Labour Force by Gender and Tertiary Qualification
1986



'No Tertiary' includes 'Not Specified'
'Technical' includes NZ and Undergraduate Certificates, 'Other' and 'Two or More Qualifications'

Source: 1986 Census, Vol. Education and Training, Table 4

[2] This 'Trade' includes Trade Certificate, Advanced Trade Certificate, and other lower level trade courses. The number holding a Trade Certificate or higher is less than half of this total.
[3] The 15-19 year-old group is an exception, simply because they are less likely to be in the full-time workforce.

Infogram 1.8

Distribution by Age and Highest Educational Qualification of Workers in Full-time Employment (%)

Age in years	15-19	20-29	30-39	40-49	50-59	60-64	All ages
No educational qualification							
Men	55	36	35	43	48	48	41
Women	42	29	43	53	55	55	41
Total	49	33	37	46	50	49	41
School qualification only							
Men	37	23	16	12	11	13	18
Women	42	31	20	15	14	16	25
Total	39	25	17	13	12	14	20
Undergraduate tertiary qualification							
Men	8	34	38	37	35	31	33
Women	16	31	29	27	26	24	27
Total	11	33	35	34	33	30	31
University graduate							
Men	0	8	11	9	6	8	8
Women	0	8	8	5	4	4	6
Total	0	8	10	7	5	7	7

Source: NZPC database from Department of Statistics, Census of Population and Dwellings 1986

Women aged 20-39 years are much more likely to have a graduate or undergraduate tertiary qualification or school qualification than older women, and are less likely to have no qualification at all. Young women working full time are still less likely to have an undergraduate tertiary qualification, and are more likely to have a school qualification than their young male counterparts.

On-the-job training

There is currently little data available on the nature and extent of on-the-job training of the labour force.

Just over a quarter of the labour force undertook some on-the-job training over the last twelve months. On-the-job training is the most common type of continuing education for the actively employed. The next most common is tertiary education. The incidence of on-the-job training is markedly higher in the professional/technical occupation group and lower in the agriculture/fisheries group. The pattern is similar for Maori and non-Maori. On-the-job training is more likely to be a source of training for older workers — the ratio of on-the-job training to tertiary education rises from 2:1 for the 15-19 year-olds to 3:1 for 30-44 year-olds, to almost 5:1 for 45-49 year-olds.

Infogram 1.9

Proportion of the Actively Employed who Received Education in the last 12 months

Occupation	On-the-job training	Tertiary education
Professional/technical	53	26
Administration/management	20	16
Clerical	28	8
Sales	29	7
Service	23	5
Agriculture/fisheries	11	8
Production/labourers	19	3
All occupations	**28**	**10**

Source: Royal Commission on Social Policy Attitudes and Values Survey

Summary

- Between 1966 and 1986 New Zealand's labour force grew very rapidly. This was due to two major factors — the entry of the baby-boom generation into the workplace, and the rapid rise in the participation of women in paid work.

- Over the next fifteen years we expect that both the working-age population and the labour force will continue to grow faster than the whole population, but at a slower rate than over the past twenty years. Women's share in the paid workforce will continue to rise.

- The Maori share of the workforce will continue to increase, particularly amongst younger workers.

- The average age of workers will continue to rise and the share of new-entrant workers in the labour force will continue to decline.

- Currently 46% of the workforce has no formal school qualification and 60% has no tertiary qualification. The younger members of the workforce have more secondary and tertiary qualifications than their elders. With a continuation of current trends, we would expect the average educational attainment of workers to rise during the next two decades.

- Little is known about characteristics of on-the-job training in New Zealand. One survey found that over a quarter of the workforce undertook some kind of on-the-job training over a one-year period.

CHAPTER TWO

Employment

Total employment

Chapter One gave a picture of a labour force which has grown rapidly over the last two decades, due to a combination of high fertility and increased participation rates. Over this same period total employment has also grown rapidly. The long established trends — towards an increasing share of employment being found in the service sector, and the decline in the relative importance of manual occupations — have continued. Part-time work has continued to grow, the decline in self-employment has been reversed. As a result of these and other changes, by the early decades of next century the pattern of employment will be quite different.

International comparison is always difficult, but it seems that over the last twenty years employment in New Zealand has expanded more rapidly than in many other developed economies. This is more true of the 1966-76 period than of the 1976-86 period (see Infogram 2.1).

Infogram 2.1

Growth in Employment 1966-86

	% changes in employment				Growth
	1966-71	1971-76	1976-81	1981-86	1966-86
USA	8.9	11.2	13.2	9.0	49.4
Australia	15.3	7.4	6.8	8.0	42.8
New Zealand	6.4	13.3	2.0	4.6	28.6
New Zealand[1]	9.3	12.9	3.1	6.5	35.5
Japan	6.1	2.9	5.8	4.8	21.1
Sweden	3.3	6.0	3.5	1.3	14.8
UK	-3.5	1.7	-2.2	1.0	-3.1
Spain	3.3	0.9	-10.2	-3.1	-9.4

Source: New Zealand[1] estimated from Census data, full-time equivalents
All other data from Table R16, OECD Economic Outlook 1987, p.189

Employment growth, however, has not continued through the late 1980s. Total employment, as measured by the Household Labour Force Survey, dropped by 6.5% (or 100,000 jobs) between June 1987 and June 1989.

The forecasts in *Prospects: Economic and Sectoral Trends to 1997* (National Sectoral Programme 1988) anticipate a growth in aggregate employment, averaging 1.2% per annum over the 1984-92 period. Given the 2.5% decline in employment during 1985-88, and the economy's performance

in generating additional jobs over the last two decades, a 1.2% per annum average increase over the whole 1984-92 period looks optimistic. In order to achieve this growth to 1992 employment will need to grow, on average, by 3.25% a year for the next four years. This is equivalent to an average growth of over 12% over a five-year period. Infogram 2.1 shows that since 1966 New Zealand has reached this rate only once, in the 1971-76 period. This growth of 2.25% per annum in employment will be required to contain unemployment at its 1988 level.

Over the 1992-97 period employment is forecast to grow at an average rate of 1.6% per annum. This will be fast enough to offset the anticipated growth in the labour force and to begin reducing unemployment below 1988 levels.

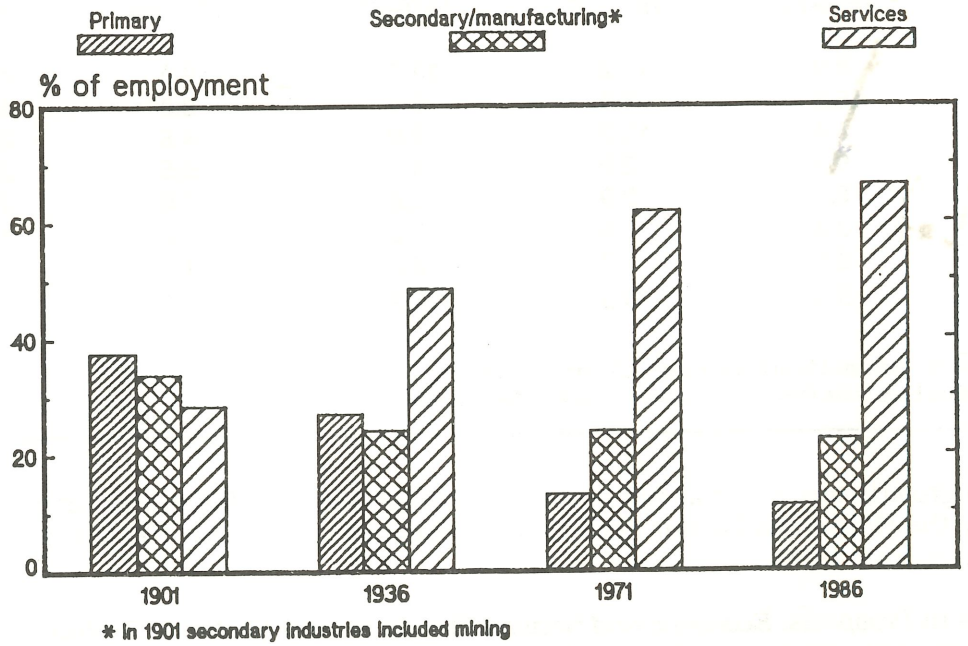
Sectoral trends

Employment growth and, most recently employment decline, has not occurred evenly across all sectors of the economy. In fact the pattern of the last twenty years is a remarkable continuation of trends which have been occurring at least as far back as the turn of the century (Infogram 2.2).

In 1901 the primary sector provided almost 40% of all employment. Secondary industries (which then included mining) employed around one-third of all workers, and the service industries employed less than 30%. Since 1901 the service sector has grown steadily in importance as a source of employment. In 1986 it employed two-thirds of all workers. The primary sector has continued to decline in importance as a source of employment, down to around 12% in 1986. Manufacturing has also declined but to a lesser extent.

Infogram 2.2

Employment by Sector - Selected Years



* In 1901 secondary industries included mining

Source: New Zealand Year Book; 1986 Census

Since 1986, despite the decline in aggregate employment, the trend towards an increasing share of employment in the service sector and a declining share in manufacturing has continued (see Infogram 2.3).

The *Prospects* forecasts indicate a continued increase in the concentration of employment in the service sector (see Infogram 2.4). In the period 1984-92 the primary sector is expected to have the highest percentage growth rate. However, the proportion of workers employed in the service sector continues to grow, and around 77% of the net new jobs created in the period will be in the service sector.[1]

Infogram 2.3

Employment by Sector 1986-89

Share of employment	1986	1987	1988	1989
Primary	11.2	10.9	10.5	10.9
Manufacturing	22.2	20.9	19.6	18.8
Services	66.6	68.1	69.8	70.5
All	**100.0**	**100.0**	**100.0**	**100.0**

Source: Department of Statistics, Household Labour Force Survey, March quarters, full-time equivalent employment

Infogram 2.4

Employment Forecasts to 1997
(000s of full-time equivalent jobs)

	Employment 1984	Increase 1984-92	Increase 1992-97
Primary	149	18	3
Manufacturing	302	12	15
Services	842	102	102
Total	**1293**	**132**	**120**

Source: National Sectoral Programme 1988

[1] The measure of employment used in the *Prospects* forecasts is full-time equivalent employment, i.e. all full-time jobs and half the number of part-time jobs. Given the concentration of part-time work in the service sector, we would expect that in terms of the number of actual jobs, the trend of an increasing share of total employment in the service sector will be somewhat stronger than the *Prospects* forecasts suggest.

The growth in service employment is further accentuated in the latter period, when the sector is forecast to provide 85% of the net new jobs. In 1992-97 the growth of primary sector employment slows markedly, with only 3000 net new jobs forecast to be created over the five-year period. Growth in manufacturing is slow over the whole forecast period.

These broad changes in employment by sector are the result of several factors.

The growth of real disposable incomes has increased the share of spending on social services such as education and health, and on personal services such as hairdressing and eating out. In addition, there is a steady shift of some of the work traditionally done by women from the unpaid sector to the paid sector — for example, childcare, food preparation, cleaning and housecare.

Labour productivity has increased at different rates in different sectors, with service-sector productivity growth lagging behind that of primary and manufacturing. For example, over the decade from 1977/78 to 1987/88, the Economic Monitoring Group estimate that labour productivity increased by an average 5.3% per annum in the primary sector, by 2.8% in manufacturing, and by 1% in the service sector.[2]

Part of the apparently low productivity growth in the service sector may reflect how difficult it is to measure output in this sector in a meaningful way. However, most studies both overseas and in New Zealand indicate that the service sector has been a sector of low productivity growth. Until the early 1980s the sector was strongly regulated, with heavy public sector involvement. Recent government policy has been directed at creating a more competitive environment, by improving accountability and transparency of operations, and by decentralising activities. This has placed pressure on the service sector to increase productivity and there has been significant labour shedding. American economist Lester Thurow is pessimistic on what will happen to the traditionally strong service-sector employment growth (especially strong in the United States) when major advances in labour productivity are made. Other commentators, such as Japanese economist Kimio Uno, hold a more optimistic view. Uno believes that "unless labour input is made more efficient in service industries we would soon face labour shortage".

Deliberate government policy of tariff and import controls buoyed up employment in the manufacturing sector from the 1950s through to the late 1970s. The more recent policy of removing these forms of trade protection is one reason for the steady decline of employment in manufacturing over the last few years. Another associated reason is the rapid emergence of newly industrialising countries as producers of quality manufactured goods. Less than thirty years ago Japanese manufactured goods were generally regarded by New Zealand consumers as inferior in quality — an attitude which seems barely conceivable today.

Increased specialisation of business activity also tends to place more employment in the service sector. For example, at the turn of the century farmers probably transported their own stock to market, looked after animal health and used natural breeding methods for stock increases, prepared their own accounts and bred horses for farmwork. All of these activities when done by the farmer would have been captured as primary sector employment. Now this employment is scattered via transport operators, veterinarians, accountants and machinery suppliers — all activities classified within the service sector, but all having no less reliance on the farmer as the starting point in the production chain.

Recent government macroeconomic policy, of maintaining tight monetary policy and fully funding the fiscal deficit, has created conditions of high interest rates and, initially, a high exchange rate. This has had the most effect on the primary and manufacturing sectors, and partially accounts for the decline in employment in these sectors over the last four years.

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[2] *The Economy in Transition: Restructuring to 1989*, Infogram 4.8, p.42.

Infogram 2.5 shows changes between March 1986 and March 1989 on an industry level. This shows the consistent decline in employment across all industries in the primary and manufacturing sectors, and also shows the considerable variation between different industries in each sector. Of course, at the firm level this variation is even greater.

As the infogram shows, one of the largest employment losses was in government services — in part, due to the establishment of state-owned enterprises. For example, former government employees now working for state-owned enterprises such as Electricorp, Telecom and Coalcorp are no longer classified under government services. Within the state-owned enterprises there have also been changes in contractual relationships — for example, the change of status from employee to subcontractor for many former Telecom and Forestry Corporation employees.

Infogram 2.5

Employment Changes by Industry 1986-89

	Employment (full-time equivalents, 000s)		Increase/decrease (000s) 1986-89
	March 1986	March 1989	
Agriculture	136.6	130.1	-6.5
Forestry	9.3	5.9	-3.4
Fishing	2.7	1.9	-0.8
Mining	6.7	3.4	-3.3
Other food, beverages	72.3	62.3	-10.0
Textiles	43.2	31.9	-11.3
Wood	21.5	16.4	-5.1
Paper	36.3	31.3	-5.0
Chemicals	27.1	20.6	-6.5
Ceramics	10.5	7.7	-2.8
Base metals	10.1	8.0	-2.1
Machinery	82.8	61.4	-21.4
Other manufacturing	5.5	3.3	-2.2
Electricity, gas, water	15.4	11.1	-4.3
Construction	97.4	91.9	-5.5
Trade/restaurants/hotels	255.1	241.1	-14.0
Transport	66.8	66.3	-0.5
Communications	32.4	24.3	-8.1
Finance/insurance/ real estate/business	122.2	128.5	6.3
Government services	83.5	63.0	-20.5
Private services	247.3	279.1	31.8
Other	6.8	3.5	-3.3
Total	**1391.2**	**1292.2**	**-99.0**

Source: Department of Statistics, Household Labour Force Survey

The industries providing the largest number of jobs — private services, finance/insurance/real estate/business services, trade/restaurants/hotels, and agriculture — cover a very wide range of businesses, which often have quite varying employment characteristics. For example, Infogram 2.6 shows the types of businesses found in the finance/insurance/real estate/business services sector, which is one of the major employment growth areas of the economy.

Infogram 2.6

Employment in the Finance/Insurance/Real Estate/Business Sector
1986 Census

Industries	Employment (full- plus part-time)
Finance	37,668
Insurance	14,457
Real estate	10,707
Legal services	11,676
Accountancy	12,615
Data processing	6,474
Engineering, architectural	10,824
Advertising, market research	6,051
Business services (including security, typing, management consultancy)	10,881
Machinery rental	1,602
Sector total	**122,952**

Source: Department of Statistics

The boundaries between these industries are also becoming less clear cut — for example, finance and insurance are increasingly linked, and accountancy and management consultancy often operate together.

Most of the expected net increase in employment through to 1997 will come from the service sector but, as noted, this sector covers a wide variety of industries and occupations (see Infogram 2.7). Which of the service industries are expected to contribute most to employment growth?

The retail and wholesale trade/restaurants/hotels sector is expected to provide a major portion of the net new jobs, particularly during the period to 1992 and also beyond to 1997. This growth in output is due to a number of factors, which include a forecast strong growth in international tourism, a continuing increase in women's labour force participation, greater spending on eating out and leisure activities. As this is a labour intensive industry with little expected increase in labour productivity, strong growth in employment is expected, especially for part-time weekend and evening work. This work will require 'people' skills — communication, service and presentation.

Finance/real estate/business services, private services and, to a lesser extent, public services and transport, are also expected to provide substantial increased employment throughout the next decade.

Infogram 2.7

Service Sector Employment Forecasts to 1997
(000s of full-time equivalent jobs)

	Employment	Increase in employment	
	1984	1984-92	1992-97
Electricity, gas, water	15.7	2.8	0.8
Construction	87.7	-0.8	11.4
Trade/restaurants/ hotels	220.9	48.9	38.0
Transport	68.2	11.6	10.4
Communications	35.0	-1.3	-4.5
Finance/insurance/ real estate/business	99.3	16.0	16.9
Private services	65.2	14.8	19.0
Public services	250.0	10.4	9.7
Total services	**842.0**	**102.4**	**101.7**

Source: National Sectoral Programme 1988

It should be noted that these projections are based primarily on current industry perceptions. The forecasts suggest that over 90% of extra foreign exchange earnings will come from tourism, forestry, mining and horticulture, in the period 1987-92, with tourism alone providing nearly half of the increase. In the latter period, 1992-97, tourism, forestry, mining and horticulture together provide 58% of new foreign exchange earnings.

To summarise, there is a long-term trend towards a greater concentration of employment in the service sector of the economy. Forecasts indicate that this trend will continue through the next ten years.

The different employment characteristics of the three major sectors (primary, manufacturing, services) also show up in the different composition of their workers — by gender, ethnic group and by hours worked, part-time or full-time (see Infogram 2.8).

Of the three sectors, the service sector has the highest proportions of women and part-time workers, and the lowest proportion of Maori. The positions of Maori and women in the workforce are discussed in more detail in Chapters Four and Five respectively. It is worth noting again that within the sectors there is considerable variation. For example, in the apparel industries women predominate, unlike the rest of manufacturing, and in horticulture women workers and part-time workers are significantly more important than in traditional agriculture.

Infogram 2.8

Employment by Sector, Gender, Hours of Work and Ethnicity 1986

Sector	% of those employed who are:		
	Female	Part-time workers	Maori
Primary	29.2	13.9	9.9
Manufacturing	30.3	9.1	13.0
Services	45.9	16.6	8.5
Total	**40.6**	**14.7**	**9.7**

Source: Department of Statistics, Census of Population and Dwellings 1986

From manual to non-manual work

The changing employment patterns of the past ten years can be further analysed by dividing occupations into manual and non-manual.[3] The division between them is somewhat arbitrary as clearly all jobs require some manual and some non-manual skills. The distinction is really one of degree — nevertheless the simple division yields some valuable insights into how work is changing.

Manual workers are often highly skilled, their skills based in large part on their physical abilities. Some examples of manual workers are farmers, plumbers, painters, carpenters, miners, forestry workers, drivers and most factory workers.

Non-manual workers are quite mixed — they are often highly skilled but with different kinds of skills from manual workers. Some examples of non-manual workers are salespersons, typists, managers, scientists, teachers, preachers, cooks, journalists, photographers, economists, hairdressers and housekeepers. Communication skills are very important in non-manual jobs — teachers, preachers, journalists, salespersons, managers and photographers are obvious examples. Presentation skills are often very important too — for salespersons in the way they present their products and themselves, for cooks in the way they present their meals, and for preachers in the way they present their sermons. Analytical skills are important in many non-manual occupations. Clearly managers, scientists, economists, and journalists need well developed analytical and, in many cases, numerical skills.

[3] This classification was developed by Dr Philip Morrison (Victoria University) and is further developed in *Labour Adjustment in Metropolitan Regions* (1989). 'Manual' corresponds to NZSCO major groups 6, 7, 8 and 9, excluding minor groups 60, 70 and 86. 'Non-manual' is the remainder of occupations.

Infogram 2.9 divides all workers into four categories, depending on whether or not the work is manual, and what sector it is carried out in. The numbers show the percentage of workers falling into each category — for example, in 1976 34% of all people in paid employment were in manual jobs in either the primary or manufacturing sectors. The big changes over time occur in the two key categories (marked with *).

Infogram 2.10 shows the pattern ten years later. (This is the latest date for which information is available.)

Infogram 2.9

Employment Pattern 1976

Occupations	Industries		
	Primary & manufacturing	Services	All
Manual	34*	10	44
Non-manual	10	46*	56
All	44	56	100

Infogram 2.10

Employment Pattern 1986

Occupations	Industries		
	Primary & manufacturing	Services	All
Manual	23*	11	34
Non-manual	11	56*	66
All	34	66	100

Focusing on the two key categories it can be seen that between 1976 and 1986 the proportion of people working in manual jobs in the primary sector decreased dramatically, down from 34% — over a third, to 23% — under a quarter. Over the same time the proportion of people working in non-manual jobs in the service sector increased to well over a half — from 46% to 56%. (Note: the infograms show the pattern for the whole population; Maori are still far more concentrated in manual/primary and manufacturing.)

So what is likely to be the pattern towards the year 2000? Infogram 2.11 is based on Planning Council economic forecasts plus an element of guessing. The infogram shows that nearly 70% of future jobs are expected to be in the service sector, with the majority of these being of a predominantly non-manual nature

Infogram 2.11

Employment Pattern 1997

Occupations	Industries		
	Primary & manufacturing	Services	All
Manual	19*	10	29
Non-manual	12	60*	72
All	31	69	100

Changes in occupation

Underlying the shift from manual to non-manual work are changes in the pattern of employment by occupation. As employment becomes more concentrated in the service sector, employment in those occupations commonly found in the sector tend to grow in importance.

Occupational patterns are also changing within industries. There is a general trend towards a greater proportion of professional, technical and administrative staff in most industries. This is closely related to technological change.

Employment patterns by occupation changed between 1971 and 1989 (Infograms 2.12 and 2.13).

The biggest change is in the proportion of the workforce in production and related occupations. This has fallen from 37% in 1971 to 27% in 1989. Production and related occupations are a diverse group. They include pulp and paper workers, printers, painters,tailors and dressmakers, drivers, carpenters, bricklayers, fitters and toolmakers. In general, within the group most occupations showed only modest growth or, in some cases, decline, over the 1971-86 period. Many of the most rapidly declining occupations are within the production and related occupations, such as tobacco preparers, shoe and leather good makers, pulp and paper makers, spinners and weavers, construction workers and labourers. However, within the group there is also quite a lot of variation — for example, the number of production supervisors increased by 70%, whilst the number of tobacco preparers declined by 50%.

The occupations which have continued to grow as a proportion of total employment are those in administration and management, professional and technical workers, service workers and, in the last two years, sales occupations.

The number of managers, excluding those in wholesale and retail trade, increased by 159% between 1971 and 1986, compared with an overall increase in employment of around 25%. Over the same period the number of professional and technical workers increased by 52%, with particularly strong increases in the number of statisticians, mathematicians and systems analysts (226%), economists (231%), accountants (79%), lawyers (106%), journalists and authors (74%), and professional and technical not elsewhere classified, which includes librarians, social scientists, social workers, personnel workers and management consultants (325%).

Infogram 2.12

Employment* by Occupation 1971-86

Occupational group	1971	%	1986	%
Professional & technical	147,518	12.7	224,961	15.3
Administration & managerial	28,577	2.5	74,070	5.0
Clerical	193,489	16.6	262,107	17.9
Sales	123,276	10.6	152,136	10.4
Service	104,119	8.9	149,811	10.2
Agriculture, forestry, fishing	134,323	11.6	162,513	11.1
Production & related	430,866	37.1	460,152	31.4
All occupations	**1,162,168**	**100.0**	**1,468,110**	**100.0**

Note: * All employment — full-time and part-time

Source: Department of Statistics, Census of Population and Dwellings 1971-86

Service workers, not to be confused with service industries, include mainly those working in the personal services area — for example, housekeepers, cooks, waiters, caretakers, dry cleaners, hairdressers, and protective services (which includes the police and the armed forces). Overall, between 1971 and 1986 employment in these occupations increased by 44%. Working proprietors showed particularly strong growth (107%), but all other occupations in the group, except housekeepers, grew steadily.

Sales occupations had about average growth for all occupations in the period to 1986, but their share of total employment has since increased.

Overall, the share of agriculture, forestry and fishing occupations in total employment has declined between 1971 and 1988. Within these groups there are variations — for example, farm managers declined by 17% whereas fishing occupations increased by 35%.

Infogram 2.13

Employment by Occupation 1986-89

	Proportion of workforce employed:		Change (000s)
	1986	1989	
Professional & technical	15.3	17.7	+23.3
Administration & managerial	4.8	5.5	+7.0
Clerical	17.4	17.1	-17.7
Sales	10.7	11.8	+8.0
Service	9.9	10.0	-5.5
Agriculture, forestry, fishing	11.0	10.8	-11.2
Production & related	30.9	27.1	-78.1
All occupations	**100.0**	**100.0**	**-74.4**

Source: Department of Statistics, Household Labour Force Survey, March quarters

There are no forecasts currently available of employment by occupation. The *Prospects* sectoral forecasts suggest the service sector will provide the major additional employment in the next decade. This is expected to come mostly from trade/restaurants/hotels, finance and real estate, and private services. This would suggest a continuation of the trend of an increasing proportion of the workforce being found in professional and technical, administrative and managerial, and service occupations, and also a continuation of the more recent trend to an increasing proportion of sales workers. The proportion employed in agriculture, forestry and fishing occupations will probably level out at around 10% of the workforce, whilst the proportion in production and related occupations will continue to decline steadily.

Part-time work

Most people who are employed are full-time workers. But over the last twenty years there has been very rapid growth in the number of people working part time.[4] Between 1971 and 1989 the number of part-time workers more than tripled, whilst in the same period full-time employment grew by less than 1%. Less than one out of every ten workers was employed part time in 1971 (9%); by March 1989 it was almost one in four (23.5%).[5]

There are many factors contributing to this growth. On the supply side, the increasing proportion of women who wish to combine unpaid work in the home with paid work has increased the supply of part-time workers. Economic circumstances, such as unemployment and the growing inadequacy of a single income for many households, have encouraged more people to seek part-time

[4] Defined here as those whose actual hours of work are less than 30 per week.

[5] 1971 data from Krishnan & Sheerin, 1987; 1989 data from the *New Zealand Labour Force*, March quarter 1989.

jobs. An increasing proportion of young people now continue full- or part-time study and seek part-time work to supplement their student allowances. On the demand side, the continued growth of the service sector, where there is a greater proportion of part-time workers, has increased the demand for part-time workers. In addition, in the current recession employers are under greater pressure to economise and are more likely to employ part-time workers.

Women make up the majority of part-time workers, although less so than in the past. In 1981 84% were women, by 1987 this was down to 73% and in 1989 had fallen to 69%. In March 1989 one in eight men was working part time, compared with almost four out of every ten women. Women of ages 30-44 are the major source of part-time workers (32%). Smaller proportions of younger women (aged 15-29) work part time because most are in full-time employment. Similarly, smaller proportions of older women (aged 45+) work part time because fewer are in paid employment.

Although the number of men with part-time jobs has grown rapidly, this form of employment is still relatively uncommon amongst men. Men aged 15-19 years and 60 years and over are the ones most likely to work part time — the young probably because they are still studying, the older group possibly as a transition from full-time employment to retirement.

Part-time workers are concentrated in the service sector, particularly in social, personal and business services and in the trade/restaurants/hotels sector. This concentration is mirrored in the occupational distribution of part-time workers which is skewed towards service, sales, clerical, and agricultural occupations, and away from production, transport and labourers, and administrative and managerial jobs.

Recently there has been a sharp increase in the proportion of workers who have part-time jobs, from 19.8% in March 1987 to 23.6% in March 1989. This increase is often attributed to the declining availability of full-time work — the number of full-time jobs fell by over 100,000 during the same period.

However, the majority of part-time workers choose to work part time, although there is a small but growing minority who are seeking full-time work. In the March quarter of 1989 5.9% of all men and 2.2% of all women working part time (3.3% overall) were seeking full-time work. The corresponding proportions for March 1987 were 2.9% and 1.8%.

There is also another group of 'discouraged' part-time workers who would like to work full time but are not actively seeking full-time work because they believe there is not enough available. In March 1989 this group formed 5.1% of all part-time workers.

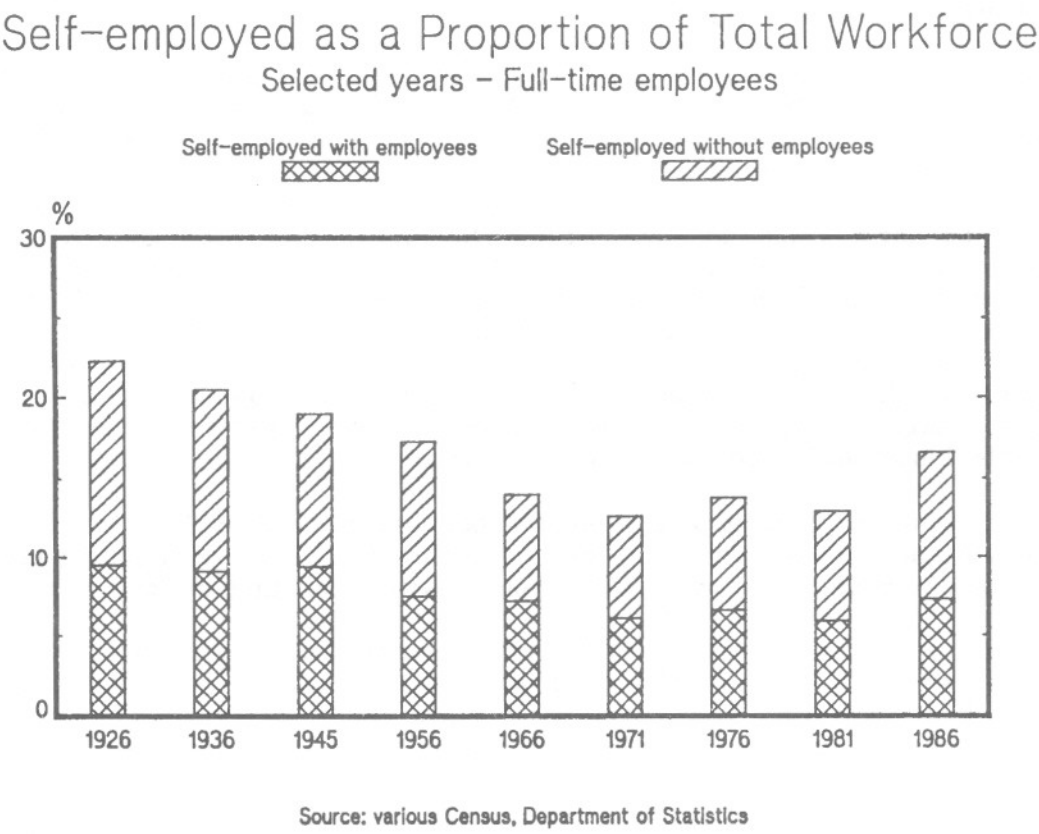
Thus a significant and growing proportion of all part-time workers (8.4% in March 1989) were thwarted full-time workers having to make do with a part-time job. However, growth in this group only accounts for a small proportion of the rapid growth in part-time workers over the last two years.

Growth in self-employment

Over the 55-year period, from the mid 1920s to the end of the 1970s, the numbers of self-employed grew very slowly. Between 1926 and 1981 there was an increase of only 44%, compared with an increase in the full-time labour force of 144%. However, in the 1980s this trend appears to have reversed, with a marked increase between 1981 and 1986 in the proportion of the workforce who are self-employed (see Infogram 2.14). Since 1986 this trend has continued, with the proportion of the workforce who are self-employed (including employers) rising from 16.2% in March 1986 to 18.4% in March 1989 (Household Labour Force Survey, March quarters).

This rise in self-employment has occurred across almost all areas of the economy, but is mainly associated with the growth of the service sector, especially the trade/restaurants/hotels and business services sectors. Given the expected growth in both of these sectors over the next ten years, it is likely that the trend towards an increasing proportion of the workforce being self-employed will continue.

Infogram 2.14



Source: various Census, Department of Statistics

Size of business

The size of individual business enterprises also varies both between and within sectors. The small size of the economy and its isolation from other markets has inhibited the development of very large domestic-based business operations. This excepted, the New Zealand economy is a mixture of large and small businesses in most sectors; the large ones provide the standard products and the small ones complement by selling niche products and services to meet consumers' special needs.

Small businesses contribute around 45% of gross domestic product and about 54% of all private sector employment (Bollard 1988). This proportion varies between the sectors. Manufacturing is more likely to take place in larger enterprises, and primary industry in smaller enterprises. Service sector employment is clustered at both ends of the range with almost 25% in large enterprises and another 35% in very small enterprises (see Infogram 2.15).

Infogram 2.15

Enterprise Size by Industrial Classification[1] 1989

% of people engaged by enterprise size

	0-9	10-49	50-99	100+	Total
Primary	50.2	32.7	10.3	6.8	100.0
Manufacturing	17.3	29.1	13.3	40.3	100.0
Services	35.6	29.4	10.3	24.7	100.0
Total	**32.0**	**29.5**	**10.9**	**27.6**	**100.0**

Note: 1. The following businesses are excluded from the analysis: farms; self-employed insurance and finance agents, property ownership; clubs, churches and non-profit organisations; and non-trading and dormant companies

Source: Department of Statistics, NZ Business Patterns 1989

In the last two years (February 1987 to February 1989) employment has declined in both the primary and the manufacturing sectors in enterprises of all sizes, but particularly amongst the larger ones. The only major employment growth has been medium-size businesses in the service sector.

The *Prospects* forecasts (National Sectoral Programme 1988) suggest a continuation of this trend. They identify the trade/restaurants/hotels, finance/real estate/business services, and private services as the three major areas of new employment growth in the next decade. In all but one of these sectors a higher-than-average proportion of the business establishments are small. These small businesses provide a larger-than-average share of the total employment in that sector.

The small-business sector has often been identified as the prime provider of new jobs and policies, to support the development of new businesses are often advocated as a key solution to the problem of unemployment. However, there is mixed evidence on the contribution of the small business to new job creation.

Harper and Bollard (1985) undertook a major study of employment and business dynamics in the manufacturing sector in New Zealand. The period they studied — 1980-84 — was one of slight decline of employment in the manufacturing sector. They found that what was most important in terms of job changes was whether a firm was expanding or contracting, not whether it was starting up or closing down. Employment growth in expanding establishments did not follow a clear pattern, but rates appeared to be highest for small establishments in the six to ten employee range where there were some rapid expansions occurring, and also for large firms. On the other hand, employment loss was also highest in the smallest plants (see Infogram 2.16).

On this relationship between business size and employment generation, Bollard notes "that very small firms were certainly important for employment generation, but so too were some small-medium ones which were expanding rapidly". He adds that "we are left, then, with a picture of small firms being the seedbed of business, but we are still not altogether sure about how the fertilisation and growing process takes place". Dwyer et al (1985) are also hesitant in attributing growth in employment to either large or small businesses. "Over recent years, in the United States and elsewhere, a strong case has been built up around the job generation potential of small firms. The case is somewhat overstated."

Infogram 2.16

Small Firms in New Zealand — Selected Sectors

	% share of all businesses in sector	% share of total employment in sector
Wholesale trade	89	49
Retail trade	97	73
Hotels and restaurants	93	59
Real estate & business services	93	60
Personal services	99	85
All sectors average	**92**	**54**

Note: Small business is defined here as firms employing less than 20 persons (50 in manufacturing)

Source: Bollard 1988, Table 1.1

Thus we expect that during the next decade the New Zealand economy will still be a mix of large and small businesses. An increasing proportion of employment will probably be generated by small businesses; larger businesses too are likely to play a key role in employment creation.

Employment by region

Some industries, such as the wholesale/retail/restaurant/hotel sector, are spread fairly evenly across the country but most industries are concentrated in particular areas. For example, in March 1986 50% of all coalmining jobs were in Waikato, and 50% of all fruit- and vegetable-related employment was in Hawke's Bay. Infogram 2.17 illustrates this further for selected industries and regions.

Infogram 2.17

Employment by Selected Industries and Regions 1986

	Auckland	East Cape	Manawatu	Nelson	Canter-bury	West Coast
Agriculture/forestry fishing	13,725[1] 3.3[2]	5,400 23.7	6,828 13.3	7,008 22.2	10,302 6.6	2,364 15.5
Textiles	17,829 4.3	351 1.5	1,527 3.0	399 1.3	7,005 4.5	291 1.9
Machinery	35,631 8.51	924 4.05	2,247 4.37	1,204 3.81	11,220 7.20	393 2.58
Wholesale/retail trade/restaurants/ hotels	88,332 21.1	3,996 17.5	9,438 18.4	5,601 17.8	31,836 20.5	2,826 18.6
Finance/insurance/ real estate/business	43,971 10.5	1,224 5.4	3,177 6.2	1,782 5.6	11,637 7.5	600 3.9
Total employment	**418,560** **100.0**	**22,779** **100.0**	**51,393** **100.0**	**31,542** **100.0**	**155,625** **100.0**	**15,216** **100.0**

Note: 1. Actual numbers, full time and part time combined
2. Percentage of regions' employment

Source: Department of Statistics, Census of Population & Dwellings 1986

Employment growth in a particular region is often very dependent on employment outcomes in only one or two industries.

The increasing concentration of employment in service sector industries has brought with it an increasing concentration in the larger urban centres, particularly in the northern half of the North Island. By 1986 almost 75% of all employment was in the North Island and over 55% was in those regions with a major metropolitan centre. As Infogram 2.18 shows, the strongest growth in employment over the 1981-86 period was in the upper part of the North Island — Northland, Auckland, Thames Valley and Bay of Plenty.

Four predominantly rural regions showed employment decline during the period. Since 1986 the trend appears to have continued. Employment has continued to be concentrated in the Auckland region (28.2% to 29.2%), and to a lesser extent in Wellington (11.4% to 11.5%), whereas in Christchurch (11.7% to 11.5%) and the rest of New Zealand (48.7% to 47.8%) the share has declined (Household Labour Force Survey, 1986 and 1989 March quarters).

Infogram 2.18

Employment by Region 1981-86

	Numbers employed 1986	Employment growth 1981-86
Northland	58,227	19.5
Auckland	446,931	13.6
Thames Valley	26,193	11.2
Bay of Plenty	87,468	14.7
Waikato	110,784	7.3
Tongariro	19,113	2.9
East Cape	24,909	4.6
Hawke's Bay	66,009	5.4
Taranaki	51,309	6.8
Wanganui	31,803	1.8
Manawatu	55,950	2.6
Horowhenua	22,689	11.5
Wellington	174,999	4.0
Wairarapa	18,180	-0.1
Nelson Bays	33,375	11.2
Marlborough	17,787	11.9
West Coast	16,272	4.9
Canterbury	167,943	6.3
Aorangi	37,650	-0.1
Clutha-Central Otago	23,484	14.0
Coastal-North Otago	63,795	-1.2
Southland	50,442	-2.6
North Island	1,194,933	9.6
South Island	411,204	3.9
New Zealand	1,608,612	8.1

Source: "Diversity and Change: Regional Populations in New Zealand", Population Monitoring Group 1989

Since 1986, as economic restructuring began to affect manufacturing and the service sector as well as agriculture, employment growth has slowed in the metropolitan regions. Nevertheless the trend towards a greater concentration of employment in the metropolitan centres continues (see Infogram 2.19).

Infogram 2.19

Employment by Region 1986-89

	March 1986		March 1989	
	Employment (000s)	Share of total (%)	Employment (000s)	Share of total (%)
Auckland	435.4	28.2	428.3	29.2
Wellington	176.1	11.4	169.0	11.5
Christchurch	180.9	11.7	168.1	11.5
Rest of country	752.6	48.7	700.0	47.8
Total NZ	**1545.0**	**100.0**	**1465.5**	**100.0**

Source: Department of Statistics, Household Labour Force Survey

Although the *Prospects* employment forecasts are not available on a regional basis, it is likely that the net new jobs in agriculture, horticulture, forestry (including processing), mining and much of food processing, will be located outside the metropolitan centres.

A significant proportion of the additional manufacturing jobs, and most of the service sector employment, is likely to be based in the major urban centres. Much of the tourist related employment could be in smaller urban centres such as Rotorua and Queenstown.

Over 80% of the net new jobs to 1992, and 85% from 1992 to 1997, will be in service industries. Therefore, it is likely that the trends in employment by region observed over the past decade will not change significantly in the next decade, with increasing concentration of employment in metropolitan Wellington and in the top half of the North Island.

Summary

- Total employment in New Zealand expanded rapidly through from the 1960s to the mid 1980s, particularly in the early 1970s. The early 1970s rates of growth will need to be repeated over the next four to five years if unemployment is not to exceed present levels. Most forecasts suggest that employment growth at this pace will not be achieved easily.

- The long-term trend towards a greater concentration of employment in the service sector will continue. Forecasts suggest that wholesale and retail trade, business services and personal services will be the major employment growth areas over the next decade. Growth in these areas is likely to provide jobs with unconventional work hours, including more part-time work.

- There was a marked shift of employment from manual to non-manual work between 1976 and 1986.

- The occupations which have continued to grow as a proportion of total employment are those in administration and management, professional and technical workers, service workers and, in the last two years, sales occupations. At the same time the proportion in production and related occupations has declined. There are no occupational forecasts available but forecasts of employment by industry suggest a continuation of these trends.

- Over the last twenty years the number of people working part time has grown very rapidly. Less than one out of every ten workers was employed part time; by March 1989 it was almost one in four. Women, particularly those in the 30-44 age group, are the major source of part-time workers, although an increasing proportion of men are now working part time. The majority of part-time workers choose to work part time but there is a significant minority who would prefer to work full time but claim there is no suitable work.

- In the 1980s there has been a marked increase in the proportion of workers who are self-employed. In the last two years it has been the larger enterprises, particularly those in the manufacturing sector, which have shed staff whilst the only major employment growth has been in medium-size businesses in the service sector. The small business sector has often been identified as the prime provider of new jobs, and policies to support the development of new businesses are advocated as a key solution to the problem of unemployment. However, evidence suggests that whilst very small firms are important for employment creation, so too are those firms of all sizes which are expanding.

- The last decade has witnessed an increasing concentration of employment in the larger urban centres, particularly in the northern half of the North Island. It is likely that this trend will continue over the next ten years.

CHAPTER THREE

Unemployment

Introduction

We begin with a clarification of the various measures of unemployment available, and their strengths and weaknesses. A short account of the rise of unemployment levels through the last two decades is then followed by some discussion of likely unemployment levels over the next five years using available forecasts.

Unemployment is not evenly spread across all groups — we look at which groups are most likely to experience unemployment, particularly long-term unemployment. The final section looks at government policies which are aimed at providing direct assistance to the unemployed, and we review changes in the balance of these policies.

Alternative measures

There are three basic sources of data which can be used to measure unemployment. Each of these sources makes available a number of alternative unemployment measures. This section discusses the differences between the measures and the advantages and disadvantages of each.

Registration measures

The Department of Labour publishes data from its register of unemployment on a monthly basis. Only those who are available for, and are seeking, full-time work can be registered as unemployed. Some of these people will already have part-time work. Individuals not eligible for the unemployment benefit may register, but evidence from other unemployment sources shows that many of those who want work but do not qualify for the unemployment benefit — perhaps because they are above pensionable age, have a principal income earning partner, or have voluntarily left a previous job — do not register.

The major advantages of the registration measure are its monthly availability, the fact that the data have been collected over a long period of time, that it is the only published source of data recording duration of unemployment, and the extent to which it is an approximate measure of the direct fiscal costs of unemployment. The major disadvantages of the measure are that it includes many people who are underemployed rather than unemployed; it excludes those unemployed people who seek part-time work rather than full-time work; and it also excludes many of those who seek full-time work but have alternative forms of income support.

The numbers of people on publicly funded or subsidised job creation and skills training programmes is sometimes added to the number of registered unemployed to give a better estimate of those who are unable to find full-time employment. This measure, however, has the same limitations as the registration measure itself.

Household Labour Force Survey measures

The Household Labour Force Survey (HLFS) is conducted by the Department of Statistics on a quarterly basis. From it a number of different measures of unemployment can be derived.

The 'official' measure of unemployment, which is derived from the Household Labour Force Survey, conforms closely to the international standard definitions specified by the International Labour Organisation. People are classified as being without a job if they did not work for an hour or longer in the previous week. People are 'officially' unemployed if, and only if, during the survey week they were without a job, were actively seeking work, and were available to start work immediately. This measure is the most useful one for international comparison of unemployment rates.

However, the official measure excludes a large number of people who want employment. Not everyone who wants to work is available to start immediately — they may well have to get out of other responsibilities and commitments. People who are passively, rather than actively, seeking employment — looking through the newspaper, for example — are not included. Some people may not seek work because they believe they lack the right skills, are the wrong age, or that suitable work is not available in their area— this group is commonly referred to as 'discouraged workers'. None of these job seekers or discouraged workers are included among the officially unemployed. The key problem is the relationship between job seeking and job prospects. In times when it is difficult to find work, some people will become less active in their search for a job, and more likely to become involved in other activities. The official measure of unemployment, therefore, seems too restrictive.

An alternative HLFS based measure, which is now being used more frequently, is the 'jobless' measure. This includes all those people seeking work, either actively or passively,plus all those people who are available for work but are not seeking it. This very broad measure has the disadvantage that, by including all those who are available for but not seeking work, it includes some people who may not have a strong interest in employment, such as some retired people.

The jobless measure, therefore, is a little too broad a definition of unemployment. A somewhat more restricted measure, which includes all job seekers plus all discouraged workers, is preferable. For lack of a better name we will call this the 'Employment Working Group (EWG) unemployment rate'.

Infogram 3.1 gives a comparison between the three HLFS based measures of unemployment — the official measure, the jobless measure and the EWG rate. A major disadvantage with all HLFS based measures is the fact that the Survey only began late in 1985. Medium-term comparisons cannot be made using this measure. In addition, because it is a sample survey, it does not yield reliable data for small subgroups of the population. For example, it could not give reliable information on the unemployment of Maori women in Whakatane.

Census measure

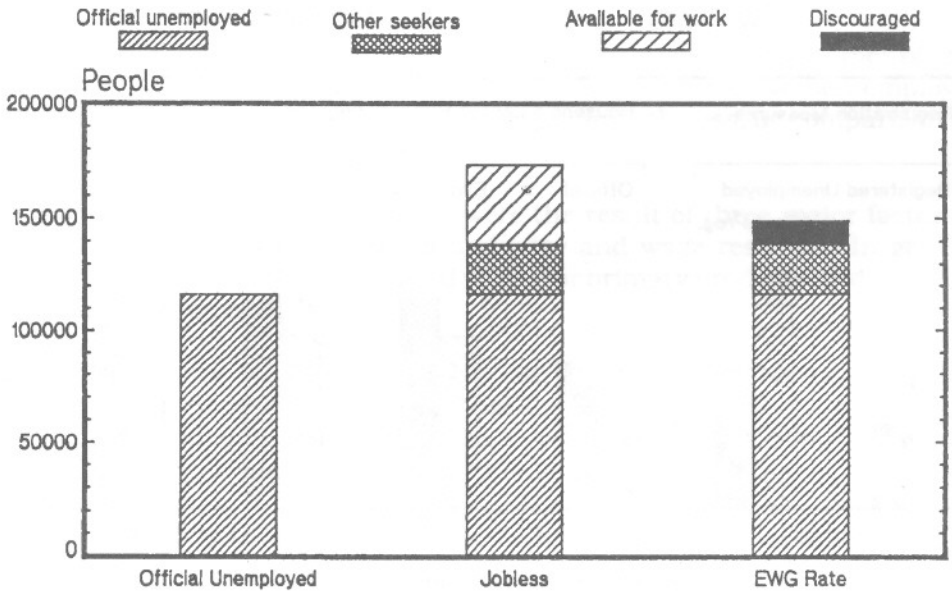
The Census of Population and Dwellings is conducted by the Department of Statistics once every five years. The measure of unemployment derived from the Census has two major advantages over other data sources. It covers the whole population and thus readily allows for analysis of relatively small subgroups of the population, and it collects data on a host of variables and thus allows extensive analysis of their interrelationships. Its two major disadvantages are infrequency (once every five years), and the fact that it is self-administered, which casts some doubt on the accuracy of responses.[1]

[1] Before 1986 people without a job and seeking part-time work were not classified as unemployed in Census data. The 1986 Census includes both full- and part-time workers without a job, and seeking work, as unemployed.

Infogram 3.1

Comparison of Three HLFS Based Measures of Unemployment

March 1989 quarter



Source: Department of Statistics, "NZ Labour Force"

Comparison of unemployment measures

Infogram 3.2 compares the Census measure, the registration measure, and the three HLFS measures discussed above, ordered from most to least restrictive. The Census measure and the jobless measure give a similar picture both in terms of absolute numbers and in terms of the gender balance of the unemployed. In March 1986 the smallest measure was the registered unemployed — this measure typically shows the smallest proportion of women unemployed. The proportion of the unemployed who are women increases as we move from restricted definitions to wider ones — from 35% of the register, through 50% of the official unemployed, to 56% of the Census unemployed, and 58% of the jobless. The preferred measure, the EWG rate, lies between the official measure and the Census measure.

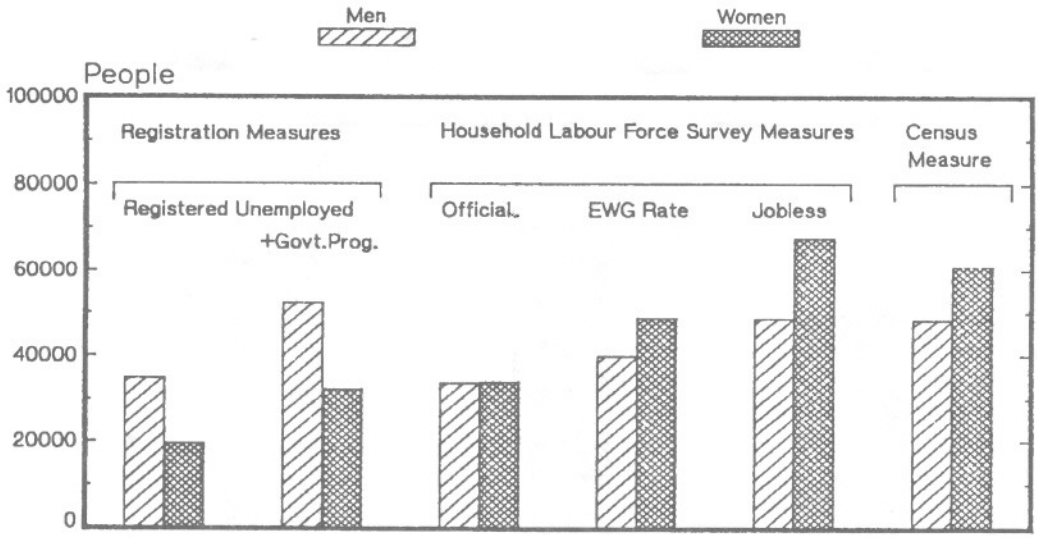
The relationship between the measures is not constant over time. In 1989 the number of registered unemployed exceeded the number of official unemployed — the reverse of the March 1986 situation. The change of relative positions in this case is probably mostly a reflection of the fact that in 1986 considerably more people were employed on government-funded and subsidised work schemes than today.

The three HLFS measures move very much in parallel, with the official measure giving the lowest estimate of unemployment, and the jobless the highest.

Most of the unemployment data used in this report will not be the preferred HLFS EWG rate, simply because although the data are collected, little is published in this form. Readers need to keep reminding themselves of the limitations of the other measures used.

Infogram 3.2

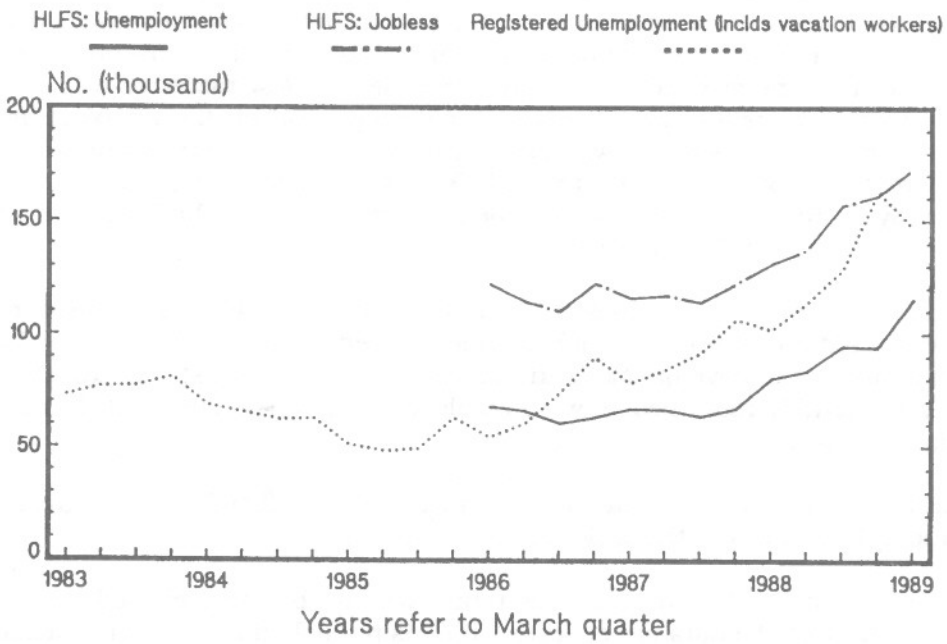
Unemployment in March 1986 – Comparison of Measures



Source: Department of Labour, Department of Statistics

Infogram 3.3

Measures of Aggregate Unemployment
1983 - 1989



Source: Department of Statistics, Department of Labour

Historical

The years from the end of the great depression in the 1930s to the mid 1970s are now often remembered as 'golden years' of full employment.

It is likely, however, that the low unemployment figures of the period excluded many rural Maori who, during spells of unemployment, were much less likely to register as unemployed than their urban Pakeha male counterparts. The figures also conceal some unemployment of women at times during the period — for example, a fall of 2,900 in the number of women employed in 1951-52 hardly showed on the official unemployment figures. Nevertheless, by comparison with the 1970s and 1980s there was little unemployment.

The high employment levels of that period were the result of three major factors — favourable export conditions, protection of domestic industry and wage restraint. In general, the 1940s through to the mid 1970s were times of good prices for primary products and New Zealand enjoyed ready access to overseas markets.

In addition, a programme of industrial protection, instituted as a means of maintaining foreign exchange control and diversifying New Zealand's primarily agricultural economy, also aimed to maintain high employment levels. Industries were assessed according to New Zealand 'value added' — a policy supported at the time by unions, politicians and manufacturers.

Wages were regulated by the Industrial Conciliation and Arbitration system. This ensured that wage increases in that sector of the economy sheltered from foreign competition were non-inflationary, despite tight labour market conditions. Minimum wages for men were set at a level intended to be adequate to support a wife and three children. Wages paid to men were considerably higher than those paid to women.

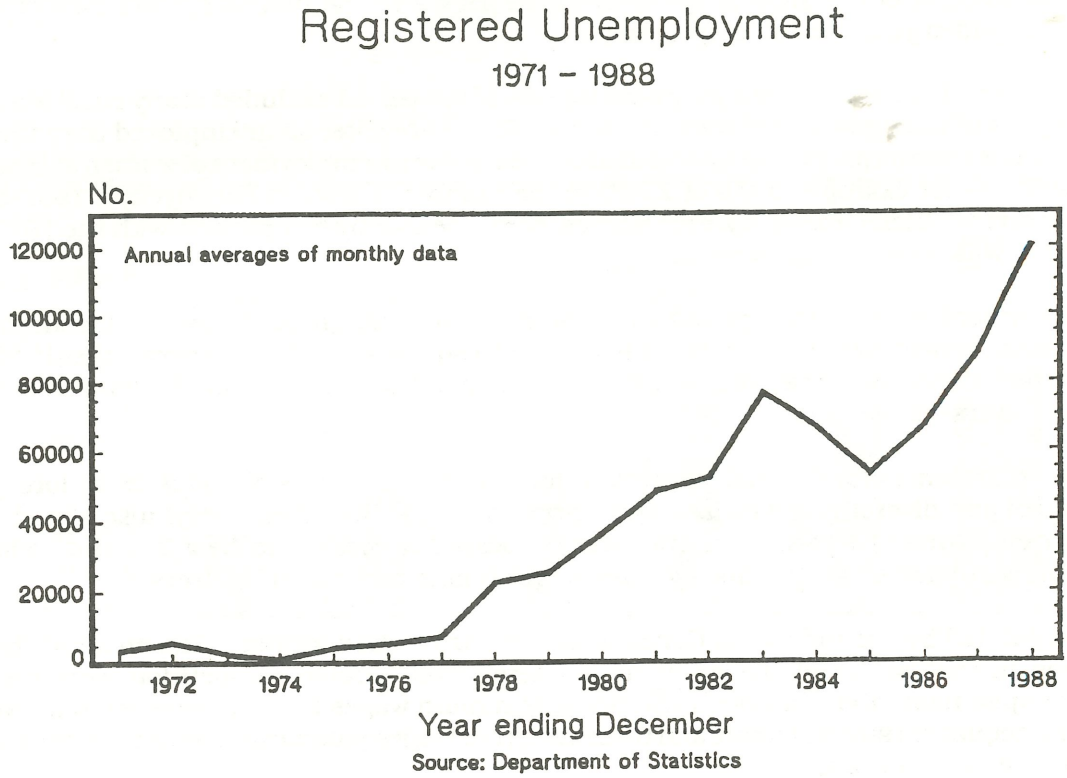
The policies outlined above achieved both a high level of employment, particularly for Pakeha men, and a stable employment structure. Because of the stability of the employment structure, labour market policy concentrated on the management of assisted immigration policy to meet specific skill shortages.

In the 1970s and early 1980s New Zealand's terms of trade deteriorated rapidly and these traditional tools of management proved unable, as in many OECD nations, to stem the tide of rising unemployment. The Industrial Conciliation and Arbitration system, which had succeeded in restraining wage increases and maintaining the export sector's income share, broke down. Import reliance remained high despite the development of import substituting industries — an overvalued exchange rate implied that industries dependent on imported inputs were likely to be more profitable than those using indigenous raw materials.

Census data show unemployment was less than 2% of the workforce from 1945 through to 1971, and then it rose rapidly to reach almost 7% by 1986. Registered unemployment data gives a similar picture, although until the mid 1970s, it probably understated unemployment. From the mid 1970s the number of registered unemployed increased very rapidly, except in the years 1984-86 see Infogram 3.4.

The steady increase in unemployment through the late 1970s and the early 1980s was accompanied by steadily increasing external and internal debt. In the early 1970s New Zealand's net external debt was close to zero but grew very rapidly later in the decade and in the early 1980s; by 1985 it was close to 70% of gross domestic product. Over the same period the government's net financial balance deteriorated from approximate balance in the early 1970s to a deficit of around 7% of government spending in 1984. This substantial borrowing, both external and internal, had the short-term effect of buoying up the levels of economic activity. It is significant then that unemployment rose rapidly from the mid 1970s through to the mid 1980s, despite levels of economic activity maintained to a significant degree by substantial borrowing.

Infogram 3.4



By the early 1980s, as a result of this borrowing, external and internal debt had reached unsustainable levels. Further borrowing in order to sustain the level of economic activity was no longer possible. Since 1985 one of the major objectives of economic policy has been to reduce New Zealand's levels of internal and external debt. This has necessarily constrained income growth and, in the absence of sufficient flexibility in the labour market to accommodate this, increased unemployment.

Since the mid 1980s, by any measure, unemployment has risen significantly, particularly from late 1987 through 1988. In 1989 unemployment levels appear to have reached a plateau.

Prospects for employment

There is widespread variation in the forecasts of the likely trends in unemployment over the next few years.

The *Prospects* (National Sectoral Programme 1988) forecasts predict a slow rate of growth of gross domestic product through to 1992 and a consequent modest increase in employment — insufficient, however, to accommodate the faster growing labour force. After 1992 stronger economic growth, coupled with a reduction in the number of new entrants to the labour force, leads to a falling unemployment rate, estimated to be around 4.5% by 1997. By contrast, the Reserve Bank expects employment growth to pick up in 1990, and unemployment to peak at around 8.5% of the labour force and to fall back to 8% by March 1991.[2]

[2] Economic Forecasts, Reserve Bank of New Zealand, August 1989.

The Institute of Economic Research's September 1989 forecasts anticipate that unemployment will remain at around 7% of the labour force through 1989/90. Beyond 1990 they anticipate a gradual fall to around 6% in 1992/93. They note two particular forecasting difficulties, the first being the difficulty of assessing when the employment decline in manufacturing industries will stop — their estimate is 1989. In addition it is difficult to assess the impact that the expected economic growth this year will have on employment levels. After a recessionary period there is generally a time lag between when growth in output resumes and when employment levels begin to increase. This is because economic growth is likely at first to involve utilising excess capacity and even in the longer term may be achieved through increased labour productivity. Thus increased output is unlikely to imply immediate or proportionate increases in employment levels.

Treasury's mid-range forecasts (November 1988)[3] expect a small increase in unemployment in 1989/90, and some modest employment growth in 1990/91 sufficient only to broadly match increases in labour supply. Hence no significant decline is expected before 1991/92. Their optimistic scenario, assuming relatively strong growth in private sector employment, implies a fall in registered unemployment to around 125,000 in March 1991. The pessimistic scenario assumes higher levels of job loss in all sectors, a continued fall in labour-force participation rates, and registered unemployment remaining at around 160,000 in 1990/91.

The two medium-term forecasts thus both expect unemployment rates to remain at around 6% (Household Labour Force Survey) until 1992. This is in line with the Treasury forecasts and is not inconsistent with those of the Reserve Bank. Available forecasts thus suggest that unemployment will remain at historically high levels for at least another three to four years.

Who are the unemployed?

In the March quarter of 1989 7.4% of the labour force was unemployed (Household Labour Force Survey official measure). If this was spread evenly across the population, then each member of the labour force would be unemployed for about 3.8 weeks of their working year.[4]

A period of four weeks reduced income would be clearly noticed by nearly all workers, not to mention the loss of routine, the uncertainty, and the reduced confidence with which unemployment is usually associated.

In reality, however, all members of the labour force are not equally likely to be unemployed, and the costs of unemployment for some individuals and groups are much higher than for others. Suzanne Snively (1988) noticed as an undergraduate student in the United States, at a time of 'full employment' in the 1960s, there was "very little unemployment amongst my well-to-do-neighbours in carefree Arizona or amongst my university student peers but ... [there were] unemployment rates in excess of 10% in the black neighbourhoods of Portland and Chicago".

In New Zealand today youth unemployment is high, particularly for those in the 15-19 age group but also for those in the 20-24 age group.

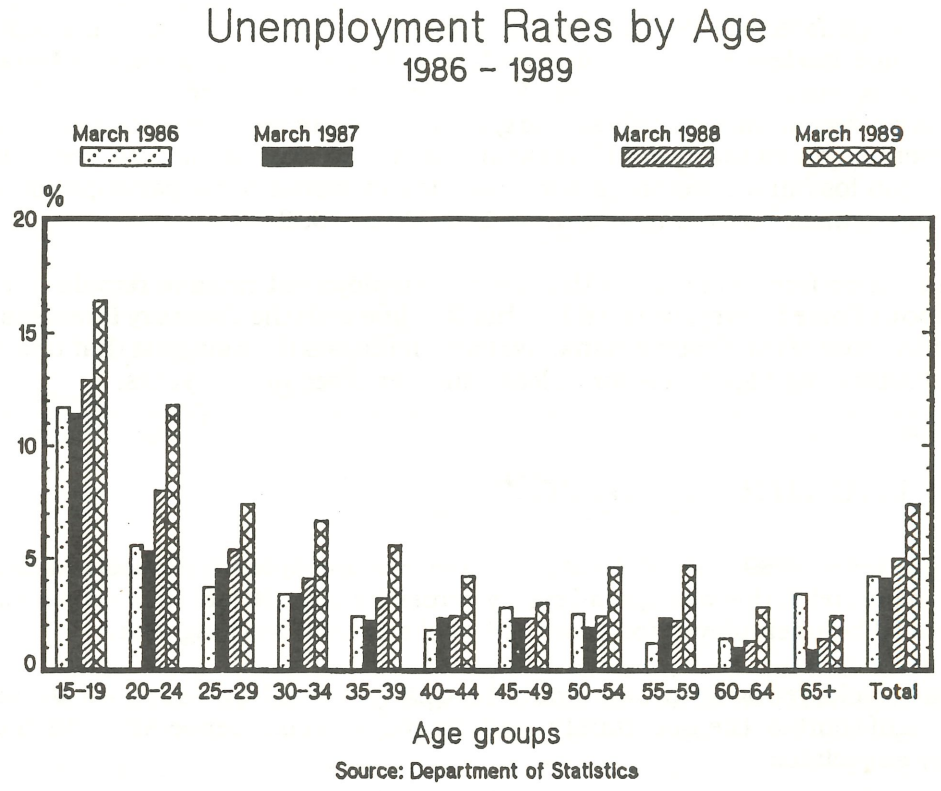
Young workers change jobs more frequently and are in the process of transition from full-time education to full- or part-time in the workforce. It is therefore to be expected that unemployment rates for young workers will be higher than for their older counterparts. However, such an explanation is certainly insufficient to account for the recent unemployment rates of over 16% for that group. Recurrent spells of unemployment for a sizeable proportion of young people may disadvantage many of them for years to come and may risk some becoming 'unemployable'.

[3] Unemployment Projections, The Treasury, November 1988.

[4] Using the EWG unemployment rate this increases to 4.9 weeks.

As Infogram 3.5 shows, unemployment for those of older ages has also risen very substantially in the past year, and in fact the proportion of the unemployed who are older has risen in the last few years. This is accounted for mainly by the reduction of the labour force in the manufacturing sector. Thus teenage employment as a proportion of total unemployment has fallen between 1986 and 1989, whereas that of workers aged over 35 has increased (see Infogram 3.6).

Infogram 3.5



Source: Department of Statistics

Unemployment rates are significantly higher for those in the labour force with no, or minimal, educational qualifications (see Infogram 3.7).

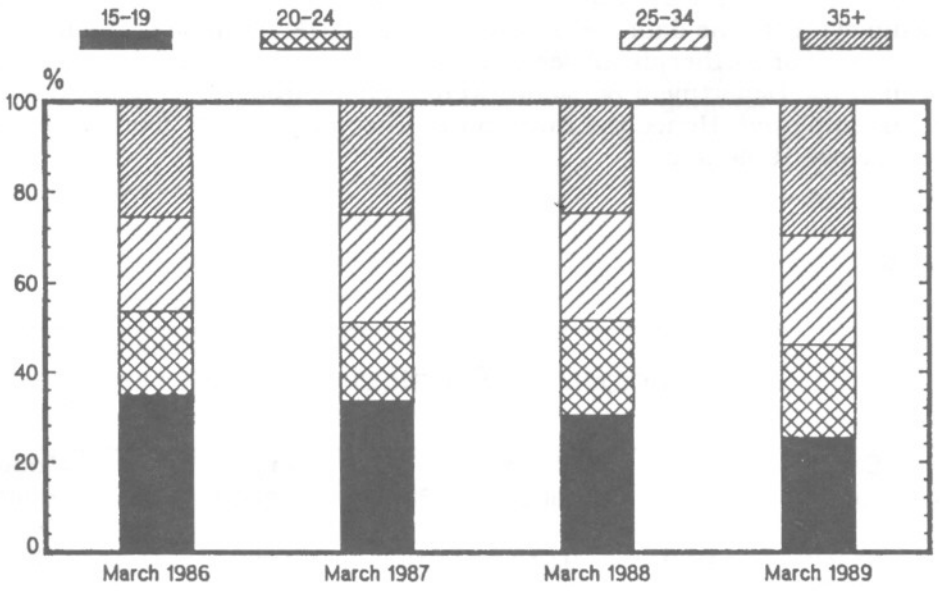
Maori are more likely to be unemployed than non-Maori. As far back as the 1960s, Maori were at least three times as likely to be unemployed as non-Maori, and this is still true today.

About half of the difference between Maori and non-Maori unemployment rates can be attributed to the younger age structure, or the lower average educational levels, of Maori workers. The concentration of Maori workers in industries and occupations which, over the last ten years have grown slowly if at all, is another factor. (See Chapter Four.)

Since the mid 1980s unemployment rates have risen more strongly for men than for women. The unemployment rate for men, using the Household Labour Force Survey official definition, is a little higher than that for women (7.5% against 7.1% in the March 1989 quarter). However, inclusion of all job seekers, plus discouraged workers, in the unemployed gives an EWG unemployment rate of 9.8% for women and 9.1% for men. Thus, using a broad definition, women are more likely to be unemployed than men although the difference is not large. (See Chapter Five.)

Infogram 3.6

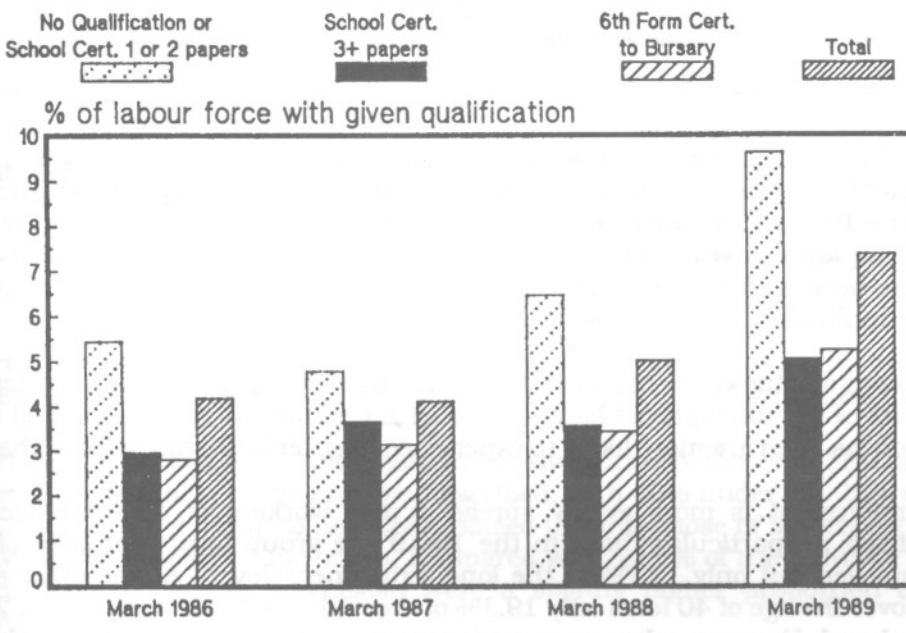
Shifts in the Age Composition of the Unemployed
1986 - 1989



Source: Department of Statistics

Infogram 3.7

Unemployment Rates by Highest School Qualification
1986 - 1989



Source: Department of Statistics

Long-term unemployment

As unemployment has risen over the last few years, so too has the average duration of unemployment.

The most accessible data on the duration of unemployment are from the Department of Labour's register of unemployment. The data are of poor quality, partly because of the limitations of the registration measure (for further detail see p.33). In addition, until 1989, people missing their regular check-in at the Department of Labour were dropped from the register, only to reappear later as newly unemployed. Hence the duration of unemployment is likely to be significantly understated in the pre 1989 data.

Infogram 3.8

Unemployment Duration 1981-89

	Short duration[1]	%	Medium duration[1]	%	Long duration[1]	%	Total unemployed
June 1981	31,271	64.9	9,643	20.0	7,262	15.1	48,176
June 1982	32,638	67.2	8,524	17.6	7,384	15.2	48,546
June 1983	47,134	59.7	17,797	22.5	14,046	17.8	78,977
April 1984	40,682	59.9	13,823	20.4	13,340	19.7	64,845
June 1985	33,457	66.9	9,725	19.4	6,833	13.7	50,015
June 1986	39,757	63.8	13,250	21.3	9,280	14.9	62,297
June 1987	49,860	57.3	16,427	18.9	20,670	23.8	86,957
June 1988	67,734	57.7	20,381	17.4	29,227	24.9	117,342
June 1989	57,677	38.9	24,306	16.4	66,408	44.7	148,391

Note: 1. Duration: Short = less than 13 weeks; Medium = 13 to 26 weeks; Long = more than 26 weeks; % of total
2. Persons 60 years and older and vacation workers not included

Source: Monthly Employment Operations, Department of Labour

About half of the large increase in the incidence of long-term unemployment between June 1988 and June 1989 can be attributed to data improvement, and half to a real increase. The improved data, and the June 1989 figure in particular, are a cause for serious concern — close to 45% of the registered unemployed have been so for at least six months, of these over 30,000 or 20% of the unemployed, have been so for at least one year. The Household Labour Force Survey provides alternative but unpublished data on unemployment duration (see Infogram 3.9).

This measure shows a somewhat smaller but still very significant number of long-term unemployed. Almost half of the unemployed had been so for more than three months, and a third for more than six months. Men are more likely to experience long-term unemployment than women.

Long-term unemployment is more evenly spread across workers of different ages than is unemployment itself. In particular those in the 15-19 age group form over 20% of the total registered unemployed but only 11.7% of the long-term unemployed. At the other end of the spectrum those over the age of 40 form only 19.1% of the registered unemployed but 27% of the long-term unemployed. However, when compared with each group's proportionate share in the full-time workforce it is clear that for the long-term unemployed, as well as the wider group of all unemployed, the burden falls disproportionately on those under 25, particularly those under 19.

Infogram 3.9

Duration of Unemployment March 1989
(000s)

	Short duration[1]	%	Medium duration	%	Long duration	%	Total unemployed[2]
Men	27.6	45.7	9.4	15.6	23.3	38.6	60.3
Women	23.0	57.0	5.9	14.6	11.4	28.2	40.3
Total	50.6	50.2	15.3	15.2	34.7	34.4	100.6

Note: 1. Duration as for Infogram 3.8
2. Excludes those who didn't specify duration

Source: Evans, S.D. 1989

Infogram 3.10

Registered Unemployment, Long-term Unemployment and Full-time Employment by Age

	% of group				
Age	15-19	20-24	25-29	30-39	40-59
Long-term unemployed (26+ weeks) June 1988	16.9	22.6	16.6	20.7	23.2
All registered unemployed June 1989	21.8	23.5	16.2	19.2	19.1
Full-time labour force (HLFS March quarter 1989)	9.5	15.0	14.4	25.1	35.7

It is important to note that whilst young people have higher rates of long-term unemployment, the majority (60%) of the long-term unemployed are over 25, and almost a quarter (23.2%) are over 40.

The Department of Labour (1988) did a comprehensive survey of the long-term unemployed. They found a similar age profile to the one just described, with 40% under 25, 25% over 40 and 10% over 50. They found the group to be heavily biased towards those of Maori descent — 42% were Maori or Maori/European ethnic origin, compared with 10.5% of the full-time workforce in the same period. Pacific Island Polynesian were a slightly higher proportion of the long-term unemployed than of the workforce.

Almost half of the long-term unemployed had left school at age 15 and an estimated 70% had no educational qualification. They were much more likely to have been previously employed in the primary sector (15%) or manufacturing (33%) than the workforce as a whole. Many had no previous work experience (20%).

Three-quarters of the group wanted to undertake further training; this was less so for the older members. Almost half of the group had taken part in at least one training scheme for unemployed workers. Most of the group were geographically immobile — of those over the age of 50 only 15% could move to find a new job, of those aged 20-24 41% were willing to shift to a new town.

There was considerable regional variation in the composition of the long-term unemployed. For example, in Whangarei there were many skilled tradespersons in the group, whereas in Manukau City most long-term unemployed had no educational qualifications and many had literacy problems.

Programmes to assist the unemployed

The community, acting through central government, currently accepts the responsibility for the financial support of those unemployed who have no alternative means. There is clearly room for debate on what constitutes alternative means and on the incentive effects of various schemes of income provision, but the central thrust seems well accepted.

More difficult issues arise from the provision of programmes for the unemployed. Since the mid 1970s there have been a variety of policy responses to programme provision. The present provision is in marked contrast to that of the 1930s when the government placed heavy emphasis on special work schemes to support the unemployed, so that registered unemployment never rose above 4% of the workforce. This stands in sharp contrast to the June 1989 situation, when the Department of Labour reported no workers on fully subsidised employment schemes, around 8,000 on partly subsidised employment, around 20,000 on ACCESS training and a further 148,000 on unemployment benefit.

From the mid 1970s the rapid expansion of unemployment was initially split fairly evenly between the registered unemployed and subsidised work schemes, but in the 1980s the subsequent increase fell almost entirely on the registered unemployed. From 1986 there has been a phasing-out of fully subsidised employment and a cutback in partially subsidised jobs, leaving the majority of the unemployed on the register.

A variety of different subsidised employment schemes and job training programmes were tried in the 1970s but after 1984 there was a sharp change of focus in the design of such schemes, away from subsidising employment towards improving the life and vocational skills of the unemployed through the ACCESS and Maori ACCESS schemes. In the past year there have been some small moves towards benefit supplemented employment, particularly for the young (Conservation Corps) and the long-term unemployed (Restart), and an increase in the flexibility and uptake of the partial subsidy Job Opportunities Scheme.

The present emphasis on labour market training and the very limited subsidisation of employment reflects the view that government subsidisation of employment redistributes rather than creates additional employment, although given the high incidence of unemployment amongst certain groups this may be a sufficient objective. There is evidence, however, that subsidised employment can create additional jobs. Clearly with unemployment levels of the present magnitude, such subsidised employment initiatives would need to be on a very large scale to reduce unemployment even to below the level of 100,000 registered unemployed.

The prospect of unemployment remaining at around 6% of the labour force for the next three to four years at least indicates the continuing need for employment programmes. The increasing proportion of long-term unemployed accentuates this need.

Rose (1986) argues that cost effective provision should be made for as wide a range of programmes as possible including employment subsidies, training programmes, and direct employment in community and public works programmes. Further, he argues that there should be a community commitment to providing places for a definite proportion of the unemployed. The community he refers to would probably be seen by most as central government, but there is room for debate on the appropriate balance of roles between central and other levels of government and community groups. The issues of the appropriate quantity and diversity of employment programmes, and the balance of responsibility between different levels of community, clearly merit ongoing debate.

Summary

- There are various alternative measures of unemployment. The Household Labour Force Survey (quarterly, Department of Statistics) gives the best measures. Of these, the 'official' measure is the most commonly used but is restrictive. A better measure is the 'EWG rate' which includes all job seekers plus all 'discouraged workers'. Other sources are the Census measure (five-yearly) and the monthly registration measure (the number of people registered with the Department of Labour seeking full-time work).

- From 1945 to 1971 less than 2% of the workforce was unemployed. From the mid 1970s the number of unemployed increased very rapidly except between 1984 and 1986. In 1987 and 1988 unemployment rose rapidly but appears to have levelled out in 1989.

- Available forecasts suggest that unemployment rates will remain at around 7% (HLFS official figure) until 1992. After 1992 stronger economic growth, combined with a reduction in the number of new entrants to the labour force, is likely to lead to a falling unemployment rate — around 4.5% in the late 1990s.

- Young people, especially those aged 15-19 and 20-24, have much higher rates of unemployment than other age groups. Although unemployment rates are still much higher for youth the proportion of the unemployed who are older has risen in the last few years.

- Maori are about three times as likely to be unemployed as non-Maori. Unemployment is also significantly higher for those who have no or minimal educational qualifications. Women are more likely to be unemployed than men although the difference is not large.

- Close to 45% of the registered unemployed have been so for at least six months, and 20% for at least one year. Most of the long-term unemployed are over the age of 25 and almost a quarter are over 40. One study showed that over 40% of the group were of Maori descent.

- After 1984 government policy moved away from subsidised employment schemes towards life and vocational skills training through ACCESS and Maori ACCESS schemes. In 1989 there have been some moves towards increasing benefit supplemented employment particularly for the young and the long-term unemployed. The partial subsidy Job Opportunities Scheme is now more flexible and is utilised increasingly.

- The appropriate quantity and diversity of employment programmes and the balance of responsibility between different levels of the community clearly merit ongoing debate.

CHAPTER FOUR

Maori Employment

Introduction

The intention of this chapter is to identify key differences in the employment patterns of Maori and non-Maori, reasons for the differences, and their implications. An assessment of the prospects for Maori employment in the future follows.

Much of the content of this chapter compares Maori with non-Maori. Neither are a homogeneous group but, for the purposes of this analysis, they are treated as such.[1]

Some of the observed differences in employment patterns between Maori and non-Maori are closely related to demographic differences between the two populations. The next section briefly describes those differences which have most effect on employment patterns.

Demographic trends and projections

Over the last twenty years the Maori population has grown much more rapidly than the non-Maori population. Between 1981 and 1986 the Maori population grew by 5.2%, that of non-Maori by 2.1%. The Maori population thus has a much more youthful age structure than the non-Maori population. As young people are more likely to be affected by unemployment, in times of high unemployment, this has a heavy impact on the Maori people.

In addition, a somewhat higher proportion of Maori than non-Maori live in rural areas (21% to 16%) where employment growth has been slower. The Maori population is expected to continue to grow more rapidly than the non-Maori population. Over the next twenty years the Maori population is expected to grow by around 36%, that of non-Maori by around 15%. Although both populations will be ageing the Maori population will continue to be much more youthful than that of non-Maori.

An increasing proportion of new entrants to the labour market will be Maori, and will continue to be at risk of high unemployment.

[1] Over the years several different definitions of Maori have been used for data collection purposes. These range from measuring that population which has a certain proportion of Maori blood, to measuring those who identify socially and culturally as Maori. Data in this chapter, unless otherwise stated, use a broad definition of Maori — that is the 1986 Census "New Zealand Maori Origin or Descent" measure and the pre 1986 "NZ Maori Descent" measure which appears close enough to be comparable. A useful table giving comparison of 1986 and earlier Census defined measures of the Maori population appears in the Census of Population and Dwellings 1986, Series C Report 9, p.12. For further discussion on the conceptual and technical difficulties of defining and measuring who is Maori, readers are referred to Pool and Pole 1987.

The Maori working-age population will increase by about 35% between 1986 and 1996. Over the same period the non-Maori working-age population will increase by around 6%. Thus it is expected that Maori will comprise around 12% of the labour force by 1996 and that this share will be concentrated in the young labour force.

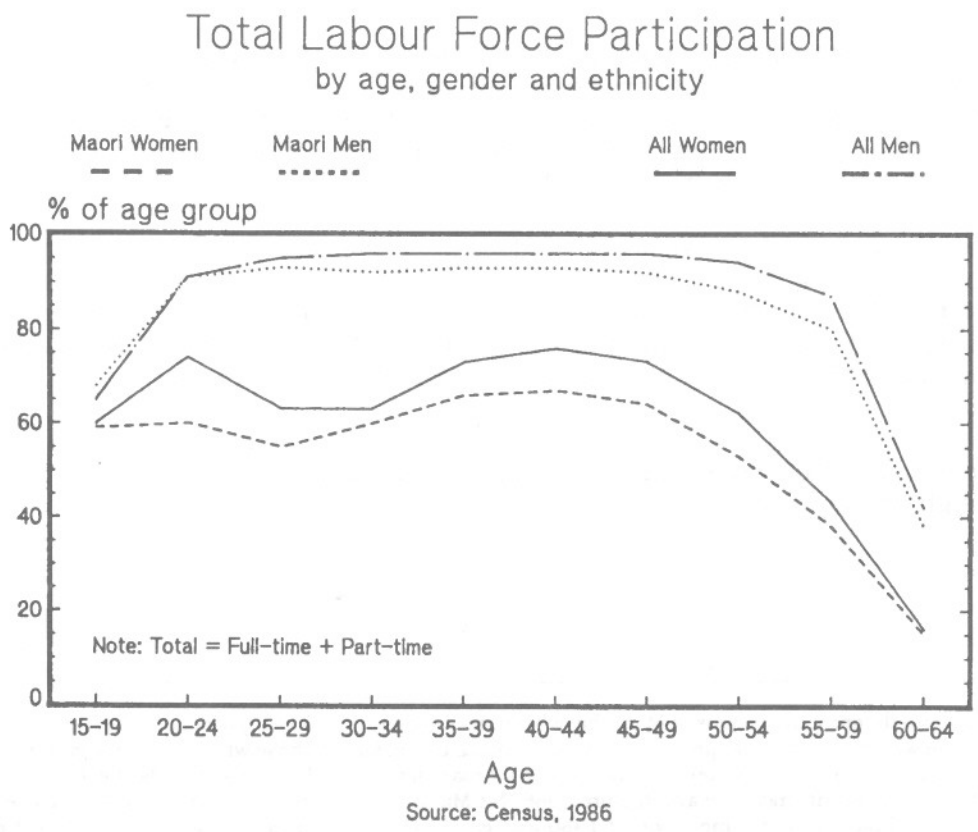
By 1986 Maori were 9.5% of the total labour force, compared with 5% in 1961. During this time the Maori labour force more than doubled from around 47,000 to around 100,000. In the corresponding period the non-Maori labour force increased by 54%.

Participation rates

Except for the teenage years, Maori are less likely to be in the labour force than non-Maori. This difference is more marked for women, particularly those in their twenties, and also for women in their thirties and forties (see Infogram 4.1).

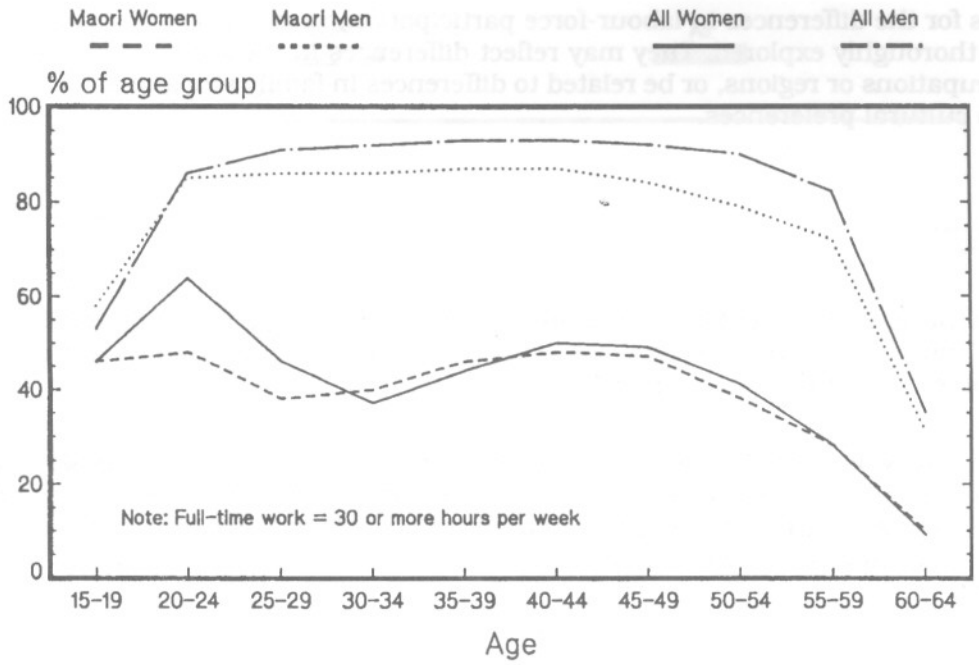
Except in their teens, Maori men are more likely to work part time and less likely to work full time than all New Zealand men. The reasons for this are unclear, but it is probable that many Maori men are working part time due to the unavailability of full-time work. The reversal of this pattern in the teenage years is associated with the much smaller proportion of young Maori continuing with formal education beyond the age of 15 (see Infograms 4.2 and 4.3).

Infogram 4.1



Infogram 4.2

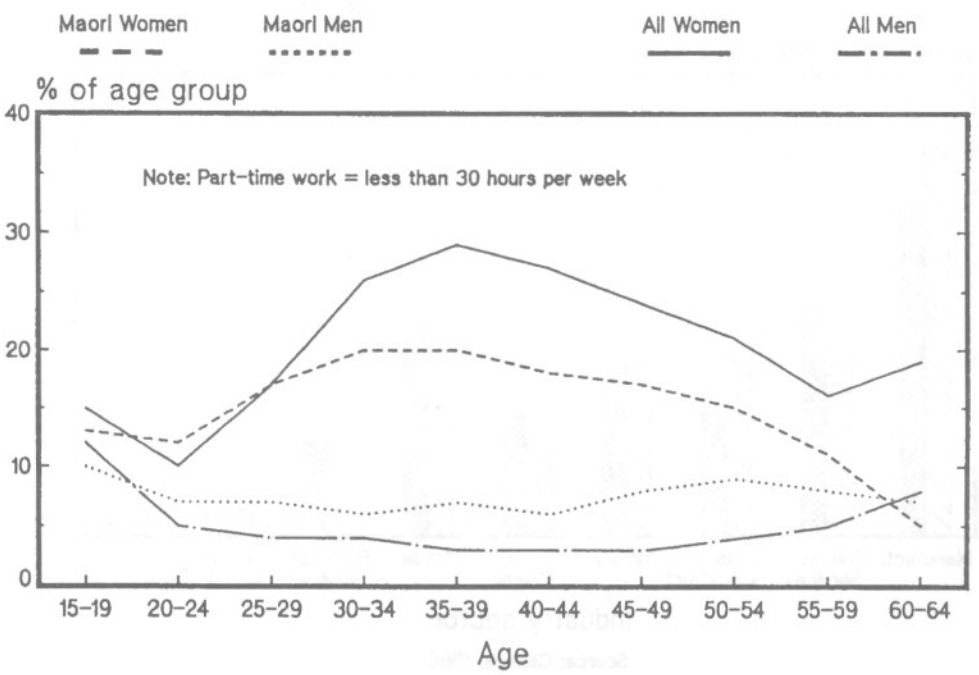
Full-time Labour Force Participation
by age, gender and ethnicity



Source: Census, 1986

Infogram 4.3

Part-time Labour Force Participation
by age, gender and ethnicity



Source: Census, 1986

For women, full-time labour-force participation patterns for Maori and non-Maori are very similar, except for women in their twenties. Maori women are much less likely to work full time in their twenties — this is associated with the generally younger age of Maori women at the birth of their first child. Maori women in their thirties and beyond are much less likely than non-Maori women to work part time.

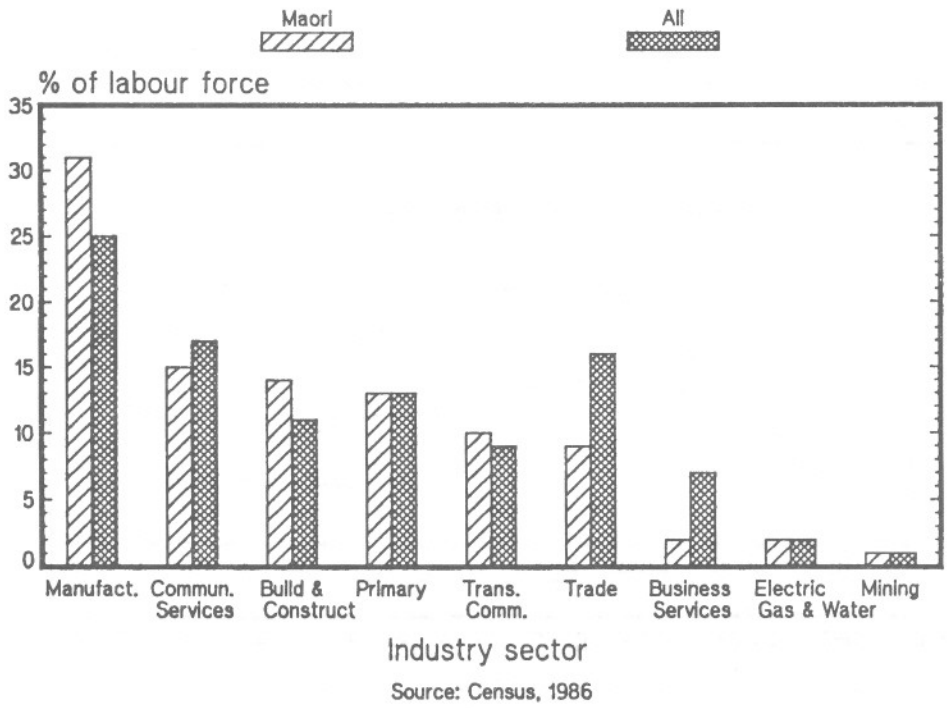
The reasons for the differences in labour-force participation rates between the two groups have never been thoroughly explored. They may reflect differences in the supply of work in different sectors, occupations or regions, or be related to differences in family size and structure, or more generally to cultural preferences.

Industry

At the broad industry level the Maori workforce is distributed in a pattern quite similar to that of non-Maori. Differences at this level between the two groups are much less than those between men and women, whether Maori or non-Maori.

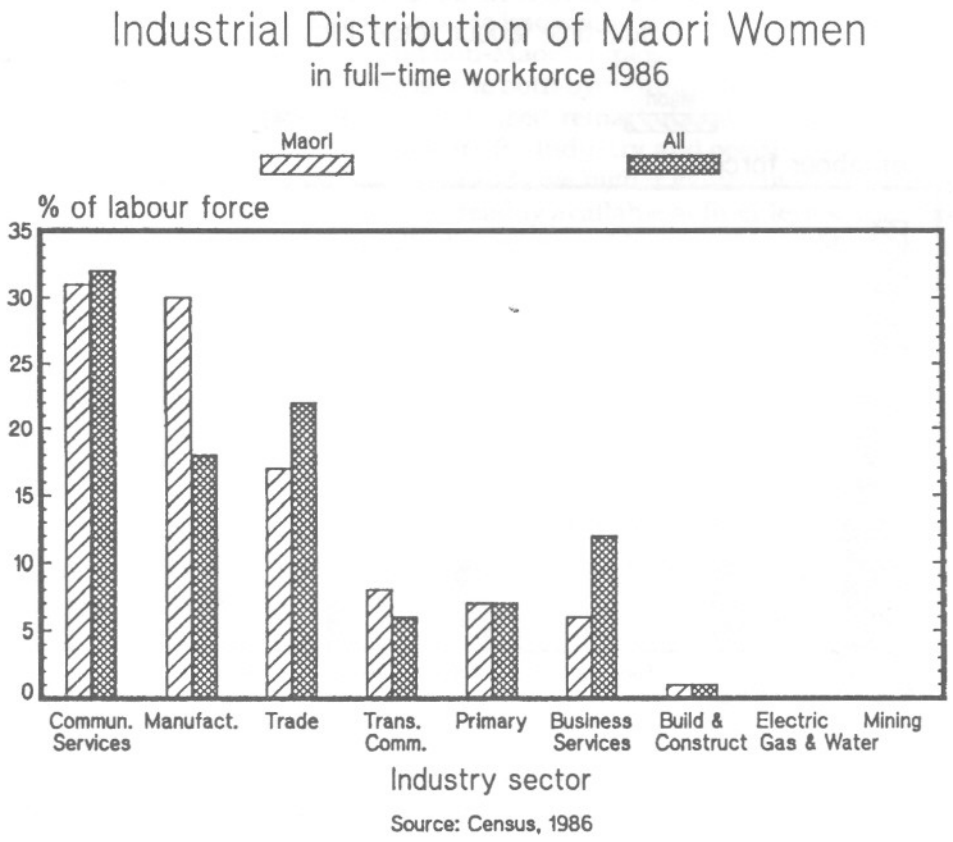
For both men and women the patterns of employment by industry are similar for Maori and non-Maori. The most notable differences are that Maori, particularly Maori women, are more likely to work in the manufacturing sector and less likely than non-Maori to work in trade and business services (see Infograms 4.4 and 4.5).

Infogram 4.4



Source: Census, 1986

Infogram 4.5



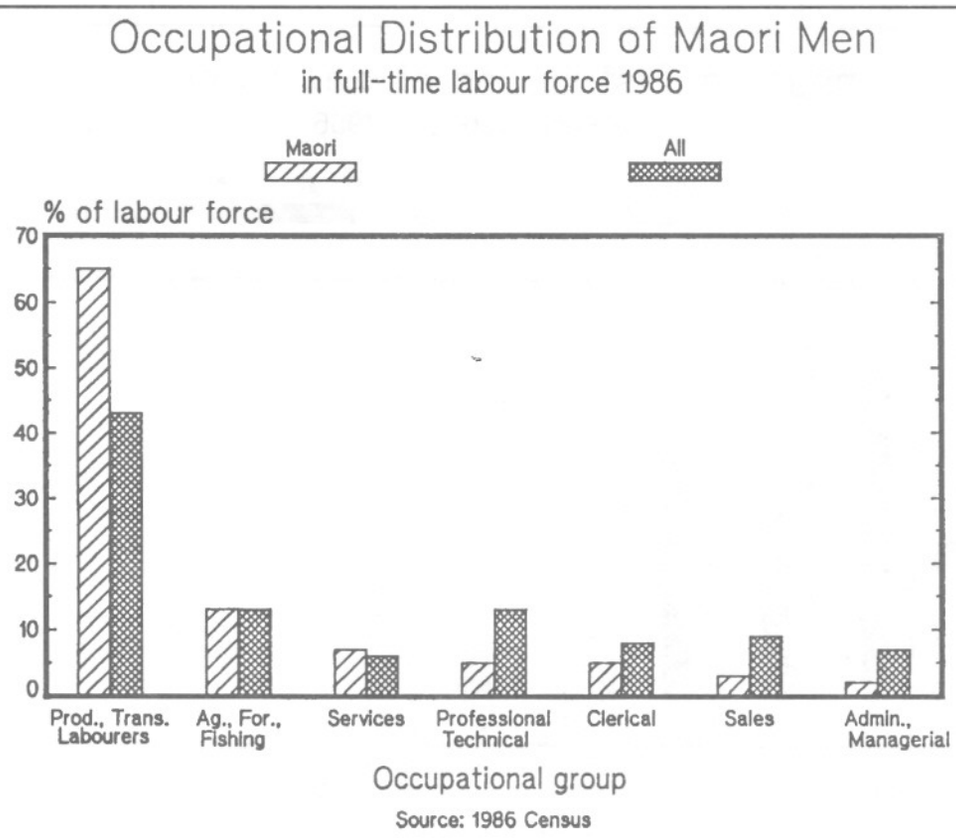
Employment by occupation

Occupational differences between Maori and non-Maori are more pronounced than industry differences (see Infograms 4.6 and 4.7). Maori women are less likely to be employed in the professional and technical, administration, managerial, sales and clerical occupations than their non-Maori counterparts, and are more likely to be employed in production, transport, labouring and service occupations. Maori men are also less likely to be employed in professional and technical, administration, managerial, clerical and sales and more likely to be employed in production, transport and labouring occupations.

Thus Maori workers have patterns of employment which are distinct from those of non-Maori. These patterns are closely associated with the economic inequality of Maori in New Zealand society today.

What evidence is there of reduction in these differences?

Infogram 4.6



Source: 1986 Census

Infogram 4.7

Source: 1986 Census

Employment patterns — are they converging?

In order to answer this question we use a measure known as an index of similarity.[2] The similarity indexes in Infogram 4.8 show that Maori and non-Maori employment patterns have become much more similar over the 1981-86 period. This is true both by industry and by occupation. Similarity between Maori and non-Maori women has increased remarkably over the period, but it is still lower for women than for men. These indexes are for industry and occupation at the major group level — moving to finer levels of classification would give higher values of the indexes as Infogram 4.9 indicates. Unfortunately 1981 data are not readily available at finer levels, but it is reasonable to assume that at finer levels the dissimilarity between Maori and non-Maori in employment patterns is also increasing.

Infogram 4.8

Recent Changes in Employment Patterns for Maori/Non-Maori
indexes of similarity, all workers actively employed

	1981		1986	
	Men	**Women**	**Men**	**Women**
Industry*	0.19	0.20	0.15	0.14
Occupation*	0.28	0.35	0.23	0.26

Note: * Major group only

Source: Department of Statistics, Census of Population and Dwellings 1981, 1986

One of the reasons often cited for the difference in employment patterns by occupation between Maori and non-Maori is the difference between the two groups in formal educational qualifications. Increasingly, educational qualifications are required for entry to the more highly skilled and highly paid occupations. Young Maori, who generally leave formal education younger and less qualified than their non-Maori peers, are less likely to gain entry to such occupations. If this is the case we would expect Maori/non-Maori employment patterns to be more similar for better qualified workers than they are for all workers (see Infogram 4.9).

The infogram shows that Maori with School Certificate or higher, show a pattern of employment by occupation (line 1) more similar to non-Maori than do Maori workers as a whole (line 3). This highlights the importance of education as a key to greater occupational similarity and, through education, to greater economic equality.

[2] This is a number between 0 and 1 which measures the proportion of one group which would need to change occupations (or industries) for the two distributions to be the same. For example, the value 0.19 in Infogram 4.8 indicates that 19% of Maori (or non-Maori) in paid employment would need to change industries in order for the Maori and non-Maori employment patterns to be the same. The formula is as expressed on p.71, Chapter Five, replacing women with Maori, and men with non-Maori.

Infogram 4.9

Indexes of Similarity for Maori/Non-Maori by Educational Level 1986
full-time workers, occupation minor group

Educational qualification	Index of similarity
School Certificate or higher	0.22
No qualification	0.28
All workers	0.31

Source: NZPC database, Department of Statistics, Census of Population and Dwellings 1986

Further insights can be gained by simply dividing all occupations into two groups — manual and non-manual. For clarification of the distinction between manual and non-manual work, see Chapter Two, p.20.

Infograms 4.10 and 4.11 divide employees by whether or not their work is manual, and in what sector it is carried out. The numbers show the percentage of all paid workers falling into each category — for example, in 1976 34% of all people in paid employment were in manual jobs in either the primary or manufacturing sectors.

Compared with their non-Maori counterparts, a far greater proportion of Maori men and Maori women are employed in manual work in the primary and manufacturing sectors. A far smaller proportion of Maori are employed in non-manual work in the service sector. Maori are much more likely to do manual work than non-Maori, and are more likely to be employed in the primary and manufacturing sectors.

During the last ten years there have been major changes in employment patterns. The proportion of people working in manual jobs in the primary sector decreased dramatically from 34% in 1976 to 23% in 1986. At the same time, the proportion working in the service sector in non-manual jobs increased from 46% to 56% (see Infogram 4.11).

This trend is expected to continue through the 1990s. The National Sectoral Programme (1988) forecasts that around 77% of all new jobs will be in the service sector in the 1984-92 period, and over 85% in the 1992-97 period.

The concentration of Maori, particularly Maori men, in manual work in the primary and manufacturing industries does not look good for future Maori employment. Most of the employment increase will be non-manual work in the service sector. Strategies to improve the position of Maori in employment need to recognise this trend.

Infogram 4.10

Employment Pattern of Full-time Workers 1986
(%)

	Primary & manufacturing	Services	All	Primary & manufacturing	Services	All
	All women			**All men**		
Manual	17	3	20	39	14	53
Non-manual	10	69	79	12	35	47
All	27	72	99	51	49	100
	Maori women			**Maori men**		
Manual	30	7	37	56	19	74
Non-manual	8	55	63	6	19	26
All	38	62	100	62	38	100
	All Maori			**All workers**		
Manual	47	15	61	32	10	42
Non-manual	7	32	39	10	47	58
All	53	47	100	43	57	100

Source: Department of Statistics, Census of Population and Dwellings 1986

Infogram 4.11

The Employment Structure of All Workers 1976-86
(%)

	1976			1981			1986		
	Primary & manufact-uring	Services	All	Primary & manufact-uring	Services	All	Primary & manufact-uring	Services	All
Manual	34	10	44	26	12	38	23	11	34
Non-manual	10	46	56	10	52	62	11	56	66
All	**44**	**56**	**100**	**36**	**64**	**100**	**34**	**66**	**100**

Source: Morrison 1989

Self-employment

Compared with non-Maori, a smaller proportion of Maori are self-employed. In 1986 6% of Maori men were self-employed compared with 22% of non-Maori men. The corresponding figures for women are 2.5% and 10%. Thus non-Maori are almost four times more likely than Maori to be self-employed.

Non-Maori are also four times more likely than Maori to be employers in their own business — 7.4% of non-Maori workers employ other workers in their own business, compared with 1.8% of Maori.

Seniority

Maori are probably poorly represented in senior positions in most occupations although the evidence is skant. For example, in 1988 10.8% of State Services Commission staff were of Maori descent, and all but one of the people earning more than $55,000 were Pakeha, or non-New Zealand European. Another example is the representation of Maori in the teaching profession. About 5% of secondary school teachers were of Maori descent in 1987. Of that group about 2.4% were school principals which is similar to the proportion in the total teaching population. However, just over 22% of Maori teachers had attained senior positions (of responsibility 1 and above) while about 40% of the overall teaching population had attained these levels.

In some occupations Maori are more equally represented at senior levels. In the teaching profession 8.9% of polytechnic tutors are Maori but they represent 7% of those in senior positions (Slyfield et al 1989). For teachers' college lecturers, about 13% identified themselves as Maori and of those who were principal lecturers and above 11% were Maori (Donn and Slyfield 1989).

Unemployment

Infogram 4.12 shows that Maori unemployment rates have been much higher than non-Maori rates for at least twenty five years. In the 1960s and 1970s Maori were at least three times more likely to be unemployed than non-Maori. The 1971 unemployment rate of 9.2% for Maori women is very high even by today's standards. The ratio of the Maori unemployment rate to the non-Maori rate appears to have declined in the 1980s. Unemployment has increased considerably for non-Maori in the 1980s. Although Maori unemployment rates are still three times as high as the non-Maori rate, the burden may be being shared a little less unequally than in the past.[3]

There are many reasons for the differences between Maori and non-Maori unemployment rates. The Maori labour force contains a greater proportion of younger workers, workers with fewer educational qualifications and rural workers. All of these factors are associated with higher unemployment rates.

[3] However, since 1985 there has been a substantial withdrawal of Maori from the labour force. For example, Maori male labour force participation has dropped from 80% in 1986 to 73% in 1988. This withdrawal, which has occurred also for non-Maori but to a much lesser extent, is probably a response to high unemployment. Comparison of the ratio of Maori/non-Maori unemployment rates alone, and the subsequent conclusion that the burden of unemployment is being shared a little less unequally in 1988 than it was ten years ago, may be misleading.

About a quarter of the difference between Maori and non-Maori rates of unemployment can be attributed to the younger age structure of the Maori workforce.[4] The major part of the difference remains. When we break down unemployment by age we find that for all age groups unemployment for Maori is considerably higher than for non-Maori (see Infogram 4.13).

Infogram 4.12

Maori and Non-Maori Rates of Unemployment 1961-89
(%)

Year	Men			Women		
	Maori	Non-Maori	Ratio*	Maori	Non-Maori	Ratio*
1961	2.3	0.6	3.8	2.9	0.9	3.2
1971	3.5	1.0	3.5	9.2	1.8	5.1
1981	12.4	3.2	3.8	17.4	4.7	3.7
1986	12.0	4.3	2.8	19.1	7.9	2.5
1989 (Mar)	19.4	6.4	3.0	17.1	6.2	2.8

Note: * The ratio is the Maori unemployment rate/non-Maori unemployment rate

Source: Department of Statistics, Census of Population and Dwellings 1961-86; Household Labour Force Survey 1989, official measure (this is likely to be lower than the Census measure, especially for women, but the ratios should be comparable)

Infogram 4.13

Maori/Non-Maori Unemployment Rates by Age

Age	Men			Women		
	Maori	Non-Maori	Ratio	Maori	Non-Maori	Ratio
15-19	27	16	1.7	32	19	1.7
20-24	15	7	2.1	23	8	2.9
25-34	9	3	2.9	18	8	2.3
35-44	6	2	3.0	11	5	2.2
45-54	5	2	2.8	9	4	2.0
55-64	6	3	2.1	8	4	1.8
15-64	**12**	**4**	**2.8**	**19**	**8**	**2.4**

Source: Department of Statistics, Census of Population and Dwellings 1986

[4] Author's own calculations based on 1986 Census and 1988 Household Labour Force Survey data.

Infogram 4.13 shows that for both genders and for all age groups, unemployment is not being shared equally between Maori and non-Maori. This is especially so for Maori men in the 25-54 age group, where Maori are almost three times as likely to be unemployed as non-Maori. Despite the fact that youth unemployment is very high for both Maori and non-Maori, the burden of youth unemployment is being shared more equally between Maori and non-Maori than unemployment amongst older workers.

Fewer educational qualifications are another part of the explanation for higher rates of Maori unemployment. A further 20% of the difference between Maori and non-Maori unemployment rates can be attributed to the generally lower levels of educational qualifications of the Maori workforce.

The younger age structure of Maori workers and their fewer educational qualifications thus account for around 45% of the difference between Maori and non-Maori rates of unemployment. When broken down by major occupational grouping Maori unemployment is at least twice as high as non-Maori. At finer levels of occupation this may not be the case. However, no published data are available to check this.

Another factor explaining high Maori unemployment may be that a much smaller proportion of Maori are employers of others. Many jobs are never advertised. Many jobs are offered to someone personally known to the employer, or someone in their network. Since a very small proportion of employers are Maori, Maori workers must have fewer opportunities to obtain jobs through these informal networks.

There is also the possibility that there are some stereotypical views about the work habits of Maori which make it more difficult for Maori to get jobs. In a study of Auckland bus drivers, Pierce (1975) examined the validity of some of these attitudes. His results show that stereotypes such as 'Maoris take more days off' or 'Maoris leave a job sooner', do not appear to be correct. He notes that no research has been done on the prevalence of these attitudes and the effect they have on hiring and promotion practices.

Unemployment spells tend to be longer for Maori than non-Maori workers. In 1986 the median duration of Maori unemployment was two to three months, compared with 1.8 months for non-Maori. Of those unemployed for over 26 weeks around 40% are Maori (Department of Labour 1988). Amongst the Maori population over 50% of those unemployed and seeking work had left their last job because they had been laid off or their contract had ended, compared with 40% of the non-Maori unemployed. Of discouraged workers, 32% of Maori were not seeking work because they believed they lacked skills, compared with 21% of non-Maori.

Incomes

All Maori on average earn less than all non-Maori. For men the difference in mean incomes estimated from the 1986 Census was $3,345 ($13,431 for Maori, compared with $16,776 for non-Maori). For women the difference was $1,175 ($7,842 for Maori, compared with $9,017 for non-Maori).

The differences between Maori and non-Maori in the full-time labour force are even more pronounced. Infogram 4.14 illustrates this.

Maori workers on average are younger and have fewer educational qualifications than their non-Maori counterparts. Many workers are paid according to seniority and experience. Entry to many of the higher paid occupations requires higher levels of educational qualifications. On this basis we would expect Maori incomes to be lower than non-Maori incomes.

Infogram 4.14

Average Incomes — Maori and All Workers 1986
full-time workers

	Men		Women	
	Mean income	Difference from x	Mean income	Difference from y
All workers	19,907 (x)	0	13,756 (y)	0
Maori workers	15,882	4,025	11,520	2,236
Maori workers controlled for age	16,659	3,249	11,817	1,939
Maori workers controlled for age and education	18,051	2,169	12,810	1,290

Source: NZPC database from Department of Statistics, Census of Population and Dwellings 1986

In the full-time workforce, at least 19% of the income difference between Maori and non-Maori men is attributable to the fact that Maori men are generally younger than non-Maori men (line 3, Infogram 4.14). A further 26% of the difference is explained by the fewer educational qualifications of Maori men in the workforce (line 4). Over 50% remains unexplained.

The mean income of Maori women in the full-time workforce in 1986 was $2,236 less than that of all women. Around 13% of this difference can be attributed to Maori women in the full-time workforce being generally younger than non-Maori women. An additional 30% of the difference is explained by the fewer educational qualifications of Maori women. Still more than 50% of the difference remains unexplained.

For full-time workers, age and educational levels thus account for around half of the difference between Maori and non-Maori incomes. Significant differences still exist. For all levels of education and age for both men and women, the average income for Maori in the full-time workforce is considerably less than for non-Maori (see Infogram 4.14).

Various reasons can be advanced for the remaining differences. Some are likely to be attributed further to age and education, as the broad categories of age and educational level used in the estimates do not fully capture the age and educational differences of the two populations. Much of the remaining difference is probably related to differing patterns of employment by occupation (which in themselves are of course related at least in part to educational attainment and age), and to variation in hours worked.

Peter Brosnan et al (1983, 1984, 1985, 1987) have examined the relationships between income and age, occupation and hours worked, in an attempt to explain the observed variation in income by ethnicity. In a 1985 study of wage and salary earners in the four occupations which employed most Maori,[5] Brosnan found that when controlled for age, location and hours worked, there were no statistically significant differences between Maori and non-Maori pay rates. There was an exception in the case of freezing workers, where he suggested that the observed differences could be attributed to different off-season employment patterns.

[5] For men these were freezing workers (general), carpenters and joiners, other freezing or abbatoir workers, and waterside workers. For women they were sewing machinist, clerk, shop assistant and house/chamber/wardsmaid/home aid.

The major residual influence in income variation was found to be hours worked — in general, Maori men work fewer hours and Maori women work longer hours than their non-Maori counterparts. This probably explains why the Maori/all income difference shown in Infogram 4.14 is smaller for women than for men. Maori men may not be as likely to be offered overtime. However, the fact that Maori men are less likely to work overtime than non-Maori men, and that Maori women are more likely than non-Maori women to do so, has not yet been explained.

On the basis of this and earlier work, Brosnan concludes that "(income) differences which appear large and significant at the aggregate level, are in fact due to differences in age, occupation (education is implied here too) and hours worked. Differences due to differential rates of pay according to race are either non-existent or too small to be identified unambiguously" (Brosnan 1985, p.90).

Brosnan concludes that the principal determinant of the differences in Maori and non-Maori incomes is the difference in occupational distribution.

Prospects for Maori employment

The National Sectoral Programme, in its publication *Prospects*, forecasts that employment will increase by around 10,000 jobs per annum through to 1994 and by around an annual 25,000 jobs through to 1997. However, these increases in employment are likely to be insufficient to offset the increase in the labour force, particularly in the early period. They conclude that "from the perspective of the model, it seems that unemployment is likely to stay high until the rate of increase in the total labour force slackens in the mid 1990s" (p.64).

High unemployment places Maori, especially young Maori and Maori with fewer educational qualifications, at risk. As the earlier sections in this chapter show, Maori people have shouldered far more than their fair share of the burden of unemployment. For almost a decade Maori unemployment rates have been high.

Clearly strategies which succeed in reducing unemployment in general will benefit many Maori. These need to be given very high priority. So too do strategies which reduce the vulnerability of Maori to unemployment.

The resolution of Maori claims under the Treaty of Waitangi has the potential to greatly improve the Maori employment situation. Greater ownership of resources and the income streams generated by them would give iwi groups their own economic base. In many cases the assets may be natural resources, and the economic activity that they could generate directly would be in the primary sector. As discussed in Chapter Two, output in this sector is expected to grow substantially during the next decade but employment is not. These direct employment gains from the return of assets to iwi are likely to be small.

However, the income streams generated by such assets should enable greater Maori ownership and investment and, ultimately, employment in all areas of the economy and greater investment in education. On a small scale schemes such as MANA Enterprises aim to assist development in this direction.

The occupational distribution of Maori workers is closely associated with Maori economic inequality. As Infogram 4.8 shows Maori/non-Maori occupational similarity has increased significantly between 1981 and 1986. This is a promising sign.

Occupational distribution accounts for the major part of difference between Maori and non-Maori income. To what extent are such differences in rewards fair? Research by Steinberg et al (in Working Group on Equal Opportunities and Equal Pay 1988, pp.23-24) on the New York Public Service found that after controlling for other variables, job characteristics found to be negatively

valued or of no value were differentially associated with disproportionately minority job titles. The Equal Opportunities and Equal Pay Working Group recommend that "further work be done in this area, with a view to implementation in the (proposed) legislation as quickly as possible". Horsfield and Evans (1988) concur that equal pay for work of equal value may improve the earnings position of a large proportion of Maori men and women quickly and effectively.

Equal employment opportunities policies, already in operation within the state sector, should also contribute to improvement for Maori. The Group's recommendation that legislation on equal employment opportunities be extended to cover the private sector would further this.

The close association of education and occupation implies that policy aimed at improving the educational achievement of Maori should go some way towards reducing economic disadvantage. The rapid growth of kohanga reo, rooted firmly in Maori language and Maoritanga and the strong involvement of whanau groups, augurs well for the future. The challenge to both Maori and Pakeha is to extend the gains already made from kohanga reo through the following years of compulsory schooling. Schools both inside the state sector — such as Ruatoki marae, and outside it — such as Hone Waititi marae, lead the way, as do bicultural programmes in other primary schools. At secondary level a small number of very successful Maori schools have existed for many years, and at tertiary level there are Maori institutions — such as Te Wananga o Ruakawa in Levin — which are developing a wide range of courses. However, compared with kohanga reo, state-supported developments in education for Maori at primary, secondary and tertiary levels have been slow.

The government reform of education offers potential for greater parental influence on compulsory schooling, and greater opportunity for schools to respond to the particular needs of their clientele. This holds promise for Maori, but it must be judged on its outcomes.

Summary

- In 1986 Maori workers made up 9.5% of the total labour force. This is likely to increase to about 12% by 1996.

- Working-age Maori are less likely to be in the labour force than non-Maori. This difference is more marked for women than for men.

- At broad industry level the Maori workforce is distributed in a pattern quite similar to that of non-Maori. Occupational differences between Maori and non-Maori are more pronounced. Maori women are less likely to be employed in the professional and technical, administrative and managerial, clerical and sales occupations, and more likely to be employed in production, transport and labouring occupations. Maori men are also less likely to be employed in professional and technical, administration, managerial, clerical and sales, and more likely to be employed in production, transport and labouring occupations.

- Maori and non-Maori employment patterns, both by industry and by occupation, have become much more similar over the 1981-86 period, especially for women's pattern of employment by occupation. Maori/non-Maori differences in employment patterns for workers with School Certificate or a higher qualification are much less than for all Maori/non-Maori workers.

- Compared with their non-Maori counterparts, a far greater proportion of Maori men and Maori women are employed in manual work in the primary and manufacturing sectors. A far smaller proportion of Maori than non-Maori workers do non-manual work in the service sector. Most of the expected employment increase will be non-manual work in the service sector — the low concentration of Maori workers in this category does not look good for future Maori employment.

- Non-Maori are around four times as likely as non-Maori to be self-employed.

- Maori unemployment rates have been much higher than non-Maori rates for at least twenty five years. Around one-quarter of this difference in unemployment rates can be attributed to the younger age structure of the Maori workforce. A further 20% of the difference can be explained by the generally lower levels of educational attainment of the Maori workforce.

- Unemployment spells tend to be longer for Maori than for non-Maori. Around 40% of the long-term unemployed are Maori.

- Maori on average earn less than non-Maori. For men in the full-time workforce at least 20% of this income difference can be attributed to the generally younger age of Maori workers, and an other 25% to their generally lower educational attainment. For women, age accounts for around 13% of the difference, and educational attainment, a further 30%. Various reasons can be advanced for the remaining differences — research indicates that occupational distribution is likely to be the major one.
- High unemployment places Maori, especially the young and those with little formal educational attainment, at risk. Clearly strategies which succeed in reducing unemployment in general will benefit many Maori. So too will strategies which reduce the vulnerability of Maori people to unemployment.

- The resolution of Maori claims under the Treaty of Waitangi has the potential to greatly improve the Maori employment situation. In many cases the assets themselves may not directly generate much new employment. However, the income streams generated by such assets should enable greater Maori investment in both human and physical capital, and thus improve employment opportunities for Maori workers.

- The close association of education and occupation implies that policy aimed at eliminating the gap between Maori and non-Maori in educational attainment should go a long way towards reducing Maori economic disadvantage. There are some promising developments in this area but these must be judged on outcomes.

CHAPTER FIVE

Women's Paid Employment

Introduction

Women have always been active in the economy. Over the last twenty five years in New Zealand there has been a rapid increase in women's participation in *paid* employment. For the majority of women, paid employment is closely intertwined with their other major economic role, that of unpaid work in the home.

This is also true for men although to a much lesser extent. Of all women of working age, 23% report their main activity as home duties, and are not in the paid labour force. The comparable figure for men is 2.3% (Household Labour Force Survey, September 1988). Similarly, as numerous studies have shown, in most families where women are in paid employment women still do the major part of traditional 'women's work' — cooking, cleaning, shopping, organising and caring for children.

The use of the terms paid employment and paid work in this chapter serve as a reminder that women's unpaid work in the home remains very significant and is probably still their major contribution to the economy.[1]

Trends in labour force participation

Total participation

Over the last thirty years a growing proportion of New Zealand women have become part of the labour force.[2]

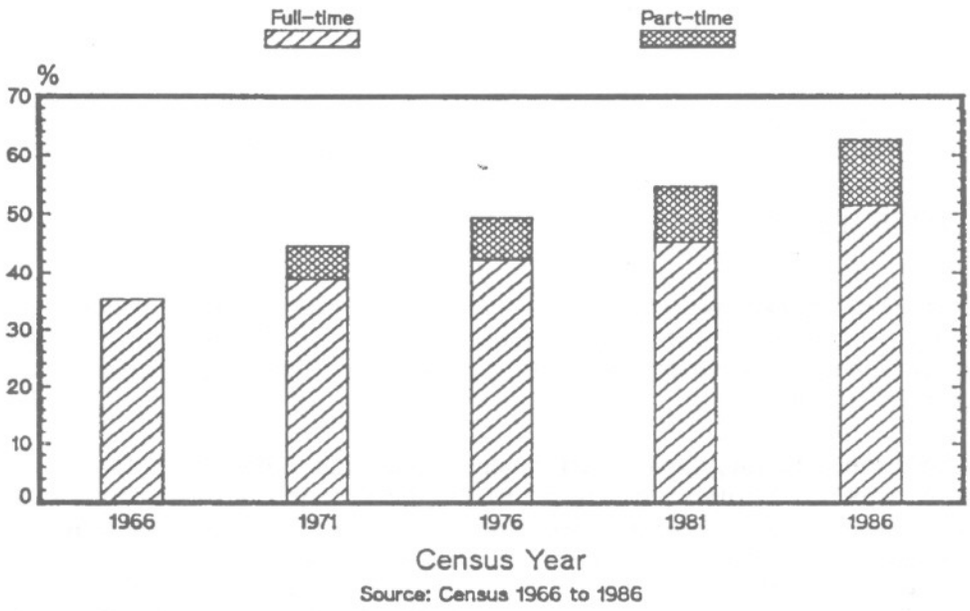
Infogram 5.1 shows that the proportion of women in the labour force has increased steadily over the twenty-year period, for both full time and part time. The growth of the proportion of women in the part-time labour force was particularly strong in the 1970s, whereas full-time rates have shown strong increase in the early 1980s. Since 1986, and in response to economic recession, women's labour force participation has remained steady at 63%, whereas men's labour-force participation rates have dropped about three percentage points. Thus the proportion of women in the labour force has continued to increase, from 41.5% to 42.5% between 1986 and 1988.[3]

[1] The Ministry of Women's Affairs, in conjunction with the Department of Statistics, are currently working on a time use survey which will quantify unpaid work.

[2] The labour force is all those aged 15-64 in paid employment plus those seeking paid employment and including both full- and part-time workers.

[3] Household Labour Force Survey, March quarters 1986, 1988.

Infogram 5.1



Similar increases in women's labour-force participation rates have occurred in most other OECD countries (except Japan and Austria). The increase appears to have been particularly strong in New Zealand. In 1971 New Zealand was ranked 14th out of 22 OECD nations for women's workforce participation rate; by 1986 this had risen to 7th.Women's labour-force participation rates for the OECD range from Scandinavia (70-80%), North America (around 65%), New Zealand and the United Kingdom (63%), Australia and most European countries (around 50-55%), to southern Europe at around 35-45%.[4]

Women's labour-force participation rates vary by region. Part-time rates are around 15-17% for all regions. Full-time rates vary from around 30% in Wanganui, Horowhenua, Marlborough, Aorangi, and Coastal North Otago, to 40% in Auckland and 45% in Wellington. Women's full-time labour-force participation rates are higher in the metropolitan areas, especially Wellington.

Census data, on which these workforce participation rates are based, give us a snapshot of women's paid work at particular points in time. In fact women, particularly those with young children, are constantly moving in and out of the labour force. This is true also for men but is likely to be to a lesser extent.

Barrington (1981) found that the 'point in time' nature of the Census disguises the extent of women's employment for women with preschool children. Her biographical research indicates that many women are in the paid labour force for short bursts while their children are young.

[4] Data from statistical annex, OECD Employment Outlook 1989.

Bowie (1983), using 1976 Census data, estimated that the Census record of the number of women in the labour force underestimated the number of women who had been actively employed at some point during the year by around 20%. Applying Bowie's estimate of 20% to 1986 Census data would suggest that around 75% of all women of working age would have been in the labour force at some point during the 1986 year.

Age-specific labour force participation

Although the proportion of women in the labour force has increased steadily over the last twenty years, this trend has not occurred across women of all age groups, but has been more marked for women of middle years.

Infogram 5.2 shows that the proportion of women in the labour force aged 15-19 has shown little change over the ten-year period. Infograms 5.3 and 5.4 illustrate that for this group there has, however, been a trend away from full-time work to part-time work. This is associated with rising levels of participation in formal education at both secondary and tertiary levels. It may also be linked to rising unemployment, particularly in the 1981-86 period, when more young women, particularly young Maori and Pacific Island Polynesian women, worked part time when full-time work was not available.

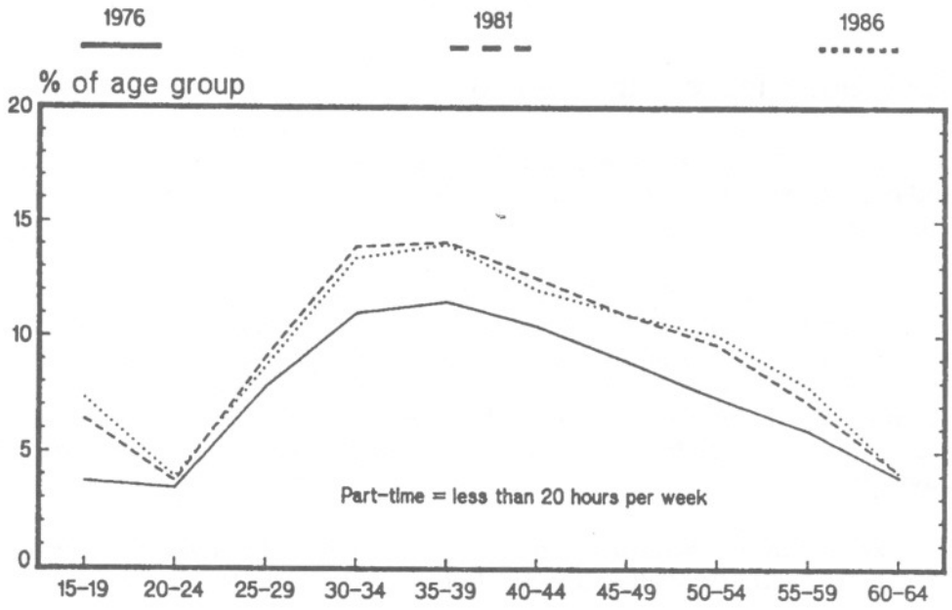
The proportion of women over the age of 60 in the full-time labour force shows a steady decline. This trend is often linked with the availability of national superannuation, but was underway well before the advent of this.

Infogram 5.2

Source: Census 1976, 1981, 1986

Infogram 5.3

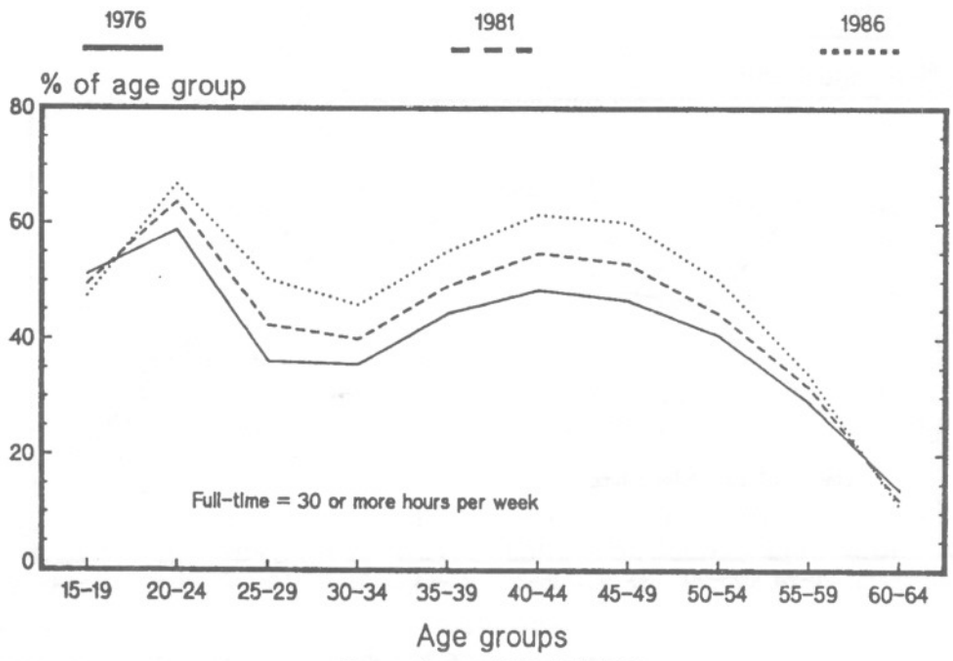
Women's Part-time Labour Force Participation
by age 1976 - 1986



Source: Census 1976, 1981, 1986

Infogram 5.4

Women's Full-time Labour Force Participation
by age 1976 - 1986



Source: Census 1976, 1981, 1986

Most noticeable are the rising levels of the participation of women in their middle years. The proportion of women in their twenties in the full-time labour force has increased steadily over the last ten years, particularly those in their late twenties. We can probably associate this, at least in part, with the rising average age of women at the birth of their first child.

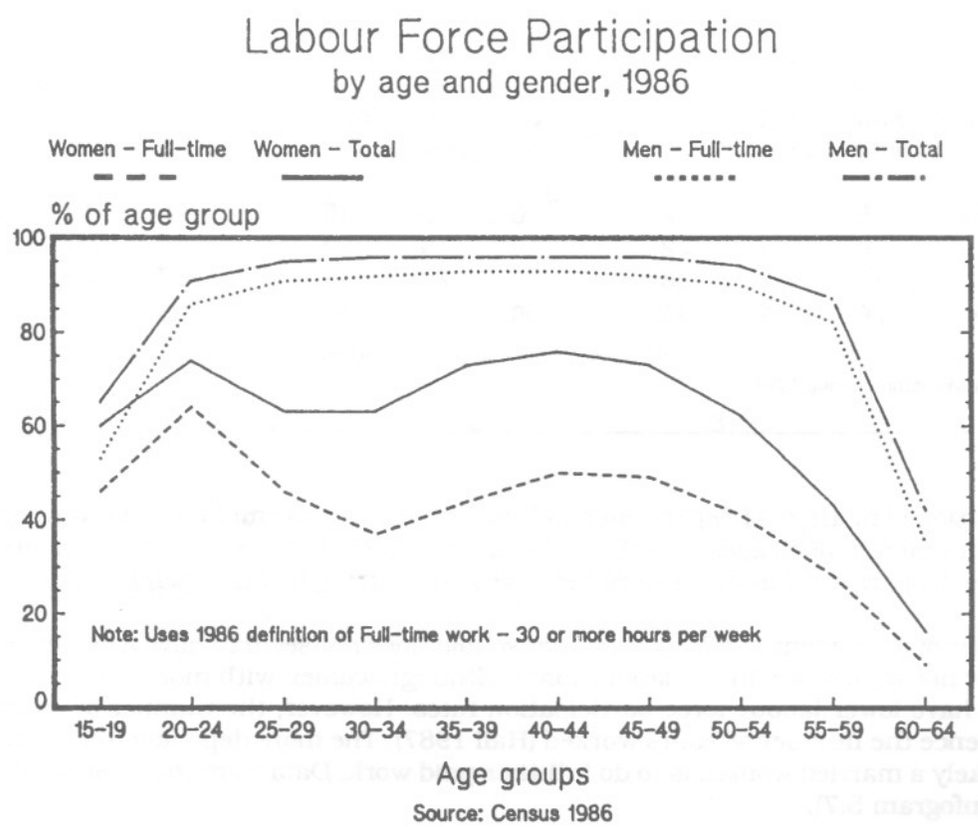
Part-time participation rates for women in the 20-59 age group increased significantly in the 1976-81 period, but have changed little since 1981. Full-time rates for women in these groups have increased strikingly throughout the ten-year period, particularly for women in the 35-50 age group.

Comparison with men

Total labour-force participation rates for women are lower than for men for all age groups. This is despite the rapid increase in the labour-force participation rates of women of most age groups which has occurred in the last twenty years. Women are about half as likely to be working full time as men, and four times as likely to be working part time.

Infogram 5.5 shows that the gender differences are greatest for those in the 55+ age group, where men are twice as likely as women to be in the workforce. The reasons for these differences have never been researched, but are attributed to women working unwaged in their homes, in particular caring for elderly family members, partners with disabilities and grandchildren. It may also be that some women choose early retirement so that they can spend time with an older partner who has already retired.

Infogram 5.5



Rochford (1985, 1986) focused on never-married women. He found that, as expected, their labour-force participation rates were higher than for their married counterparts, but these rates were still considerably lower than those of men.

The rapidly increasing labour force participation of women in the 35-50 age group over the 1976-86 period (see Infogram 5.2), suggests that the differences in the pattern of participation in paid work by men and women in their 50s and 60s, will lessen considerably in the coming decade.

Labour-force participation rates by gender are most similar for those in the 15-19 age group, the group least likely to be caring for dependents. Between ages 20 and 49 there are about three men in the paid workforce for every two women. During these years approximately one in three women in the workforce are working part time, compared with about one in 30 men.

Women with dependent children

Women's participation in the paid workforce is influenced by the presence of dependent children in the household. Women without children have the highest participation rates. In general, the older the children the more likely it is that a woman will be in paid work, and the more hours she will work, as Infogram 5.6 shows.

Infogram 5.6

Proportion of Mothers Employed in Paid Work by Age of Child 1976-86
(%)

	1976			1981			1986		
Age of child	**Full time**	**Part time**	**Total**	**Full time**	**Part time**	**Total**	**Full time**	**Part time**	**Total**
Under 1 year	5	7	12	6	10	16	9	12	21
1-4 years	9	13	22	10	18	28	14	20	34
5-9 years	16	22	38	19	26	45	27	24	51
10-14 years	26	23	49	30	27	57	35	28	63

Source: Social Monitoring Group 1989

The proportion of mothers of dependent children who are in paid employment has shown a steady increase for children of all ages over the ten-year period. Particularly strong is an increase of over 50% in the proportion of mothers of under 9-year-olds doing full-time paid work.

The number of dependent children in the household does not seem to have a strong influence on whether or not women are in the labour force, although women with more than two children do appear to have lower labour-force participation rates. However, the number of children clearly does influence the number of hours worked (Hall 1987). The more dependent children there are, the less likely a married woman is to do full-time paid work. Data from the 1986 Census support this (see Infogram 5.7).

Similarly, for women who are single parents, the number of dependent children influences the likelihood of being in full-time employment. Data on the part-time labour force participation of women who are single parents are not readily available.

Infogram 5.7

Women in Two Parent Families
labour force participation by number of dependent children
(%)

	Number of dependent children		
	1	2	3+
Proportion employed full time	36	31	27
Proportion employed part time	26	34	31
Total labour force	62	65	58

Source: Department of Statistics, Census of Population and Dwellings 1986

Infogram 5.8

Female Single Parents
full-time labour force participation by number of dependent children
(%)

	Number of dependent children		
	1	2	3+
Proportion of mothers employed full time	25	23	15

Source: Dominick, Rochford and Robb 1988

Education

The more education a woman with dependent children has, the more likely she is to be in paid employment. This is true for both married women (Hall 1987) and for women who are single parents (Dominick 1988). Hall suggests that the observed education effect may be spurious. Given that younger women are more likely to have higher levels of education and higher labour force participation, she argues that the 'education effect' may, in fact, be an age effect. Analysis of data by age and education indicates that there is an age effect as we would expect, but also a marked education effect.

Infogram 5.9

Women's Labour Force Participation by Age and Tertiary Education
(% of age group)

	Full time			Part time			Not in labour force		
Number of tertiary qualifications	0	1	2	0	1	2	0	1	2
Age in years									
20-24	59	78	85	11	8	8	30	13	82
30-34	35	41	51	26	28	24	39	32	26
40-44	48	53	62	26	30	26	26	17	12
45-59	37	49	62	20	24	22	43	27	16

Note: Percentages may not add to 100 due to rounding

Source: Department of Statistics, Census of Population and Dwellings 1986

Part-time labour force participation appears independent of the presence of tertiary qualifications — perhaps because part-time jobs often require less formal education. However, at all ages women with a tertiary qualification, especially those with two or more, are significantly more likely to be in the full-time labour force.

Employment patterns

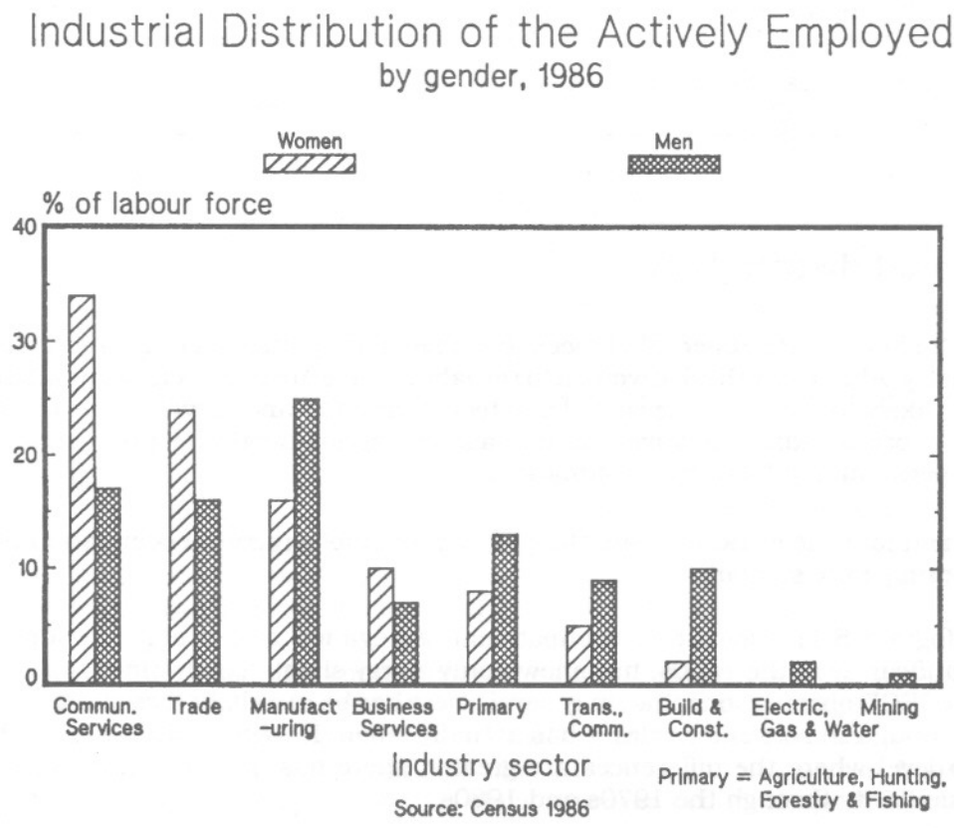
Despite their rapid increase in labour force participation over the last twenty five years, women's patterns of paid employment are still very different from those of men. This can be observed from at least three different perspectives: the industries in which men and women work, the occupations they carry out, and the level of seniority within occupations.

Industrial distribution

Infogram 5.10 illustrates the concentration of women in trade, and community and personal service industries, and the concentration of men in manufacturing, agriculture and building and construction.

Over the last twenty years the employment patterns of men and women by industry have become somewhat closer.[5] This is in line with the pattern observed in other OECD countries. By comparison New Zealand's industry similarity index is middling — on a par with Australia, Canada, Germany and the United States, high compared with Japan and Italy, and low compared with Sweden, Finland, Spain and the United Kingdom (OECD 1988).

Infogram 5.10



[5] The infogram shows values of an index of similarity which here measures the degree of similarity between men's and women's patterns of employment by industry. A value of 0.30, for example, indicates that 30% of men (or women) would need to change industries in order for the two groups' patterns of employment by industry to be the same. A declining index value thus indicates that similarity is increasing.

The formula for this index of similarity:

$$\frac{1}{2} \sum_{i=1}^{k} \left| \frac{N_{f_i}}{N_f} - \frac{N_{m_i}}{N_m} \right|$$

Where N_{f_i} = the number of women employed in industry i
N_{m_i} = the number of men employed in industry i
N_f = the total number of women gainfully employed
and N_m = the total number of men gainfully employed

Infogram 5.11

Indexes of Similarity for Male-Female Employment* 1961-86

	1961	1971	1976	1981	1986
Industry major groups[1]		0.31	0.30	0.29	0.28
Occupation major groups	0.482	0.428	0.424	0.419	0.411
Occupation minor groups	0.625	0.605	0.576	0.552	
Occupation major groups 20-24 year-olds			0.503	0.496	0.465

Note: * All workers full time plus part time
1. See footnote [6] below

Source: Gwartney Gibbs 1988, 1986 NZPC data from Census

Occupational distribution

Infogram 5.12 shows that gender differences in employment patterns are greater by occupation than by industry. About one-third of women in the labour force are in clerical occupations. Women are also more likely to work in professional and technical, sales and service areas than men, and less likely to work in administrative and managerial, agricultural and production, transport equipment operation and labouring occupations.

As more women join the workforce, are the patterns of employment by occupation of men and women becoming more similar?

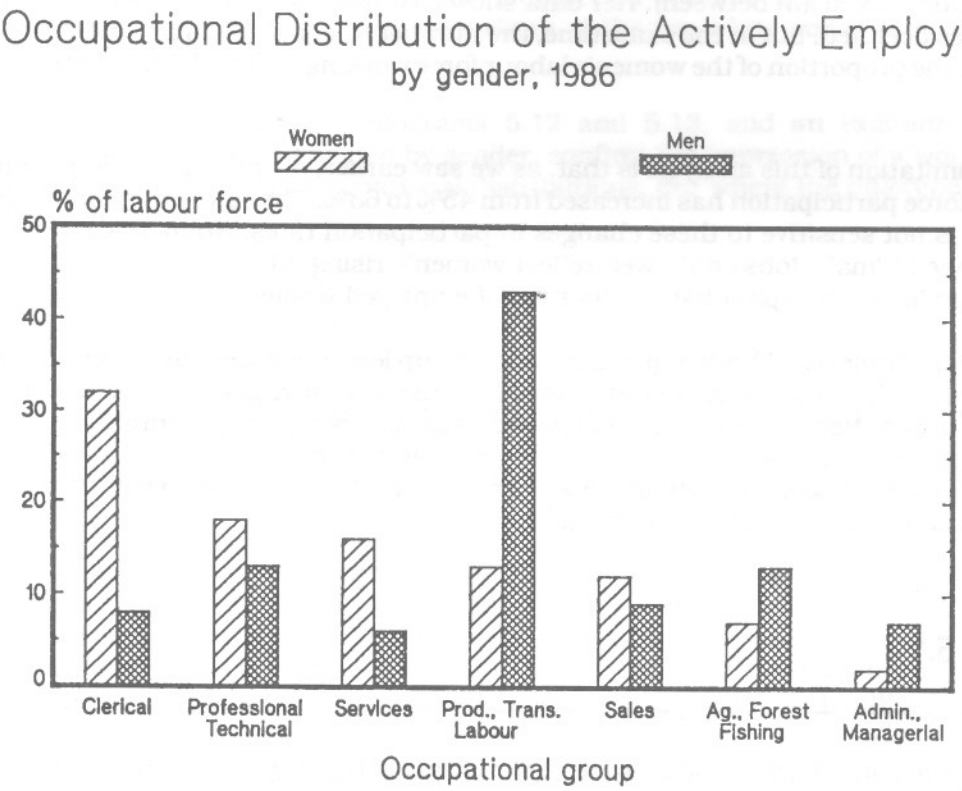
Line 2 of Infogram 5.11 shows that occupational segregation at the major group level, after dropping significantly in the 1960s, has shown only a very slight decline since that period. This is in line with OECD observations that, in general, there has been a slight increase in occupational similarity, although in some countries it has actually fallen. However, line 3 shows that, at the minor group level where the differences are greater, there has been a steady and consistent increase in similarity through the 1970s and 1980s.

It might have been expected that, as women's labour force participation has increased, so patterns of employment by occupation would become more similar. This appears to be true for New Zealand.

However, the OECD experience suggests that countries with high women's labour force participation tend to have greater differences in patterns of employment by gender. This is presumably because in countries with very high women's labour force participation many women work in

[6] Major groups refer to broad classes of industrial and occupational groups eg. for occupation — professional, technical and related workers is one major group; eg. for industry — all types of manufacturing appear in one group. Minor groups refer to a more detailed classification eg. for occupations — economists, lawyers, accountants are all part of the major group professional, technical and related workers. For further details refer Department of Statistics NZSCO and NZSIC classifications.

Infogram 5.12



Source: 1986 Census: Labour Force, Vol. 1, Table 18

occupations which in other countries would be unpaid work, for example, housework, childcare, care of the handicapped and the elderly. New Zealand, with its relatively high women's labour force participation, has relatively large (although slowly declining) gender differences in occupational employment. Countries with relatively low women's labour force participation have widely varying indexes of similarity, ranging from Luxembourg at 0.50 to Greece at 0.24.

It might be expected that, amongst young men and women in the labour force, there would be clear evidence of more similar patterns of employment than amongst their elders. In the younger age groups there is clearly less difference in educational attainment and, one might expect, differing perceptions of gender roles and expectations. Line 4 of Infogram 5.11 shows, however, that the reverse is true — young men and women show stronger occupational differences than the workforce overall.

Gwartney Gibbs (1988), using a different method of analysis, reaches the same conclusion that, although young women are slightly better represented in traditionally 'male' jobs, they are much more concentrated in traditionally 'female' jobs than the female workforce as a whole. She suggests that this is because young women in traditional occupations may be more likely to leave the labour force to concentrate on unpaid work than women in less traditional occupations.

Another explanation may be that young women are more likely to conform to social norms about appropriate careers, and may be more likely to deviate from these norms with the growing confidence and independence of age. Although differences are greater for 20-24 year-olds, Infogram 5.11 shows that they too have dropped significantly and steadily in the last ten years.

Despite this Gwartney Gibbs argues that, over the 1971-81 period, traditionally women's occupations are becoming more segregated. She does this by categorising occupations by 'sex type': 'female' type (where two-thirds or more of workers are women), 'male' type (one-third or less are women) and 'mixed' (in between). Her data show that over the 1971-81 period the number of 'male' jobs has declined, but at the same time, the number of 'female' jobs has increased. Over the same period, the proportion of the women's labour force working in 'female' occupations increased sharply.

However, a limitation of this analysis is that, as we saw earlier, over the 1971-86 period women's total labour force participation has increased from 45% to 63%. The categorisation of occupations by 'sex type' is not sensitive to these changes in participation rates. An increase in 'female' jobs and a decrease in 'male' jobs could well reflect women's rising labour force participation rather than a change in the occupational distribution of employed women.

The occupational indexes at both major and minor group level show increasing similarity between women and men. However, a major limitation of the index measure is that it is not sensitive to the size of each occupational group. An alternative measure, which takes into account changing labour force participation and the size of each occupational group, is to take the proportion of people employed in an occupation who are women as a variable, and to then calculate its weighted standard deviation. The results are presented in Infogram 5.13.

Infogram 5.13

Proportion of Workers per Occupation who are Women 1971-86

occupation minor group[1]

	1971	1976	1981	1986
Mean	32.5	35.3	38.1	40.6
Standard deviation	37.5	36.0	33.7	31.9

Note: 1. See footnote 6, p.56

Source: Department of Statistics, Census of Population and Dwellings 1971-86

Thus over the 1971-86 period, the proportion of the workforce who are women has risen steadily from 32.5% to 40.6%. At the same time the standard deviation has declined steadily from 37.5 to 31.9. In 1986, most women were employed in occupations closer to the mean representation of women in the workforce than they were in 1971. This shows that occupation similarity between men and women, even when weighted by the size of the occupational group, has increased steadily from 1971 through to 1986.

In 1971 the five occupations where the proportion of women was highest were typists, housekeepers, maids, computing machine operators and tailors. In 1986, despite the overall increase in the proportion of the workers who are women, each of these five occupations contained proportionately fewer women. At the other end of the spectrum, for each of the five occupations most predominantly male in 1971, the proportion of workers who were women had increased at least three fold by 1986.

Mourik et al (1989) examined indexes of occupational similarity using the very detailed four digit New Zealand Standard Classification of Occupation categories. Their measures show that over the 1971-86 period occupational similarity increased slowly. They also note that 70% of the increase in women's full-time employment over the 1971-86 period was in occupations where men were initially over-represented, and that women's share of the top white collar jobs had increased substantially over the same period.

Thus, the measures presented in Infograms 5.12 and 5.13, and an examination of those occupations which are most segregated by gender, confirm the impression of a workforce where men and women have different occupational distributions, but where the differences are slowly and steadily being eroded.

Employment Patterns

As the two previous sections have shown, women and men have different patterns of employment, both by industry and by occupation. Of course, industry and occupation are not unrelated — farmers are unlikely to work in the personal services industry, just as teachers are unlikely to work in mining.

A simple cross tabulation of employment by both industry and occupation illustrates some essential differences between women's and men's employment.[7] Occupations are divided into the two types — manual and non-manual. Industries are also divided into two types — primary and manufacturing, and services. Primary and manufacturing include those industries which extract from the ground or sea and involve physical transformation (timber to furniture, for example). Services include trade, communications, transport, and social, community and personal services. Infogram 5.14 contrasts the employment patterns of men and women.

Women are clearly much more likely than men to do non-manual work in the service sector. Men are most likely to do manual work in primary and manufacturing industries.

Infogram 5.14

Employment Patterns 1986
full-time workers

	Women			Men		
	Primary & manufacturing	Services	All	Primary & manufacturing	Services	All
Manual	17	3	20	39	14	53
Non-manual	10	69	79	12	35	47
All	27	72	99	51	49	100

Source: Department of Statistics, Census of Population and Dwellings 1989

[7] See footnote 3, Chapter Two, p.16.

Since 1976 the proportion of all workers doing non-manual work in the service sector has risen from 46% to 56%. Correspondingly, that of manual workers in primary and manufacturing industries has fallen from 34% to 23%. We expect further concentration of employment in the non-manual service area over the next ten years (National Sectoral Programme 1988). Women's employment is heavily concentrated in this area, so they are clearly well placed to benefit from this expected employment growth.

Seniority

In many occupations an increasing proportion of those in senior positions are women. Nevertheless, women are very much under-represented at senior levels in most occupations. Most studies confirm this picture although there are exceptions. For example, in 1988 only 20% of primary school principals were women whereas women made up 75% of all primary teachers. Similarly, 17% of all secondary school principals were women whereas women were 51% of all secondary teachers. Since monitoring of this began in 1982, there has been a gradual increase in the proportion of women in senior positions in both primary and secondary schools, but major differences still remain.

Two of the exceptions are teachers' college lecturers and polytechnic tutors. The gender differences are far less marked than for primary and secondary school teaching. In 1987 20% of teachers' college lecturers who were principal lecturers or higher were women. At teachers' colleges women are about 37% of the lecturers (Donn and Slyfield 1988). For polytechnic tutors the differences are even less. In 1988 37% of heads of departments or higher were women while 41% were tutors overall (Slyfield et al 1989).

In the banking industry — for the four major trading banks, excluding Databank — in 1985 only 5% of workers in the three highest grades were women. This rose to 13% in 1988, with a corresponding drop in the proportion of women in the lowest grades. Nevertheless substantial differences remain. This is particularly so since women are a major part of the banking workforce (about 56% and 60% in 1985 and 1988 respectively). In the Public Service in 1985 only 1% of workers at the top of the executive clerical grade or above were women. This rose to 7.6% in 1988.

Employment status

Infogram 5.15 shows that women are about half as likely to be self-employed as men. This is partly explained by the fact that self-employment is common in the agricultural and building and construction sectors where women are under-represented.

Infogram 5.15

Employment Status by Gender 1986 Census

% of workers who are:

	Self-employed	Employer	Wage and salary earner
Men	12.4	9.5	78.0
Women	6.4	4.3	89.3

Source: Department of Statistics, Census of Population and Dwellings 1986

Hours worked[8]

Women in full-time paid work average 41 hours per week and men average 44 hours. Men and women in part-time paid work both average around 16 hours per week.

Overall, of course, a greater proportion of the male workforce is in full-time paid employment, and so men on average do considerably longer hours of paid work than women. Women do an average of 33 hours per week of paid work compared with men's 42 hours.

Unemployment

Women are more likely to be unemployed than men. However, this does not always show up in the most commonly-used statistics.

Unemployed women are less likely than men to be eligible for the unemployment benefit and are less likely to be seeking full-time work, so they are less likely to register as unemployed with the Labour Department. The registration figures thus show that women are around one-third of the registered unemployed, and that unemployment rates are around 11.5% for women and 12.5% for men (December 1988).

The official Household Labour Force Survey measure (March 1989) shows unemployment rates for men and women are 7.5% and 7.1% respectively. Inclusion of all job seekers and discouraged workers in the unemployed gives the unemployment rate preferred by the Employment Working Group (EWG rate) of 10% for women and 9% for men.

Census data from 1986 show women as 42% of the labour force and 56% of the unemployed. Unemployed women are less likely to be seeking full-time work than unemployed men — in September 1988 almost 40% of unemployed women were seeking part-time work, compared with 10% of unemployed men.

Since the mid 1980s unemployment rates have risen most strongly for men. In 1989 women are still a little more likely to be unemployed than men, although the most commonly-used statistics suggest the reverse. However, the differences in unemployment rates between genders are much less than earlier in the decade.

Women's incomes

On average women earn less than men. There are many factors associated with this. The major ones are: women's lower labour force participation, fewer average hours of paid work, greater likelihood of intermittent labour force participation, younger average age in the workforce, lower levels of education, and gender differences in patterns of employment by occupation. All of these factors are closely related to women's unpaid work in the home.

Quarterly Employment Survey data (Department of Statistics) show that, on average, women earn 81% (total) of men's hourly earnings (February 1989). The proportion was around 72% at the time of the Equal Pay Act in 1972. Over the period of implementation of the Act, this rose to almost 79% in 1976 and has remained close to this level through to the present.

[8] Estimates from Household Labour Force Survey, September 1987. Those reporting 50+ hours per week assumed to average 55 hours.

Women's average total weekly earnings are about 74% of men's earnings (February 1989), the lower proportion being attributable to women, on average, working shorter hours and fewer overtime hours. This figure has varied little over the last ten years (Horsfield 1988, Infogram 5.1).

Income data from the 1986 Census show that women's median income from all sources was 50% that of men (see Infogram 5.16).

Infogram 5.16

Income Differences Between Men and Women[9]

Income from all sources ($)

	Women	Men	% (Women/men x 100)
Population 15+ years	7,575	15,119	50
Full-time gainfully employed	13,756	19,907	69
Accounting for age differences and hours worked	15,170	19,907	76

When we compare mean incomes for women and men in the full-time labour force, this increases to 69%. Women in the workforce are, on average, younger than men. When we take this into account the figure increases a little more to 71%.

As discussed earlier, women in full-time paid employment average 41 hours per week whereas men average 44 hours. Taking this difference of hours into account, the percentage increases to 76%. We know that women are also less likely than men to be in paid work for a full year. Comparing Quarterly Survey average total weekly earnings data with Census full-time unadjusted data suggests that women's more intermittent pattern of paid work may account for another 3 to 4%, thus bringing the total up to 80%. This seems consistent with Quarterly Employment Survey hourly rate data.

What proportion of the remaining income difference between women and men is attributable to gender differences in the pattern of employment by occupation? Women are more likely to work in clerical, sales, service and lower professional and technical occupations than men. What effect does this crowding of women into relatively few occupations have on incomes?

An attempt to isolate the effect of the pattern of employment by occupation on average incomes suggests that such occupational crowding has no effect at all.[9] In other words, if women had the same pattern of employment by occupation as men, the existing income differences between men and women would remain.

[9] Calculations of mean incomes for men and women in the full-time workforce controlling for both age and minor group occupation used material from the Planning Council employment database. The results showed that age accounted for 6% of the difference in income between women and men, and that no difference was attributable to gender differences in the pattern of employment by occupation.

This result is surprising. It may be explained, in part, by the fact that the minor-group occupational categories used in practice, rather than being just one occupation, comprise a group of related occupations. For example, the category 'teachers' includes teachers from pre-school to tertiary level. Women dominate in teaching of the younger age groups where average incomes are lower. The occupational classification does not pick up this difference and treats all teachers as one group.

Using a finer level of classification, we would expect to identify a portion of the gender income difference which is attributable to patterns of employment by occupation. However, our attempt does suggest that the pattern of employment by occupation may not be a significant factor in explaining female-male income differences. This conclusion was also reached by Miller (1987) in an analysis of male-female wage differentials in Britain. He concluded that occupational distribution is responsible for only 6% of the gender-wage gap.

Ranking within occupations is probably an important reason for the earnings gap. This is associated with women's fewer average years of labour market experience, and greater time spent out of the paid workforce. Census data do not allow us to estimate the magnitude of the effect of 'home time' on women's earnings. Miller (1987) found that differences in wages within occupations was more important than occupational distribution. Fewer years of labour market experience was found to account for over a half of the wage gap. To the extent that years of labour market experience are reflected in increased productivity, then further erosion of the gender-wage gap may only be achieved by woman's increased labour force participation. Years of non labour market experience probably also increase productivity, more than is recognised by many employers.

Sutton (in Horsfield 1988) collected data on 751 people on the same pay scale in two government departments. She found that gender differences in qualifications and length of service each explained about one-third of the gender differences in pay, leaving one-third unexplained.

To summarise, around 40% of the income differences between men and women can be attributed to women's lower participation in paid work, and their greater propensity to be in part-time paid employment. Just over one-third of the remaining difference can be accounted for by women's lower average weekly hours of paid work, younger average age in the labour force, and more intermittent participation in paid work. Differences in occupational distribution, at least when measured at the minor group level, do not account for any of the remaining difference. Ranking within occupations probably does.

It seems likely that a significant proportion, perhaps around one-third, of gender differences in pay cannot be explained by the factors considered.

Summary

- Over the last twenty years, the proportion of women of working age who are in the labour force has risen dramatically from around 35% in 1966 to 63% in 1986. Both full- and part-time participation have grown; part-time especially in the 1970s, and full-time in the 1980s.

- This dramatic increase in women's labour force participation has not occurred over women of all age groups, but has been especially marked for women in the 25-50 age group. Women aged 15-19 are more likely to be in part-time work and less likely to work in full-time paid employment than a decade ago. Women over the age of 60 are less likely to be in full-time paid employment than they were in the mid 1970s.

- Men are still more likely to be in paid work than women. Women are about half as likely as men to be working full time and four times as likely to be working part time. Labour-force participation patterns by gender are most similar for those in the 15-19 age group — the group least likely to be caring for dependents.

- Women are less likely to be in paid employment if they have dependent children in the household, particularly if the children are young. However, the proportion of mothers of young children in both full- and part-time paid employment has shown a steady increase in the decade 1976-86. Women with three or more children are less likely to be in paid employment than women with one or two children.

- Women with tertiary educational qualifications are more likely to be in full-time paid employment than women with no tertiary qualifications. Part-time labour force participation appears independent of the presence of a tertiary qualification.

- Women's employment is concentrated in the wholesale and retail trade/restaurants/hotels sector, and in community and personal services. There are significant gender differences in the pattern of employment by industry. These have shown some decline over the last fifteen years.

- Gender differences in the pattern of employment by occupation are greater than those by industry. Women are more likely to work in clerical, professional and technical, and sales and service occupations, and are less likely to work in administrative and managerial, agriculture and production, transport equipment operation and l abouring occupations. Three different measures all suggest that gender differences in occupation patterns are slowly but steadily being eroded.

- Recent trends and sectoral forecasts suggest that during the next ten years employment will become more heavily concentrated in non-manual occupations in the service sector. Women whose employment is heavily concentrated in non-manual occupations in the service sector are clearly well placed to benefit from this expected employment growth.

- In many occupations an increasing proportion of those in senior positions are women. Nevertheless, women are very much under-represented at senior levels in most occupations.

- Women doing full-time paid work average three hours per week less than their male counterparts; part-time hours are, on average, the same by gender.

- Women are a little more likely to be unemployed than men, although the most commonly-used statistics suggest the reverse. However, gender differences in unemployment rates are much less than earlier in the decade.

- Women earn less than men. Around 40% of gender income differences can be attributed to women's lower participation in paid work and their greater propensity to be in part-time paid employment. Just over one-third of the remaining differences can be accounted for by women's lower average weekly hours of paid work, younger average age in the workforce, and more intermittent participation in paid work. Gender differences in occupational distribution may not be a very significant factor in gender income differences. Ranking within occupations is probably more important. This, in part, is a reflection of women's other major economic activity, that of unpaid work in the home. Some part of this difference in ranking, probably accounting for around one-third of the gender-wage gap, cannot be explained by the factors considered.

CHAPTER SIX

Technology and Employment

Chips, bugs and satellites

Current technological change in New Zealand, as in other countries, is based on three major areas of development — chips, bugs and satellites.

The first — chips, or micro-electronics — is probably the most pervasive of the three. Rapid development in microprocessor technology has caused a sustained dramatic fall in computing and communication costs and has had widespread application. Bugs, or biotechnology, is the use of micro-organisms such as yeasts and bacteria to produce a wide variety of biological products, for example, drugs, fertilisers, animal feed, fuels. Satellites enable the expansion of world-wide networks of electronic information. Combined with chips, these developments have led to the current information technology revolution which cuts across all areas of the economy.

New technology affects the various economic sectors in different ways, and is expected to have a significant impact on virtually all sectors of industry and occupation in the foreseeable future.[1]

What is the likely effect of current and expected technological change on employment in New Zealand?

Our attempt to answer this question draws mainly on research based outside New Zealand, largely because of a lack of local research on the links between employment and technological change. In the absence of anything better, it seems reasonable to assume that the experience and predictions from elsewhere should be a useful guide to the expected patterns of change in New Zealand.

The impact of technology on employment can be assessed in two ways:

- the effect of technological change on the aggregate level of employment in the economy
- its effect on the structure of employment — for example, on the demand for workers with different kinds and levels of skills.

Technology and the aggregate level of employment

There are various theoretical arguments about the effects of technical change on employment levels.

It is generally agreed that the short-term effects on employment are often negative. However, the longer-term effects are the subject of considerable argument and debate. One line of argument is

[1] For detail of expected change by industrial sector refer Couchman 1988, pp.26-72.

that with the enhanced labour productivity often achieved by the adoption of new technology, there will be less demand for labour and hence less employment. The more optimistic view is that whilst the short-term effect of technological change may be negative, via the mechanism outlined above, the longer-term effect may be more positive. It is argued that the development of new technology will lower real prices of products, thus enhancing real incomes, stimulating the development of new products and services, and increasing international competitiveness. All of these outcomes will thus lead to higher levels of employment.

For example, Barras (1986) introduces the concept of a 'reverse product cycle', which occurs with the adoption of information technology in the service sector. The first stage is the use of information technology to increase the efficiency of existing services, and is likely to have negative effects on employment. The second stage is one of improvement in service quality where the effect on labour is neutral. The third stage is the development of new information technology products, which will require major development of networking and expenditure on infrastructure. Barras argues that a boom in the service sector in the 1990s, and the consequent positive employment effects, is dependent on the development of this infrastructure.

In practice, there is conflicting evidence about the long-term effects of technological change on employment, and the extent to which effects may vary for different types of technological change, and between different social and institutional frameworks. One of the major reasons for this conflicting evidence is that it is difficult to find satisfactory measures. Technological change is difficult to disentangle from other socioeconomic variables, such as changing patterns of consumption, output and international trade.

We have seen how the introduction of new technology can have job displacement effects. Many workers have lost their jobs because of the introduction of computers, or new computer systems and automation, from bankers to lighthouse keepers. What is controversial is the issue of the aggregate effect of technology on employment.

The pessimistic view is epitomised by Jenkins and Sherman (1979, in Couchman 1988) who predict that four million jobs will be lost in the United Kingdom by the mid 1990s. Baron and Curnew (1981, also in Couchman 1988) estimate that 16% of jobs in the United Kingdom will be lost over a similar period of time. However, such forecasts appear to have greatly overestimated the displacement effects of technological change and the speed of diffusion, and underestimated compensatory effects on employment in other parts of the economy.

One approach used by economists to assess the impact of technological change on the economy is the growth accounting framework. By eliminating the effects on output of increasing inputs of capital and labour, a residual factor called total factor productivity is identified (from here on referred to as productivity). This consists of that growth in real output which is not explained by the growth in measured inputs. Increased productivity may be the result of factors other than technological change, for example, the changed management structure of firms. However, such changes are often closely related to technological change itself. It seems reasonable to assume, then, that a substantial proportion of measured increases in productivity over the last 200 years or so will be as a result of technological change.

The growth accounting approach generally shows that, in the twentieth century, increases in productivity have been closely associated with increases in aggregate employment. For example, in a study of six developed economies, Maddison (1987) found that over the 1913-84 period rising levels of output were closely associated with rising levels of productivity and employment.

The OECD (1987), using their interlink economic model, examined the medium-term effects of increased productivity on output, employment and real wages. Their results indicate that the effect of an even growth of productivity across all industries produces a more than proportionate increase in output and real wages, and a modest increase in the aggregate level of employment. These results indicate that, in the medium term, technological change is likely to have mildly positive effects on the level of employment.

One serious criticism of the economist's approach to determining the effect of technological change, is that economists treat technological change as an exogenous variable. As Couchman (1988) points out, "the introduction (of technology) involves a political process of conflict, negotiation and compromise, the outcome of which cannot always be determined in advance". Such factors are likely to influence the speed and sequence of impacts in specific sectors in the short to medium term, but over the longer term and at a more aggregate level, the effects of these factors may be smoothed out.

Some authors believe that the nature and pace of present and expected technological change is very different from the technological change of the past. Thus, they argue that historically established relationships between employment and change may not be a useful guide to current or future outcomes.

Compared with the past, the rate of technological change which has occurred in the last two decades, and which is expected to continue, is unprecedented. For example, the dramatic reduction in the price of chips (estimated at 30% per annum in real terms over the last three decades) makes the mechanisation of the loom and its impact on the price of cotton cloth (estimated to decrease 3.5% in real terms during the late eighteenth and early nineteenth centuries) look like no change!

However, despite very rapid technological innovation it is often a long time before such inventions are widely used. As Mark (1987) points out, the observed rates of adoption of new technology in 35 industries in the United States suggest that the process is "evolutionary rather than revolutionary". He quotes the example that even with 25 years of rapid growth in computers there were, in 1980, still more hand bookkeepers in the United States than all workers of the computer-related occupations combined.

Others argue that the new technology is so widespread in its application that it is essentially different from that experienced before. For example, the field of application in information technology is very wide ranging — from aerospace to office functions and lighthouses to home banking. Leontieff (1982, in Couchman 1988) argues that whilst in the past new technology has replaced human muscles, it is now replacing the human nervous system. Hence the relationship between people and machines is being radically transformed. Such change may completely alter previously observed historical relationships. Relationships such as those observed by Maddison, therefore, may not be a good guide to what we can expect in the future.

The OECD (1988) shows that, since the 1970s, the rate of growth of productivity has declined across the OECD economies. It is generally agreed by economists that part of this is due to the difficulties of measuring productivity in the service sector of the economy. However, to the extent that it is a real phenomenon rather than a reflection of measurement difficulties, the OECD speculates that the reason why the expected productivity gains from the adoption of new technology have not been realised, is that the degree of change required in terms of management structure and new skills may have hindered the efficient utilisation of information technology.

Since World War II the service sector has provided most of the new jobs. The services are traditionally areas with low, and only slowly increasing, productivity. Commentators such as economist Lester Thurow speculate rather pessimistically on what will happen to employment when service sector productivity rises.

However, the service sector contains very diverse elements — some high technology (such as communications) and some low technology (such as domestic services). Soete's work on the impact of information technology on employment in the United Kingdom has shown that the high-technology service sector has a better employment record than either the low technology services or manufacturing.

There are two possible explanations for this. The adoption of new information technology may have been inefficient, as suggested by the overall low productivity gains of recent years. Alternatively, it may be an example of the Barras (1986) reverse product cycle concept, that the high technology sector has spawned the development of new products and services, consequently increasing employment. Soete's observations indicate that increasing service sector productivity may not imply reduced growth of employment in the service industries.

On the basis of the theoretical arguments and the limited empirical material available, what can we conclude about the likely effects of expected technological change in New Zealand on the aggregate level of employment?

First, that the relationship between employment and technological change is complex, and attempts to measure it are fraught with difficulty.

Second, there are conflicting views on the nature of this relationship. Technological change certainly raises the productive potential of economies, but the impact of the new techniques on overall employment cannot be known with certainty.

All writers acknowledge that there are often initial displacement effects, but many disagree over the extent of compensatory effects throughout the economy. Some cite historical evidence to support the theory that technological change and increasing employment levels are related. Others argue that the new technology is essentially different from that experienced historically, and that its likely effects cannot be drawn from past trends. Generally, such writers argue that the employment consequences could be dire. However, to date these predictions have not come about. The rate of adoption has been much slower than expected, the displacement effects less than expected, and the compensatory effects underestimated.

Thus, it seems likely that further technological change and employment growth are not incompatible, despite the initial impact of job displacement.

The third factor for New Zealand — whose primary markets are affluent ones — is that new technology and the associated increased incomes will mean increased affluence in many newly developing economies. This may increase demand for existing and new New Zealand products, such as more Japanese tourists to visit New Zealand, more meat eaten by Asians, more provision of education services to Asian students. However, in order to share in this increased affluence New Zealanders must, at the very least, retain the competitiveness of their goods and services compared with other suppliers. The continued development and application of new technology is an essential part of the process of retraining and improving competitiveness. The consequences of failing to do so would be dramatic for New Zealand's standard of living and levels of employment.

Technology and the structure of employment

Structural unemployment

Adoption of new technology necessitates change and often dislocation for workers. Workers may need to learn new skills, work different hours, and/or relocate to a new place of employment. Acceleration in the pace of change is likely to cause increased structural unemployment as workers whose skills are no longer needed seek new employment opportunities.

An efficient response to technological change, which minimises the level and length of structural unemployment, requires a flexible labour market. The acute shortages of high level skills in areas such as computer software design, computer science and systems analysis over the past 10 years, cannot be assessed simply in terms of aggregate numbers. These shortages are a bottleneck in the

process of technological advance, and hinder the realisation of the potential economic growth embodied in the new technology, thus contributing to high levels of unemployment. Training for bottlenecks and other such active labour market policies may have a role in reducing structural unemployment.

So also may practices of early warning and discussion with affected parties. The United States Bureau of Labor Market Statistics, in a survey of firms in 35 industries, found that "techniques like advance notice, provision of retraining, and the reassigning of employees are of major importance in easing the introduction of new technology" (Mark 1987).

Skills effects

A substantial body of literature on the impact of technological change on skills has reached few consistent conclusions. Empirical assessment is difficult for a variety of reasons. There is little agreement on the definition of job related skills, and often job content changes but titles do not. In addition, the skills effects of technological change often depend on the ways in which the new technology is implemented in the workplace. Identical innovations introduced in different firms can alter skill requirements in different ways.

It is easy to point to specific cases where technical skills have been mechanised, for example, typesetting, colour scanning and template making in the printing industry. Not all technology has such an effect, however. Computer aided draughting, for example, extends the options for autonomous skilled workers.

Braverman (1974, in Couchman 1988) argues that technological change would lead to a deskilling of the workforce. By contrast Eliasson & Ryan (1987, also in Couchman) indicate an overall upskilling effect. Bessant (1983, in Couchman) argues that there will be a shift from a triangular-shaped skills base to an onion-shaped one, with a reduction in the demand for low skilled workers, and an increase in the demand for those with middle level or upper level skills. Bessant notes that the pace of this change will probably be slow.

Couchman (1988) concludes, on the basis of case studies, that technological change reduces the demand for middle skilled and low skilled workers and is likely to polarise the skill requirements of the workforce. A small proportion of jobs will become more skilled and a much larger proportion will become less skilled. Barras (1986) argues that information technology, in particular, is likely to lead to the creation of a small elite of experts developing software etc, and may 'downgrade' the activities of many services and professionals — such as doctors and teachers — from technical to counselling roles.

Evidence gathered by Cyert and Mowery (1987) on trends in the occupational structure of the workforce in the United States does not support this hypothesis. Singelmann and Tienda (1985, in Cyert and Mowery, p.128) analyse data on occupational trends within industries, and conclude that occupational upgrading rather than polarisation has characterised the United States economy. Research by Sundqvist (1988, in OECD 1988) shows that only in a minority of British installations of new information technology has such change been accompanied by reductions in the skills and autonomy of factory and office workers. In the great majority of cases job requirements have remained unchanged or, in the case of non-manual jobs, increased. Overall, the Sundqvist report concludes that "the full exploitation of the new technologies implies a shift from a typical pyramid shaped structure towards a substantial upgrading and broadening of skills" (p.14).

Cyert and Mowery conclude that "technological change does not appear to be systematically 'deskilling' workers or creating a two-tiered workforce, although additional evidence on occupational trends and continued monitoring are needed" (p.128).

Technological change will change the kinds of skills needed for employment — different technical skills and also more interpersonal, management and creative skills. Rather than deskilling, it may be reskilling — in some cases, the need for technical skills may be reduced but greater interpersonal and management skills may be required. How do you rate hospitality and organisational skills required in restaurants with the technical and manual skills of a fitter and turner?

Freeman (1988) points to the need for continuous reskilling of the labour force at all levels in order to gain the full advantages of the new technology. He points to the Japanese as a people who have realised the full value of this. He also stresses that adaptability to such change also requires a high level of general education and computer literacy throughout the population.

Thus there is considerable uncertainty about the effects of technological change on the skills content of jobs. Although some instances of deskilling can be readily documented, it seems that the consensus view in the literature is that, in general, new technology does not necessarily imply such deskilling. In fact many experts believe that new technology has the potential to raise the skill content of most jobs. What is clear is that technology requires considerable reskilling at all levels of the labour force in order to fully realise its benefits.

Industrial Relations

In addition to the requirement for continuous reskilling "the full exploitation of the new technologies also implies a shift away from the 'Tayloristic' model of production which has dominated in the first half of this century particularly in manufacturing but also in the services and public administration, to a more decentralised organisational structure which emphasises a two way flow of information" (Sundqvist 1988, p.14).

In particular, efficient utilisation of information technology often entails fundamental changes to the existing organisation of many workplaces and therefore places new demands on the relationship between workers and managers. Cyert and Mowery (1987) note that there would appear to be strong incentives for both workers and managers to effect such change. Although a large number of manufacturing firms in the United States (and some notable New Zealand examples) have recently adopted new strategies, they question why such policies have not been pursued more widely.

They comment that where labour relations have historically been predominantly adversarial, then traditional intermittent bargaining sessions over wages and job conditions need to be complemented with regular joint problem solving sessions that address a wide range of workplace issues. In addition to discussion of specific issues, the sharing of market business information often results in a better understanding in the workplace of the need to change. They note that it is often middle management who are most resistant to such change fearing a loss of power.

Summary

- Technological change raises the productive potential of economies, but the impact of new technology on overall levels of employment is the subject of much debate. We all witness the initial displacement effects but the overall effects are much less clear.

- The 1970s predictions of new technology leading to severe job losses have not eventuated. New technology and employment growth do not appear to be incompatible.

- Evidence on the effects of new technology on skills is mixed. Some deskilling effects can be readily observed but, overall, many experts believe that new technology brings with it the potential for raising the skill profile of jobs. What is certain is that new technology requires considerable reskilling at all levels for the labour force to fully realise its potential.

- Efficient utilisation of new technology often requires new organisational structures. Although there are some notable examples, such change is not widespread.

Conclusion

The information set out in *Work Today* is a starting point, a benchmark against which we can measure progress towards full employment. It was not intended to produce a neat package of conclusions. But there are a few major points which deserve mention as we work out where we want to get to — sustainable full employment with high incomes.

Our labour force has grown very rapidly; it will continue to grow but more slowly. The proportion of Maori and women in the labour force will rise, whilst the share of younger people will decline. The average educational attainment of workers will rise but, on present performance, will continue to lag well behind our trading competitors'.

Over the twenty years from the mid 1960s to the mid 1980s employment in New Zealand grew quite rapidly in comparison with other countries — but not fast enough to keep pace with growth in our labour force. Over the same period the growth in our national income per head failed to match that of many other countries.

Since 1986 the number of jobs, particularly full-time jobs, has declined substantially. We now have a large backlog of unemployment to overcome, in addition to finding jobs for the continuing stream of new entrants to the labour force.

Our goal of full employment will not be achieved easily. It will only be achieved if we can improve our ability to compete on world markets. We will only achieve sustainable full employment and high incomes if we shift the emphasis further away from the mass production of commodities towards quality specialist products with greater added value and profit. To do this we will need a more highly skilled, adaptable and creative workforce.

The greatest growth in jobs will not come from the basic production of primary and manufactured goods, where technology has reduced the need for labour. Instead it is the service sectors which are expected to provide most new jobs, particularly wholesale and retail trade, business and personal services. Some of these jobs will be generated by applying extra skills and services to our primary products — in research, marketing, packaging and customising these products to meet consumer demands. Many will also come directly from increased consumer demand for services such as tourism, education and recreation.

The proportion of women in paid employment will continue to increase particularly women with dependent children. OECD experience suggests that higher participation by women in paid work is associated with more employment overall, not more unemployment.

Although gender differences in employment patterns are slowly eroding, women's employment is heavily concentrated in service sectors and occupations. Women are thus well placed to benefit from the expected growth of jobs in several of the service sectors. An increasing proportion of those in senior positions are women; nevertheless overall women remain under-represented at senior levels.

On past and present performance, employment prospects for Maori are less promising. In education, skills, hours worked, incomes and occupations, Maori at the moment are not well positioned to take advantage of expected trends and changes. Although there is some evidence of change in employment patterns and educational achievement, this change needs to be accelerated if Maori are to improve their employment prospects. That poses particular challenges for education and training systems, for workplace organisation and for individual Maori, their iwi and other groups. New systems deserve and need to be tried.

Overall, the trends and our current performance are not promising. *Prospects: Economic and Sectoral Trends to 1997* (1988) concluded that on the performance and trends indicated then, reducing unemployment would be a long, hard task. A year later that report now looks optimistic. Other Planning Council monitoring of social trends, Maori development, and income distribution,[1] emphasises the importance of the availability of paid employment for achieving other social and economic goals. The Economic Monitoring Group's review of the economy in *The Economy in Transition: Restructuring to 1989* (1989) gives some grounds for optimism that fundamental improvements have been achieved in our economic structure and performance. But that promise now needs to be focused on achieving progress in employment.

One thing is clear from the information in *Work Today*: sustainable full employment in the 1990s will be different from full employment in the 1950s. It will, for example, not mean leaving school at 15 and working for 40 hours a week for 40 years in the same job with the same skills. Close to a half of all those in paid work will be women. More and more jobs will probably be part time. Many jobs will be outside of what most of us still think of as regular working hours. More people will be self-employed. A greater proportion of workers will work in small businesses. Most young people will enter the workforce later than their parents did. There will be more turbulence in the labour market — people moving between full- and part-time hours, in and out of self-employment, in and out of the paid labour force, in and out of education and training.

At the Planning Council we are developing scenarios of what New Zealand as a fully employed, high income society of the 1990s will look like. We should then be able to chart a route towards it and measure our progress against the bench mark of *Work Today*.

[1] *From Birth to Death II: The Second Overview Report* (1989); *For Richer or Poorer: Income and Wealth in New Zealand* (1988).

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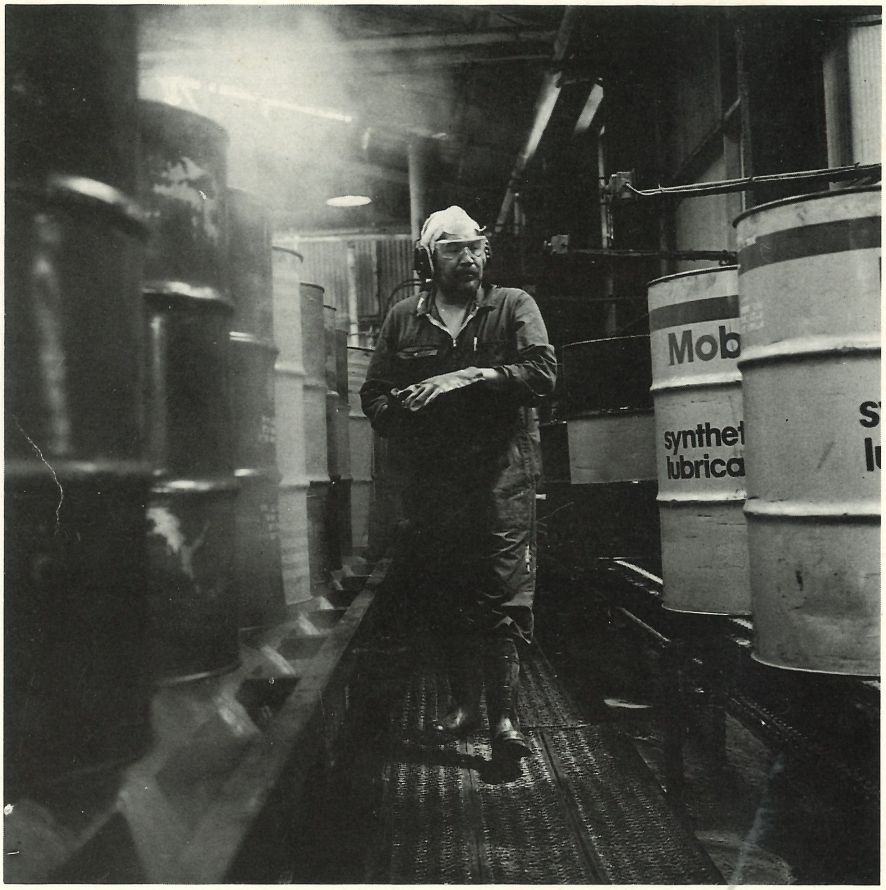

ANS WESTRA New Zealand – Holland 1936
Drum recycling plant, Gracefield, Lower Hutt

black/white photograph
Alexander Turnbull Library collection