THE NEW ZEALAND POPULATION: CHANGE, COMPOSITION AND POLICY IMPLICATIONS

Population Monitoring Group

Council Monitoring Group Report

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POPULATION MONITORING GROUP
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FOREWORD

During the last decade, New Zealand has experienced its slowest population growth since the second World War. As a result the most significant demographic trends in the next few decades are likely to be caused by population composition changes rather than changes in absolute population numbers. Instead of assuming that population growth is synonymous with social and economic development, future social and economic policies will have to take into account slow population growth and quite dramatic changes in the population's age structure. The overall trend will be towards an older population, but this process of population ageing will be complicated by peristalsis, or alternating periods of expansion and contraction in the size of various age groups. The effect that these varying sized cohorts at particular life-stages will have on social and economic policies and consumption patterns is an issue which will have to be faced by planners in government and business sectors alike.

Thus, in this, its fourth report, the Population Monitoring Group not only documents recent trends in the growth and distribution of New Zealand's population along with their policy implications, but also examines in some detail the significance of slow population growth, and the policy implications of changes in the age composition of the population.

The report has been written collectively by the Group, with special thanks to Richard Bedford for his added contribution in collating the material and to Tony Shatford of the cartography section of the Department of Geography, University of Canterbury for his work on the graphs.

P. G. Koopman-Boyden

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

Section 1

SUMMARY

The Population Monitoring Group has prepared reports on trends in the growth, composition and distribution of New Zealand's population with a view to assisting policy makers to integrate demographic considerations into social and economic planning. This report, the fourth in the monitoring series, follows the format of previous reports. The first section contains a summary of important trends and policy issues. Section 2 reviews recent demographic trends in population growth, international migration, fertility, age structure, the labour force, and population distribution. For ease of comparison with trends identified in previous monitoring reports many of the same diagrams have been used and updated to March 1986.

Sections 3 and 4 are devoted to issues related to population trends which have important policy implications. In Section 3 attention is drawn to the slow growth of New Zealand's population in recent years and, in the light of this, to the need for a fundamental shift in perspective on population trends away from a focus on growth which was so prevalent from 1945 to 1976. There is also an examination of some aspects of the Labour Government's policy statement on immigration as well as comment on policy implications of labour force and population distribution trends.

In Section 4 the significance of changes in the age composition of New Zealand's population over the next 25 years for policy making in a range of public and private sectors (housing, business, labour force, education, social welfare, justice, health) is illustrated. Planning for a population which is growing slowly in total size, but which is changing fast in terms of age structure raises quite different issues to those which were relevant when there were relatively rapid increases in numbers resident in New Zealand.

Some of the main points which emerge from the report are as follows:

Population Growth

- The official census population on 4 March 1986, 3,307,084, is just over 4 percent larger than the number in New Zealand at the time of the census in March 1981. The number of people added to the population between March 1981 and March 1986 (131,347) is the second smallest intercensal increase since 1945. The smallest was between 1976 and 1981.

- The combined effects of falling birth rates and net emigration in most years since 1976 have ensured that population growth in New Zealand remains slow. Recent projections by the Department of Statistics suggest that by the year 2011 the New Zealand population could number around 3.7 million, only 400,000 more people than were enumerated in the 1986 census. This is a smaller population increase than occurred between 1961 and 1971.

- The reality of slow population growth means that policy makers and planners will have to give much more consideration to changes in population composition, especially with regard to the numbers and proportions of people in each age group.

- Another implication of the trend towards slow population growth in New Zealand

is the likelihood that differential growth rates among ethnic sub-groups will become more apparent over time. If the total population growth between 1981 and 2011 is around 400,000, this will represent a 12 percent increase in the 1981 population. Unofficial projections for the Maori population prepared by Pool and Pole (forthcoming) indicate that the Maori descent population (people who reported they were descendants of a Maori person of New Zealand in the 1981 census) could increase by 64 percent over the same period. Almost half (46 percent) of the projected increase of 400,000 people could be accounted for by Maori population growth over the next 25 years.

- Because the Maori population has a very different age composition to the non-Maori population, these differences in growth trends have much wider implications for social and economic planning than the simple numerical increases might suggest.

International migration

- A population trend which captured the attention of the media in 1986 is international migration. During the year ended 31 March 1986 both the Maori and non-Maori populations experienced the highest levels of net emigration since 1980. In the case of the Maori population, the net loss through migration overseas was equivalent to 40 percent of the number added through natural increase (the balance of births over deaths). The non-Maori population lost the equivalent of 80 percent of its natural increase between 1 April 1985 and 31 March 1986 through net emigration.

- While these statistics reinforce common stereotypes of an exodus of New Zealanders overseas, and especially to Australia, the raw data on international migration must be interpreted with caution. The New Zealand population currently has a disproportionately high number of people (both Maori and non-Maori) aged between 15 and 29 years. This happens to be the most mobile age group in the population and high levels of international movement, especially across the Tasman, are not surprising. When a longer-term perspective is taken of migration trends, there is little reason to assume that net emigration will continue indefinitely.

- The Labour Government's *Review of Immigration Policy*, tabled in Parliament in August 1986, contains several significant departures from established policy which have the potential to influence both labour force planning and the development of New Zealand's multicultural society. Several constraints on the sources, family composition, and business activities of prospective immigrants have been removed. Guidelines covering family reunification have been revised and a new category of family sponsorship introduced.

- The net effect of the policy changes is unlikely to be a sudden increase in immigration because the most important factor influencing numbers of people entering New Zealand with a view to working here is the state of the labour market. However, there is now a more flexible policy regime within which both the private and public sectors can operate in seeking to fill job vacancies and attracting overseas capital and entrepreneurial talent to New Zealand.

Fertility

- In New Zealand, as in most developed countries, fertility rates are below the level required to ensure that the current generation of adults will be replaced by their children. This does not mean that the population has stopped growing, but if current fertility levels persist without net immigration then the population will start to decline absolutely in another three decades.

- A recovery in fertility rates to replacement level over the next two decades cannot be ruled out. Data on fertility from 1978 to 1985 for women aged between 29 and 34 years indicates there may have been some recovery of births which had been postponed when these women were younger. However, it is very difficult to isolate the effect on fertility rates of changes in family size (which might indicate a recovery in fertility) from changes in the timing of births.

Age structure

- The declines in fertility since 1961 for the non-Maori and 1971 for the Maori populations have produced situations whereby the distributions of people by age will alter significantly from one decade to the next. More flexibility in social and economic policy will be required to cope with the evolving age structure of the population.

- Over the next 25 years birth cohorts (groups born in the same period) originating in the high fertility decades of the 1950s and 1960s will progress through their various life-cycle stages as a disproportionately large group of the population. The effect will be rapid expansion of numbers in a particular age group followed by equally rapid contraction in numbers as the birth cohorts of the 1970s and 1980s follow. The overall trend will be towards an older population, but this process of "ageing" will be complicated by alternating periods of expansion and contraction in the size of key age groups.

- The critical theme running through the analysis of age composition changes in the New Zealand population in this report is that the arrival of large cohorts at particular life-cycle stages will produce pressures on demands for consumer goods, services and opportunities needed at that stage of life. These are illustrated with reference to consumption patterns in areas such as housing, travel and consumer durables; patterns of employment and unemployment; roll sizes and staffing levels in educational institutions; and social policy areas such as superannuation, health care and crime rates.

- Behaviour and consumption patterns typifying the large cohorts at a particular life-cycle stage may come to dominate planning in both the business and social policy areas. As this group gets older, peaks in demand and consumption will change and this could produce problems of policy formulation and implementation unless care is taken to ensure there is flexibility in planning. At the same time the size of the elderly population will be growing at an unprecedented rate. The special needs of this population will have to be serviced during a period when flexible planning is required to meet the needs of other cohorts.

Labour force

- On the basis of data obtained in the Department of Statistics' quarterly Household Labour Force Survey it is apparent that there have been rapid increases in female labour force participation at all ages between 1981 and 1986. Slow growth in full-time employment (three percent in five years) in a period when real Gross Domestic Product increased by 15 percent, reflects a substitution of part-time workers for full-time workers in addition to increases in labour force productivity.

- There was an increase of 59 percent in the incidence of part-time work between 1981 and 1986. This means that one person in five now works part-time compared with one in eight in 1981. While this increase has taken place at all ages, and for both sexes, it is the rapid growth in male part-time work that is especially significant.

- The Household Labour Force Survey for the quarter ended 30 June 1986 confirmed that unemployment rates have remained much higher for Maori and Pacific Island Polynesians than for Europeans. Population projections for the Maori population indicate that through the late 1980s and into the 1990s there will be severe pressure to find jobs for young Maori. There is the prospect that the current young adult Maori population (15-24 years) may pass through the remainder of its life cycle always severely underprivileged by comparison with its non-Maori peers. Assuming subsequent Maori labour force entrant cohorts find job seeking easier, young Maori today may also be underprivileged by comparison with future cohorts. This stark and undesirable effect of composition-derived changes will affect all related areas of social policy.

Population distribution

- Sub-nationally the effects of age and cohort composition changes will be even more marked than at the national level, and will require more fine-tuning both in terms of economic and social policy. Population growth is concentrated in the northern half of the North Island, where there are also the major concentrations of Maori and Pacific Island Polynesian populations. The policy implications of population trends in this part of New Zealand are quite different from those for the South Island, and for regions with very slow growth or declines in population in recent years.

- At a broad sub-national level there are already significant regional differences in population age structures. Regions experiencing slow growth or population decline generally have older age structures as a direct outcome of net outward migration. Continuation of the present pattern of regional migration trends will perpetuate and accentuate existing regional age structure differences within the context of a progressively ageing national population.

- There are both social and economic implications at regional and national levels of the prolonged continuation of substantial differences in regional population growth rates. Any simplistic assumption that whatever changes are occurring are the necessary price of progress may prove to be short-sighted. Reviews of regional development policy will have to allow for the possibility that what appears to be in the national short-term interest is not necessarily what is in the national long-term interest.

Section 2

POPULATION TRENDS

Population Growth

The latest New Zealand census of population and dwellings, held on 4 March 1986, indicates that the total population exceeds for the first time 3.3 million (3,307,084). This represents an increase of 4.2 percent on the 1981 census total of 3,175,737 (Table 1). Population growth over the past five years was more substantial than between 1976 and 1981. However, the intercensal increase of 131,347 was the second smallest recorded since 1945. The early 1980s remain a period of relatively slow population growth in New Zealand's post-war history.

a) Components of growth

The two components of growth in New Zealand's population, natural increase (the balance of births over deaths) and net migration (the balance of international arrivals over international departures), have had quite different impacts on population trends since 1970 (Figure 1). Natural increase has consistently added over 24,000 people per year to the population, although this annual contribution has fallen steadily from around 37,000 in 1970 as birth rates among both the Maori and non-Maori have declined. Net migration has varied markedly from substantial gains to New Zealand between 1972 and 1975 to substantial losses between 1977 and 1981 and in the year ended 31 March 1986 (Figure 1).

Table 1: Population growth, 1961 - 1986

Census	New Zealand population	Intercensal increase	Percentage increase over previous census	
			Intercensal period	Annual average
18 April 1961	2,414,984			
		261,935	10.8	2.06
22 March 1966	2,676,919			
		184,712	6.9	1.34
23 March 1971	2,862,631			
		266,752	9.3	1.78
23 March 1976	3,129,383			
		46,354	1.5	0.29
24 March 1981	3,175,737			
		131,347	4.2	0.82
4 March 1986	3,307,084			

Source: Department of Statistics (1986a)

In nine of the 16 years between 1 April 1970 and 31 March 1986 net migration gains augmented the contribution of natural increase to population growth by a total of 137,670 people. During the other seven years net emigration removed the equivalent of 91 percent of these gains (125,754 people) thus effectively reducing the direct contribution of international migration to population growth since April 1970 to just under 12,000 people (11,916). This is less than half of the contribution to growth made by natural increase in a single year.

The relative significance of natural increase and net migration for population growth among the Maori and non-Maori populations since April 1981 is summarised in Figure 2. The Maori population has experienced fairly steady annual net migration losses through the 1980s. In the year ended 31 March 1986 the net loss recorded by the Department of Statistics was 2099; the equivalent of 40 percent of the 5148 Maori added through natural increase during the year. This was an exceptionally large net migration loss - in other years between 1981 and 1986 emigration was equivalent to between 25 and 33 percent of natural increase. Over the five years natural increase added some 25,700 to the Maori population. Net emigration removed 8,100 (the equivalent of 31 percent of natural increase) leaving a total population increase between censuses of around 17,600.

In the case of the non-Maori population international migration contributed to population growth in some years between 1981 and 1986, and removed the equivalent of part of the natural increase in other years (Figure 2). Over the period net migration augmented natural increase by 2,537 - a very small contribution in relative terms, equivalent to 2 percent of the 124,392 added through natural increase.

b) International migration

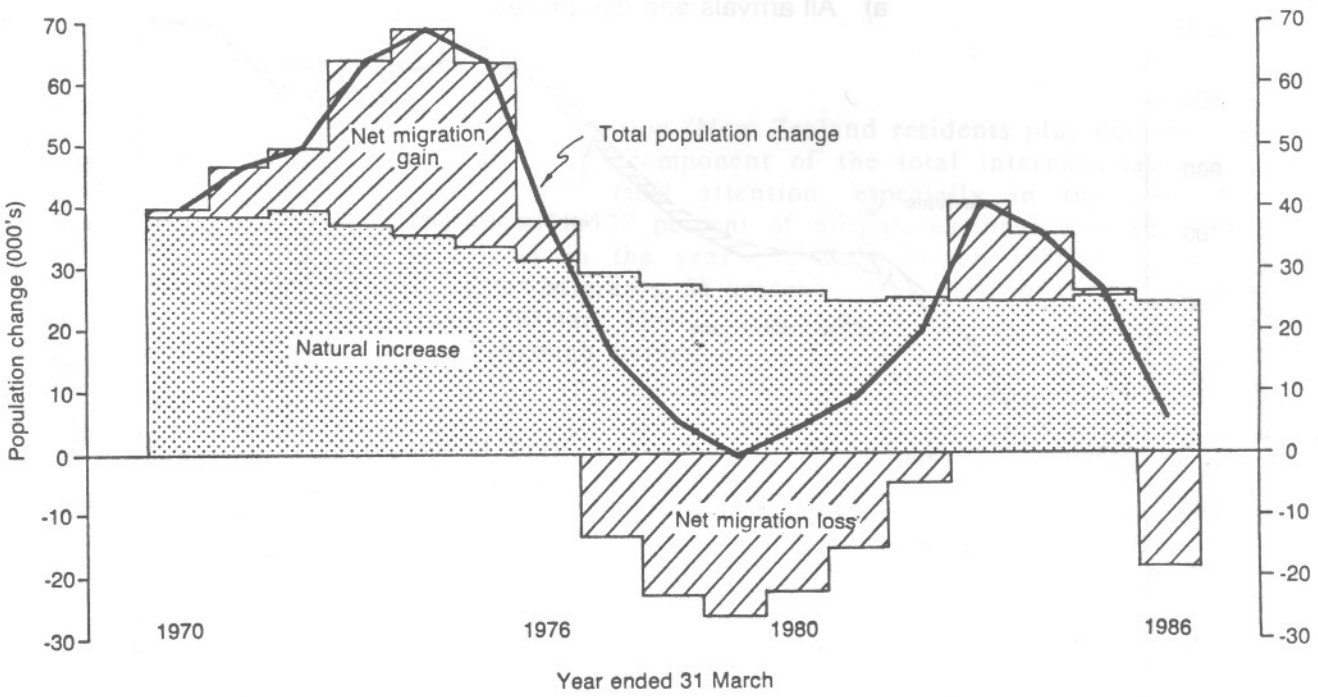
During the year ended March 1986 the excess of departures from New Zealand over arrivals in this country exceeded 18,000 for the first time since the year ended March 1980 (Figure 1). The magnitude of this loss prompted at least one politician to observe that there was an "exodus of people escaping New Zealand" (Mr Neil Morrison, then Deputy Leader of the Democratic Party, quoted in the *Christchurch Press*, 19 June 1986). However, this net loss needs to be placed firmly in the context of the total number of people arriving in and departing from New Zealand during the year.

For the second year in succession numbers of arrivals and departures each exceeded 1 million, and the net loss as a proportion of the gross flow was minute (0.8 percent) (Figure 3a). Nevertheless, as the migration flows have increased in magnitude, the net flows have become much more volatile. The short-term effects of this movement tend to be more marked on the New Zealand residents who comprise less than half of the total migration flow. New Zealand residents accounted for 406,239 (36.5 percent) of the arrivals and 442,461 (39.1 percent) of the departures between 1 April 1985 and 31 March 1986. A net loss of 36,222, or 4.3 percent of the gross international movement of New Zealanders was recorded for the year.

Most of the net loss is accounted for by the permanent and long-term component of international population flows. In the year ended 31 March 1986 52,524 New Zealanders left intending to settle overseas permanently, or to live away from New Zealand for 12 months or more, and 19,368 returned after an absence of more than 12 months. The net loss (33,156) resulting from this permanent and long-term movement accounted for 91 percent of the total net migration loss (36,222) of New Zealanders. Net gains to New

Fig 1

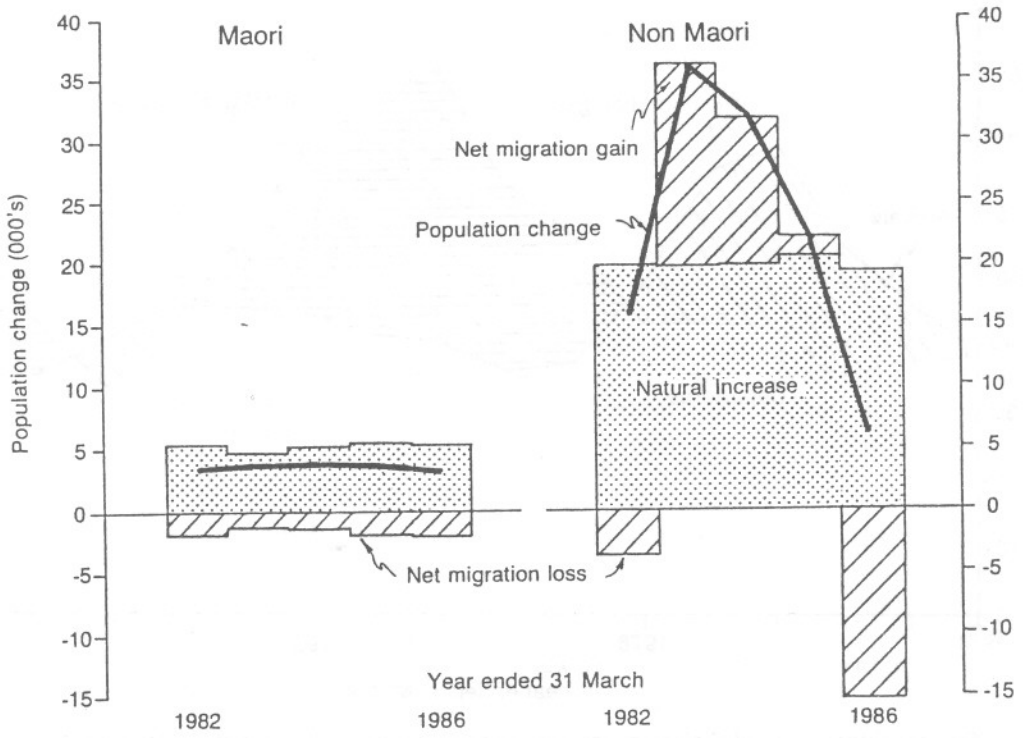
COMPONENTS OF POPULATION CHANGE, 1970-1986



Source: Demographic Analysis Section, Department of Statistics, Christchurch

Fig 2

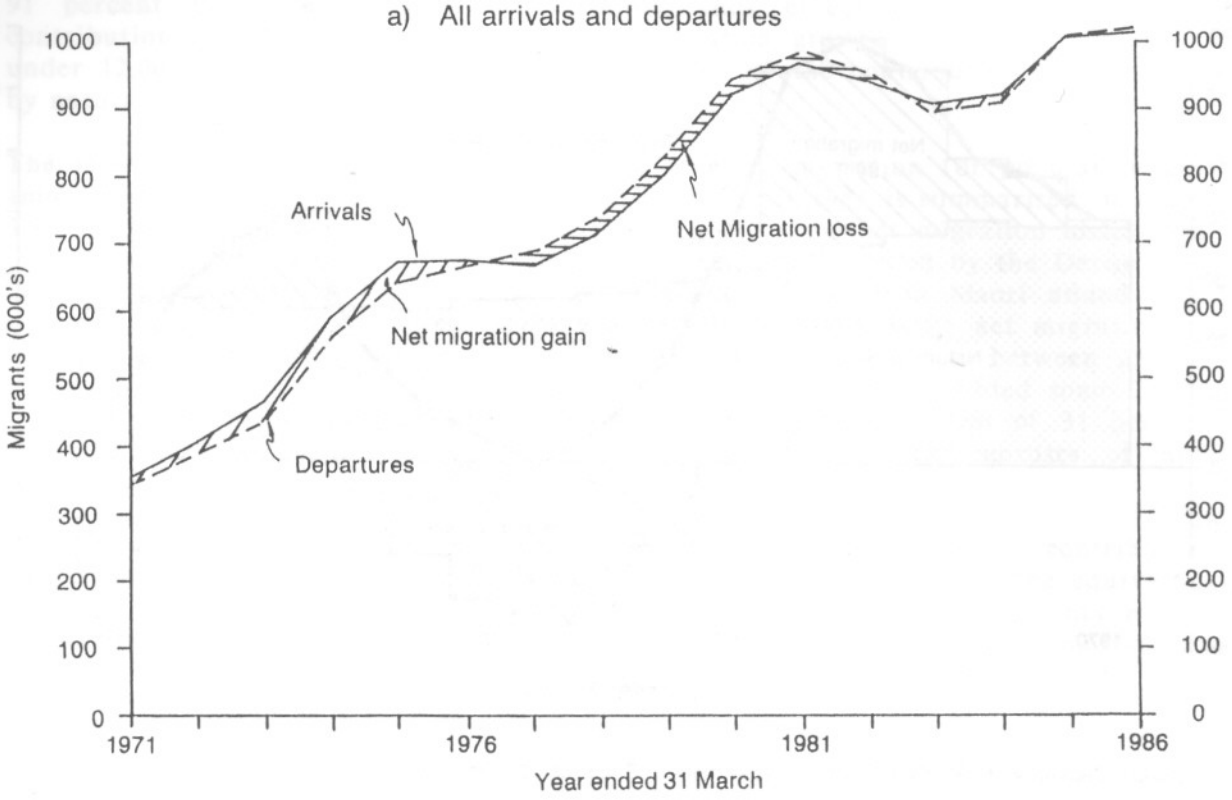
COMPONENTS OF POPULATION CHANGE, 1982-1986



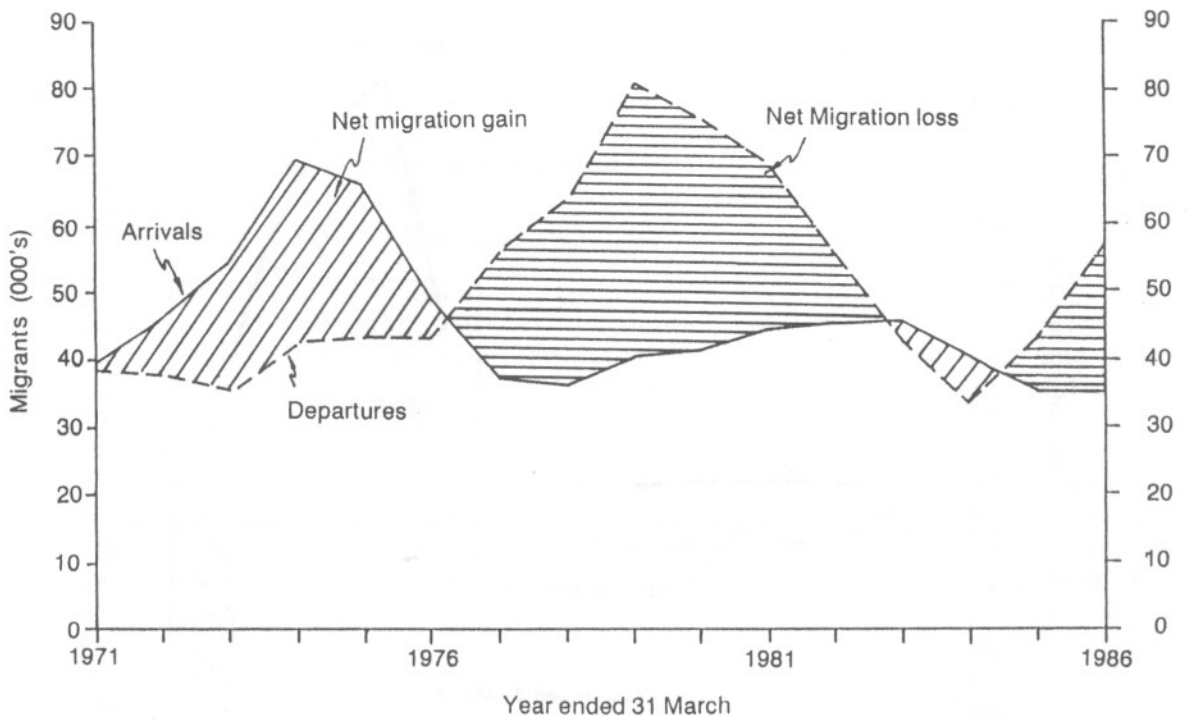
Source: Demographic Analysis Section, Department of Statistics, Christchurch.

Fig 3
POPULATION MOVEMENT IN AND OUT OF NEW ZEALAND,
1 APRIL 1970 - 31 MARCH 1986

a) All arrivals and departures



b) Permanent and long term



Source: Department of Statistics (various years), Population and Migration: Part B, Migration

Zealand's population through permanent and long-term migration of non-residents (11,543) were equivalent to just over a third of the net loss of New Zealanders during 1985-86.

c) Trans-Tasman migration

Trends in permanent and long-term migration (New Zealand residents plus non-residents) are illustrated in Figure 3(b). It is this component of the total international flow of arrivals and departures that attracts most attention, especially in the context of trans-Tasman migration. Although only 27 percent of all international arrivals, and 29 percent of international departures in the year ended 31 March 1986 were what is conventionally termed trans-Tasman migrants, 58 percent of the permanent and long-term departures were in the trans-Tasman flow. Sixty-eight percent of the total net migration loss to New Zealand through permanent and long-term migration in the last year was to Australia.

Trends in the three categories of permanent and long-term migrants in the trans-Tasman flow are shown in Figure 4. The basic patterns are well-known, and the substantial net losses of New Zealand residents to Australia since 1977 in particular have been commented on in previous reports by the Population Monitoring Group (1984, 1985a, 1985b).

In the year ended 31 March 1986 there was a decline in all categories of arrivals from Australia (permanent immigrants to New Zealand; New Zealand residents returning after a lengthy absence in Australia; and non-resident visitors intending a stay of 12 months or more), while the New Zealand resident departures rose sharply (Figure 4). Non-resident departures after a stay of 12 months or more also rose and this had the effect of reducing the net gain to New Zealand of long-term migrants from Australia to a mere 193 people - the smallest annual net gain in this category of migration since 1970.

While these statistics on permanent and long-term migration reinforce common stereotypes of an exodus of New Zealanders, the trends must be interpreted with caution. Declarations by New Zealand residents on their departure cards about overseas travel and residence plans are statements of intent. Plans frequently change, and if expectations overseas are not realised, New Zealand residents planning to settle overseas can return home. When they do so, they will be recorded as having a short-term absence if their stay overseas was for under 12 months.

The significance of this "jumping" between mover categories within a given year (New Zealand residents departing with the intention of permanent settlement overseas and then returning in the same year after a short-term absence) is difficult to measure precisely, but an indication is given in the net gains among the New Zealanders who have been overseas short-term. Between 1 April 1981 and 31 March 1985 there were 5,072 more short-term arrivals of New Zealand residents in the trans-Tasman flow, than departures (Table 2). This was equivalent to seven percent of the permanent and long-term net migration loss to Australia of 72,660 New Zealand residents over the five years.

Without doubt, the trans-Tasman flow has led to the relocation of many thousands of New Zealanders in recent years but, as noted earlier, natural increase coupled with net immigration of non-residents from Australia and other areas has more than compensated numerically for the exodus. The effects of this trans-Tasman flow on New Zealand's population are much more wide-ranging and complex than a simple accounting of net gains and losses through migration and natural increase implies. The detail of contemporary

trans-Tasman migration, and especially its implications for the New Zealand workforce, are the subject of a special report being prepared for the Planning Council by members of the Population Monitoring Group.

Table 2: Trans-Tasman migration, 1 April 1981 - 31 March 1986 [1]

Category of mover	Arrivals	Departures	Net gains/ loss to NZ
Permanent and long term			
Permanent [2]	11,557	53,272	-41,715
Long-term NZ residents	48,053	67,441	-19,388
Long-term non-residents	9,553	6,613	+2,940
Total	69,163	127,326	-58,163
Short term			
New Zealand residents	12,036	6,964	+5,072
Non-residents	1,212,320	1,228,346	-16,026
Total	1,224,356	1,235,310	-10,954
All categories			
New Zealand residents	60,089	127,668	-67,579
Non-residents	1,233,430	1,234,968	-1,538
Total	1,293,519	1,362,636	-69,117

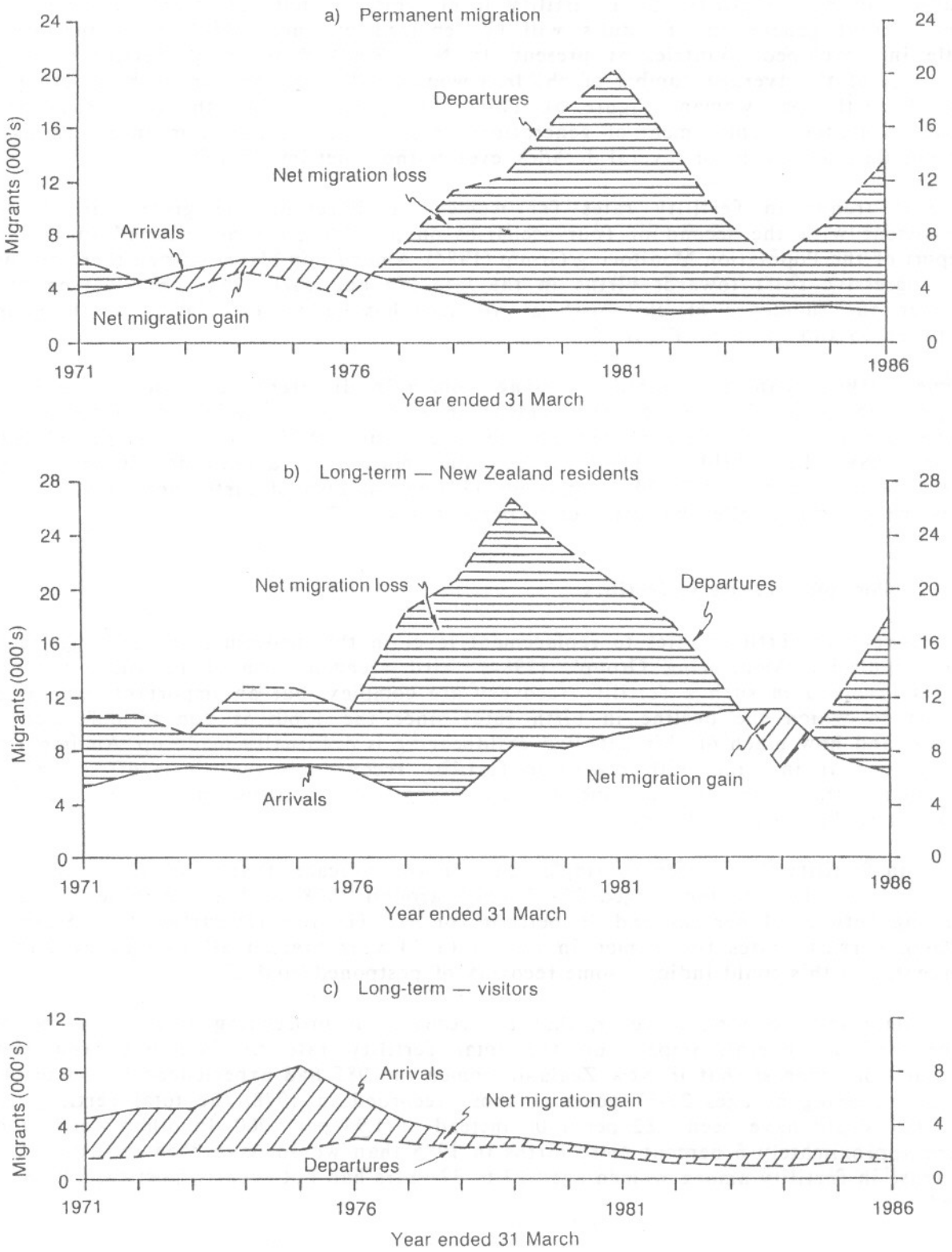
1 People arriving in and departing from New Zealand who cited Australia as their country of last (arrivals) or next (departures) permanent residence.

2 By definition all permanent arrivals are non-residents, and all permanent departures are New Zealand residents.

Source: Department of Statistics, unpublished tables, Migration Statistics Section, Dunedin.

Fig 4

PERMANENT AND LONG-TERM MIGRATION OF PEOPLE CITING AUSTRALIA AS THEIR COUNTRY OF LAST (ARRIVALS) OR NEXT (DEPARTURES) PERMANENT RESIDENCE, 1 APRIL 1970 - 31 MARCH 1986



Source: Department of Statistics (various years), Population and migration: Part B, Migration

FERTILITY AND MORTALITY

a) Sub-replacement fertility

Sub-replacement fertility, or a fertility level which is not sufficient to ensure that the current generation of adults will be replaced by their children, is the general rule in developed countries at present. In New Zealand the total fertility rate (an estimate of the average number of children women will have) appears to be levelling off at 1.9 births per woman (Figure 5). This is 10 percent below the level required to ensure long-term replacement of generations. It does not necessarily mean a termination of population growth for several decades, even without net immigration.

Recent trends in fertility rates for women in different age groups are broadly consistent with the second of four scenarios on possible patterns outlined in the first report of the Population Monitoring Group (1984). Among non-Maori women there has been a progressive shift towards births in the late 20s and early 30s, while among Maori women the incidence of childbirth at all ages has fallen, especially for those aged between 15 and 29 years (Figure 6).

Some marked changes in fertility among women in different age groups in the total population since 1971 are clearly evident in Figure 7. The most significant changes have been in the relative importance of the age groups 20-24 and 25-29 as periods when women have their children. This has been due primarily to a reduction in the fertility rate among women aged 20-24 years. Since 1971 the number of births per 1000 women in this age group has fallen by just over 50 percent (Figure 7).

b) Possible increase in fertility

A recovery in fertility rates to replacement level in the medium term, as suggested in the Population Monitoring Group's (1984) third scenario, cannot be ruled out. The issues involved in such a fertility recovery are complex, but an important issue is the extent to which the decline in birth rates since the 1960s is due to deferment of births, and how much of this deferred childbearing is eventually made up. An important point to bear in mind with regard to fertility recovery is that it is often difficult to isolate the effect on age-specific birth rates of changes in family size from changes in the timing of births.

Data on fertility for women by single years of age indicates that there was a low point in fertility rates for those aged 27-37 years around 1978, and an increase thereafter ranging between 4 percent and 36 percent for specific ages (Department of Statistics, 1986c). Fertility rates for women in the 29 to 34 year bracket all rose by at least 15 percent, and this could indicate some recovery of postponed births.

It is important to note, however, that the recovery is proceeding at a relatively slow pace, and its overall impact on the total fertility rate to date has been small. Calculations suggest that if New Zealand women in 1985 had experienced the same rates of childbearing at ages 27-37 years as those recorded in 1978, the total fertility rate in 1985 would have been 1.82 per 1000 instead of 1.93 per 1000. In other words, there were approximately 6 percent more births in 1985 than would have been recorded if the increase in fertility among women aged 27 to 37 years had not occurred between 1978 and 1985.

As far as average family size is concerned, fertility tables published recently by the Department of Statistics (1986b) suggest that there is a continuing decline in the number of children which women will have during their reproductive span (Table 3). New Zealand women born in 1931, for example, had an average 3.56 children by 40 years. those born in 1946 had only 2.54 children by the same age. Women born in 1951, who entered their reproductive span in the mid-1960s had, on average, one child less by age 35 than those born in 1931 (2.33 children compared with 3.29 children). As less than 7 percent of current childbearing occurs beyond age 35, the prospects of any significant fertility recovery among women born in the early 1950s must be extremely limited.

c) Mortality trends among the young and elderly

The situation with regard to levels of infant mortality in New Zealand, especially among the Maori population, was addressed at some length in the third report of the Population Monitoring Group (1985b) and received considerable attention in the media. Strategies for the reduction of mortality among very young children in New Zealand are the subject of close examination and policy determination in the Health Department.

At the other end of the life span a shift towards an older population is an issue of popular concern. The determinants of this ageing are often not well understood. The most important cause of ageing in a population is declines in fertility which reduce the proportion of the population at younger ages. A second factor is improved survivorship at all ages from youth through adulthood which means more people survive to reach old age. Thirdly, and less important in terms of the effect on absolute numbers and proportions aged 65 years and over, is improvements in medical technology and care for the very old people.

A measure of the impact of these factors on survivorship can be obtained from life tables produced by the Department of Statistics. Comparison of the relevant statistics in life tables for 1980-82 and 1985 shows that increasing numbers of people are surviving up to and through ages 70 to 84, especially among Maori (Table 4a). These changes are also affecting the ratio of males to females at older ages. This sex ratio remains heavily in favour of women, especially at ages above 75 years, but the 1985 life tables indicate that there is a shift towards more balanced ratios as a result of substantial improvements in survivorship among males (Table 4b).

AGE STRUCTURE

The shifts in age structure of the New Zealand population (i.e. the size of the different age groups relative to each other), identified in previous reports by the Population Monitoring Group, are continuing.[1] Although three processes influence the age composition of the population, changes have been dominated by fertility and conditioned by mortality and migration. The impact of fertility decline is accentuated because it all occurs in the youngest age groups. The effects of mortality and migration, while affecting some age groups more than others, are spread over the whole population. In addition, the reduction in fertility has been substantial despite a

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1 At the time this report was being prepared age-sex data from the 1986 census were unavailable. The most recent estimates prepared by the Department of Statistics for public scrutiny are for the population on 31 December 1985. These estimates have been used in this section and where reference is made to the situation in 1985 the reference date is 31 December.

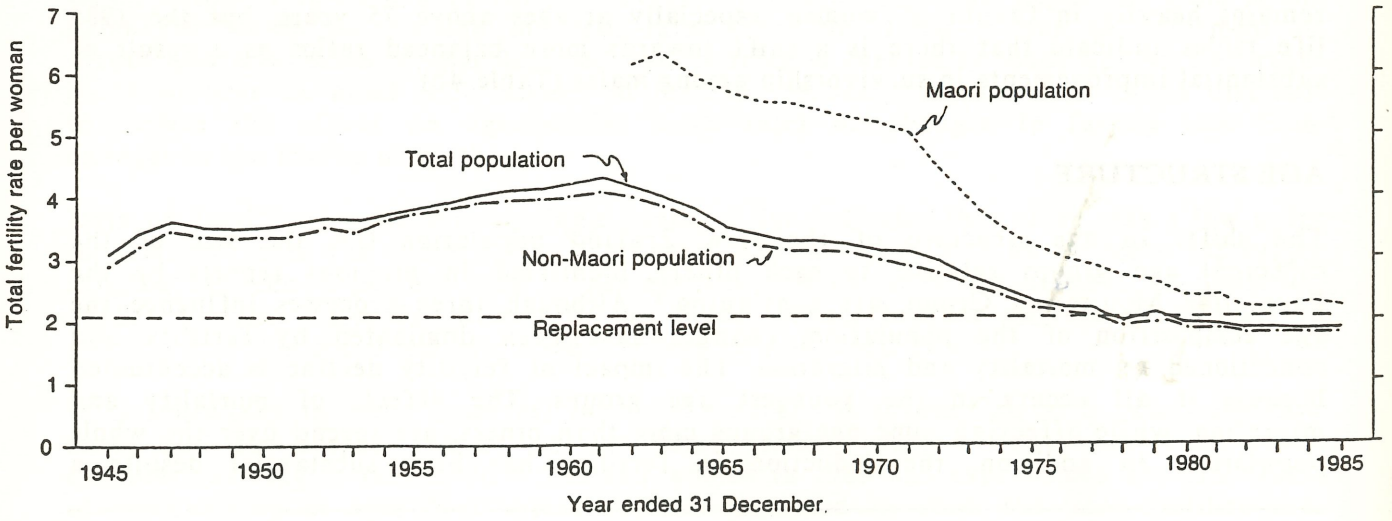
Table 3: Cumulative fertility rates by selected ages for cohorts of New Zealand women born between 1916 and 1966

Year of Birth	Cumulative fertility rates by exact age (years) [1]						
	20	25	30	35	40	45	50
1916	0.11	0.72	1.61	2.38	2.77	2.88	2.89
1921	0.13	0.80	1.88	2.64	3.04	3.16	3.16
1926	0.13	1.06	2.21	2.99	3.35	3.43	3.44
1931	0.17	1.26	2.55	3.29	3.56	3.61	3.61
1936	0.22	1.51	2.75	3.28	3.46	3.49	3.49
1941	0.24	1.47	2.51	2.93	3.03	3.05	
1946	0.28	1.29	2.13	2.45	2.54		
1951	0.33	1.23	1.97	2.33			
1956	0.30	0.98	1.72				
1961	0.22	0.79					
1966	0.16						

[1] Average number of births recorded for women at each age.

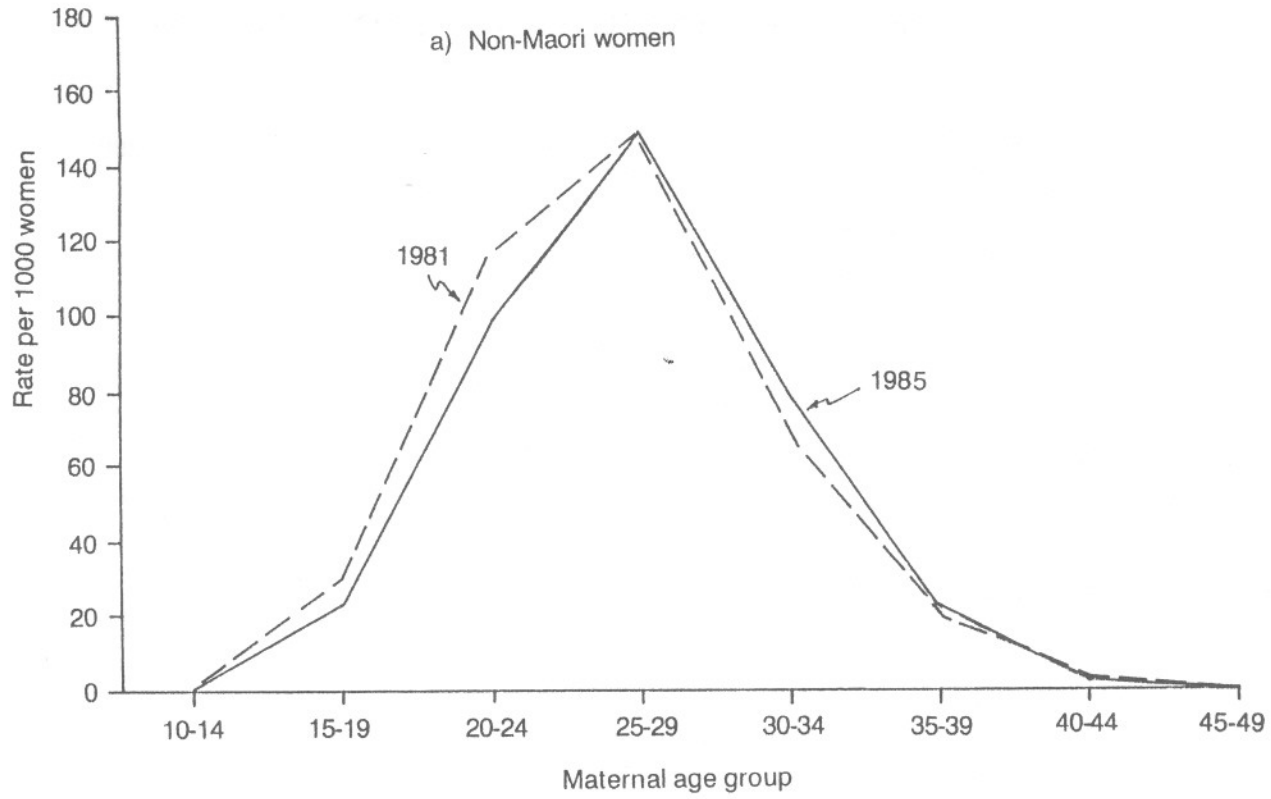
Source: Department of Statistics (1986b).

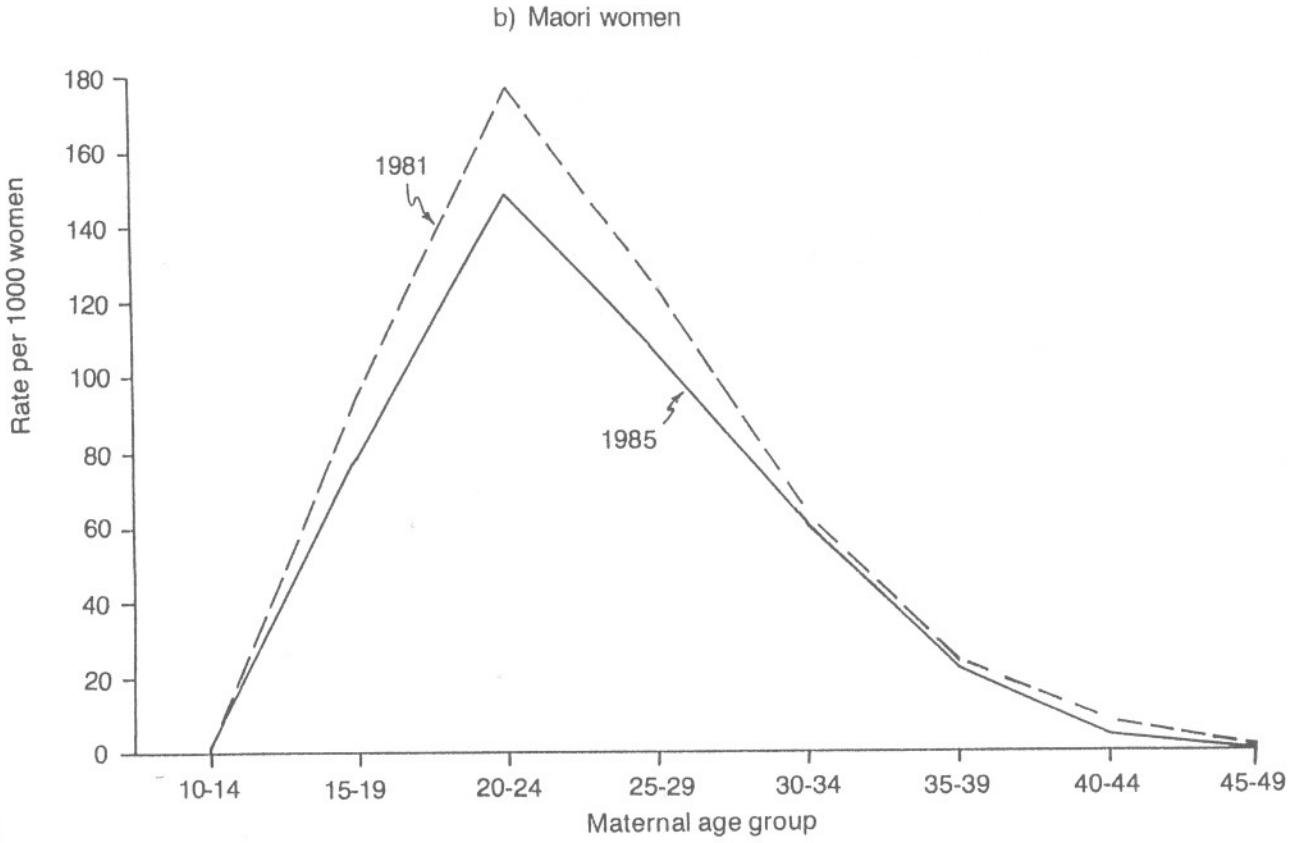
Fig 5
TOTAL FERTILITY RATES, 1945-1985



Source: Demographic Analysis Section, Department of Statistics, Christchurch

Fig 6
AGE SPECIFIC FERTILITY RATES, 1981 AND 1985

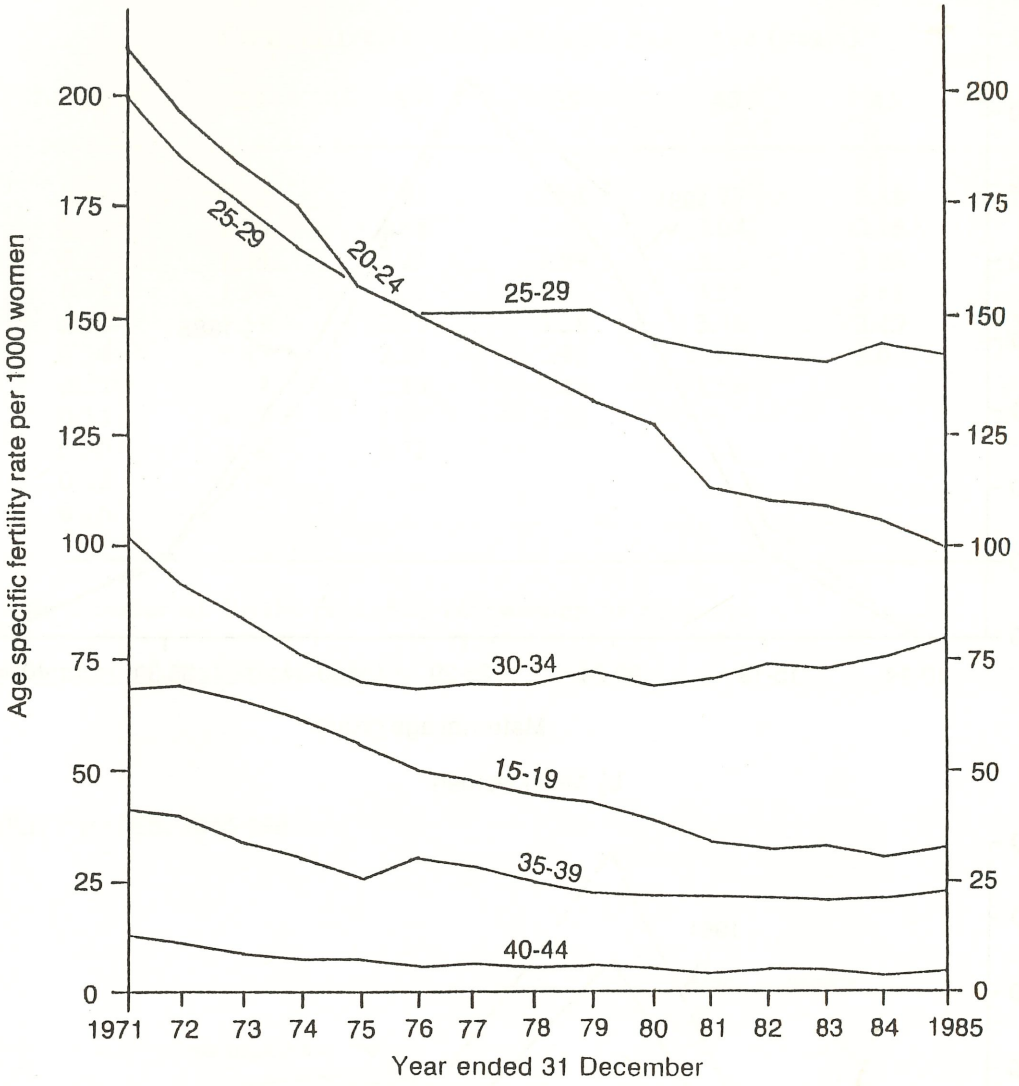




Source: Demographic Analysis Section, Department of Statistics, Christchurch.

Fig.7

AGE-SPECIFIC FERTILITY RATES, TOTAL POPULATION 1971-85



Source: Demographic Analysis Section, Department of Statistics, Christchurch

Table 4: Changes in survivorship and sex ratios at older ages, 1980-82 to 1985[1]

(a) Survivorship

Age Group	Percentage change in average number living in quinquennial age group in life table ($_nL_x$)			
	Maori		Non-Maori	
	M	F	M	F
60 - 64	13.5	8.2	0.6	0.3
65 - 69	19.7	13.4	1.4	0.5
70 - 74	30.8	21.9	2.4	1.0
75 - 79	44.3	24.3	4.1	1.1
80 - 84	56.3	8.2	5.1	2.9
85+	3.6	1.2	5.1	-1.6

(b) Sex Ratios

Age Group	Number of males per 100 females in each quinquennial age group in the life table			
	Maori		Non-Maori	
	1980-82	1985	1980-82	1985
60 - 64	86.8	91.0	90.5	90.8
65 - 69	80.2	84.7	84.8	85.5
70 - 74	72.5	77.8	76.8	77.9
75 - 79	63.9	74.2	65.8	67.7
80 - 84	52.2	55.3	53.4	54.5
85+	34.6	35.4	35.9	37.8

1 The method used to obtain these estimates is explained in the 1984 report of the Population Monitoring Group.

Sources: New Zealand Life Tables, 1980-82, and Abridged Life Tables, 1985, Department of Statistics, Christchurch.

slight increase in birth numbers in recent years. The period January 1981 to December 1985 averaged nearly ten thousand fewer births per annum than the same period ten years earlier (50,928 compared with 60,875 between 1971 and 1975).

The reduction in births since 1970 is attributable primarily to declining fertility among the non-Maori population largely because this group has the great majority of births (87.5 percent in 1985). There has also been a bigger percentage decline (16.7) in numbers of non-Maori births than Maori births (13.6 percent) between 1971-75 and 1981-85. The overall consequence for the age distribution has been an increase in the predominance of adults in the population. Since March 1981, the 0-14 year age group has declined from a 26.7 percent share of the total to a 24.3 percent share in December 1985.

a) Maori age structure

The age structure of the Maori population still contrasts strongly with that of the non-Maori population (Figure 8). This is because the sustained high fertility rates of earlier decades results in larger proportions of the total Maori population in each age group under 30 years of age compared with the non-Maori population. This difference is epitomised in the median age; the age at which 50 percent of the population is older than the median and 50 percent is younger. In December 1985 the median age for Maori was 21 years, ten years below that of the non-Maori population median of 31 years.

The sustained decline in numbers of births since 1971, when they peaked at 8,364, to an average of 6,461 in the five-year period 1981-85 has had a major impact on the age structure. This is seen in the decline in numbers in the population under 20 years of age (Figure 8). The effect of this fertility decline has been to raise the median age of the Maori population from 15.3 years in 1971 to its present level of 21.

The greatest change during the 1980s has been a marked reduction in the proportion of children in the Maori population. In the period between the census in March 1981 and December 1985 the population aged under 15 declined from 40 percent to 35 percent of the total. This reflected an absolute decline in the numbers under 15 during that period of more than eight thousand (from 111,651 to 103,560), a reduction which was spread through all the five-year age groups comprising the under 15 category.

The 15-19 year olds represented a transitional group which, as a proportion of the total population had declined but the actual numbers of people had increased since 1981. In all five-year age groups from ages 20 to 80 both numbers and proportional share had increased between March 1981 and December 1985.

In terms of potential labour force numbers the age groups 15-24 are particularly significant because they include over 72,000 people or nearly one-quarter of the Maori population. This is only slightly less than the 25-44 age group which, despite being twice the age span, has only a slightly larger share (26 percent) of the population. The 45-64 year olds comprise a further 12 percent of the population potentially economically active.

Together the 15-64 year age groups comprised 62 percent of the Maori population in December 1985 compared with 58 percent in 1981.

A parallel trend, inherent in the above statistics, can also be identified in terms of reproductive potential. In March 1981, 25.6 percent of the total population comprised women of reproductive age (15-45) but by December 1985 this proportion had risen to 27.4 percent, an increase in actual numbers of almost ten thousand. In the 1985 population more than three-fifths (61 percent) of these women were in the peak child-bearing ages under 30. This represents a substantial potential for increased births both currently and in the immediate future. Whether this will be realised depends on trends in Maori fertility. As noted earlier, there has been a major decline in the fertility of Maori women and this has meant population growth has not been as rapid as it might have been.

b) Non-Maori age structure

Declining fertility since the early 1960s has had a major impact on the non-Maori population as well (Figure 8). The consequence of this has been to reduce the child share (0-14 years) of the total population to just over 23 percent in December 1985, a decline of two percentage points since the 1981 census. Most of this shift in population share has been transferred to people of working ages (15-64) where the proportion increased from 63.9 percent to 65.7 percent between 1981 and 1985.

The elderly as a group have not increased greatly as a proportion of the total between March 1981 and December 1985 (10.7 to 11.1 percent) but a numerical increase of around 25,300 is a significant one given their concentration in urban environments and the special needs that come with advancing age. At this stage the non-Maori elderly comprise the overwhelming majority of the aged (approximately 43:1, non-Maori:Maori).

c) The young and the elderly

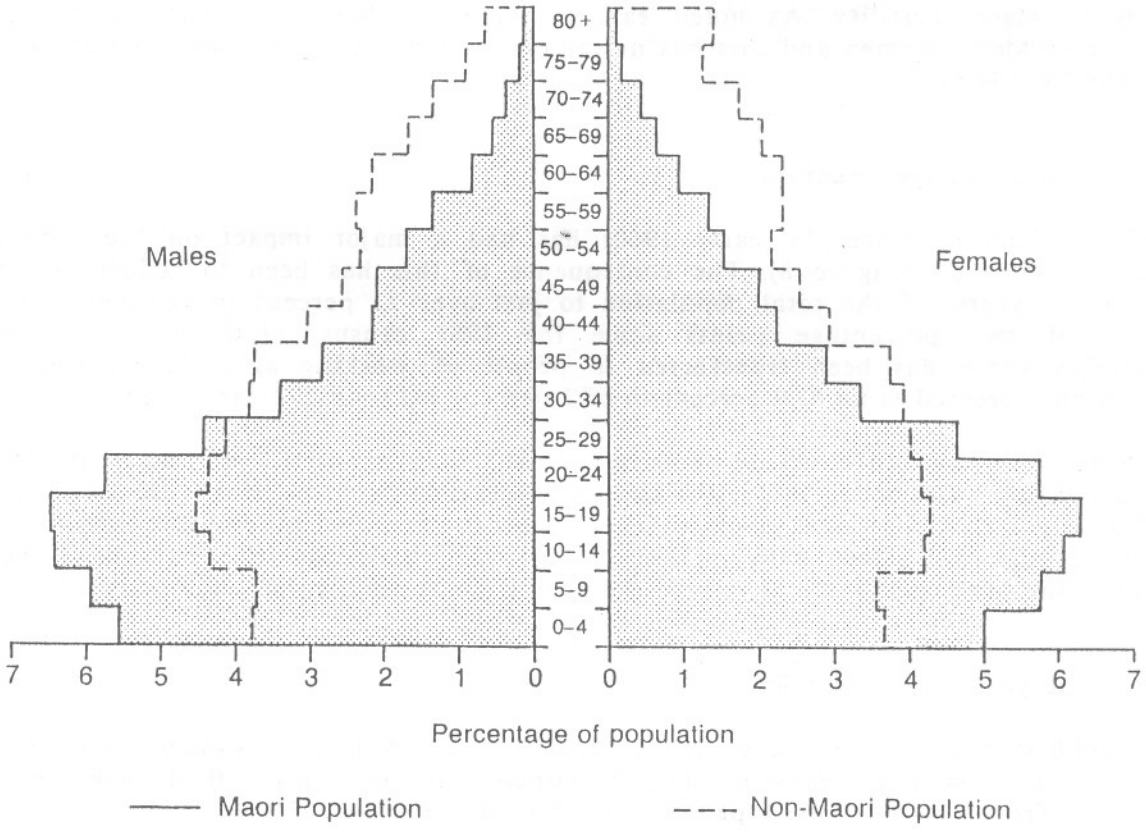
It is evident that the relationships between children, adults of working age and the elderly are constantly changing. The prominence of the child (0-14) component is declining: from a peak of 33.1 percent in 1961, children in 1985 came to comprise 24.3 percent. Nevertheless, in terms of services required, the numbers over the same period have increased by 5,378 from 798,942 to 804,320. The bulk of the proportional decline in child population has been absorbed into the working ages (15-64) where proportions increased, 1961 to 1985, from 58.3 percent to 65.4 percent and recorded a numerical increase of approximately 757,000.

At ages 65 and over, proportions have increased from 8.6 percent in 1961 to 10.4 percent in 1985, with growth in the numbers classified as elderly from 208,649 to 342,780 over that period. A change in the balance between young and old in the population has become a significant feature: in 1961 there were 261 elderly people for every thousand children, but in 1985 this had changed to 426 elderly per thousand children.

It is important to recognise that, although the elderly are an increasingly large group there are still more children in the population. It is also important to appreciate that the population of working ages comprises a larger element in 1985 than at any other time since the Second World War. There are several issues within these broad observations which have important policy implications both currently and into the next century. These are elaborated upon in the fourth part of this report.

Fig 8

AGE-SEX STRUCTURE, DECEMBER 1985



Source: Demographic Analysis Section, Department of Statistics, Christchurch.

LABOUR FORCE

Until recently, fluctuations in the size and composition of the New Zealand labour force could only be monitored indirectly by combining information from a number of sources which were not entirely compatible: the Department of Labour's Quarterly Employment Survey, the Unemployment Register and the Population Census. Estimates of labour force changes required a merging of data from these sources, and were sensitive to assumptions which could not always be tested. Hence, while yielding useful indicators of labour force trends, the resulting estimates may not have been very accurate. During 1985 the Government implemented a Household Labour Force Survey which provides up-to-date information about the labour force on a quarterly basis. Definitions and the method of collection conform to International Labour Organisations (ILO) guidelines and the results of the survey have international comparability.

Commencing with this report, the Population Monitoring Group will identify trends in employment, unemployment and the composition of the population of working age on the basis of estimates provided by the Household Labour Force Survey. Because it is a sample survey, covering around 13,000 households, the estimates obtained are subject to sampling error and this should be borne in mind when interpreting trends. In this regard, the five-yearly population census will remain an indispensable source of information required for detailed cross-sectional analysis of labour supply and the study of long-term trends.

At the time of writing this report, the Household Labour Force Survey time series consisted of only three observations: the December quarter 1985, the March quarter 1986 and the June quarter 1986. Given seasonal and incidental fluctuations, it would be dangerous to attempt to identify trends from a comparison of data for these three quarters. However, by regrouping 1981 census information to conform to definitions used in the survey, the former can act as a benchmark and changes over the 1981-86 period may suggest a continuation or modification of long-term trends. It should be noted that 1986 census data on the labour force are not likely to be available until some time in 1987.

a) Composition of the labour force

The labour force consists of people aged 15 years and over who

(i) work for one hour or more per week for pay or profit, or
(ii) assist without pay a relative in a business or on a farm for 15 hours or more per week, or
(iii) are unemployed and actively looking for work.

During the March quarter 1986, the New Zealand labour force thus defined averaged 1,607,300 people, which is 67 percent of the working age population. The latter consists of all civilian non-institutionalised people, aged 15 years and over, who are usually resident in New Zealand.

Females account for 41 percent of the labour force and the sex ratio now stands at 70 females per 100 males. This ratio has increased steadily throughout the post-war period from 30 females per 100 males in 1951 (Population Monitoring Group, 1984, 31). A comparison of the 1981 and 1986 working age population and the labour force by age and sex is given in Table 5. This table uses five age groups (15-19, 20-24, 25-29, 30-59,

60 and over). The age group 30-59 is rather large and ideally should be split into five-year age groups but published data from the Household Labour Force Survey did not provide this level of detail.

When comparing 1981 census data with 1986 survey data several methodological points need to be kept in mind. First the census provided figures on the state of the labour market as at 24 March 1981, while the Household Labour Force Survey gives an average for the whole of the March quarter 1986. This implies, for example, that the latter would include vacation workers while these would not be in the census labour force. Second, the census is a population count, but the Survey is based on random sampling so that the data are subject to sampling error. Third, the definitions of "employed" and "unemployed" differ somewhat between the two sources of information. With these qualifications in mind, data from the census and survey are compared in Table 5.

Table 5: The New Zealand Labour Force 1981-1986

Age Group	Population 1981	Population 1986	Labour Force 1981	Labour Force 1986	Labour Force Participation Rate 1981	Labour Force Participation Rate 1986
15-19						
M	156,816	150,000	98,259	110,200	62.7	73.4
F	149,820	146,300	84,000	94,200	56.1	64.4
20-24						
M	137,424	138,500	126,795	128,500	92.3	92.8
F	132,219	137,800	89,514	102,700	67.7	74.5
25-29						
M	118,515	128,500	115,287	123,000	97.3	95.8
F	119,940	131,600	62,088	81,500	51.8	61.9
30-59						
M	527,064	555,300	508,287	524,600	96.4	94.5
F	518,778	562,100	298,464	370,600	57.5	65.9
60+						
M	190,524	199,700	47,985	51,300	25.2	25.7
F	245,613	247,700	16,764	20,600	6.8	8.3
TOTAL						
M	1,130,343	1,172,000	896,613	937,600	79.3	80.0
F	1,166,370	1,225,400	550,830	669,600	47.2	54.6

Sources: Department of Statistics *Household Labour Force Survey, March Quarter 1986* and *Census of Population and Dwellings 1981, Volume 4, the Labour Force*, Government Printer, Wellington.

Ageing of the population, resulting from declining fertility and increasing life expectancy, is reflected in the age composition of the labour force (Table 5). However, the impact of changes in age composition of the population on the labour force depends also on changes in participation rates. These, in turn, are the result of many influences, such as the level of wages, the demand for labour, social welfare provisions, fertility trends, the availability of childcare facilities and changing attitudes towards work.

All population and labour force age groups have increased over the period 1981-86, with the exception of the population aged 15-19, which has been declining both absolutely and relatively. Increasing labour force participation, resulting from growth in part-time employment (see Table 6 below), has meant, nevertheless, that this age group remained about 12.7 percent of the labour force. Participation of males in the labour force has remained almost constant, with growth in numbers between 1981 and 1986 (896,613, to 937,600) equalling the average annual rate of population growth of about 0.7 percent. Rapid increases in female labour force participation at all age-groups have resulted in an increase in the female labour force from 550,830 to 669,600 (i.e. on average 4.0 percent per annum). The pronounced increase in female participation and the small decline in male participation between ages 25 and 59 reconfirm established long-term trends.

b) Full-time and part-time work

Table 6 shows the labour force changes in terms of full-time and part-time employment and unemployment. The definition of full-time employed in the Household Labour Force Survey is people who usually work 30 hours a week or more, while the census definition of the full-time labour force is people working 20 hours or more. Detailed census information on hours worked per week has been used to reclassify the census labour force according to the 30 hour criterion so that the 1981 and 1986 figures in the table are comparable.

Over the 1981-86 period male full-time employment has changed very little or declined in all age-groups except ages 25-29. However, female full-time employment increased for all age-groups, except ages 15-19. The result has been an increase in total full-time employment from 1,192,600 to 1,229,300 of which one-third are females. The slow growth in full-time employment (3 percent over five years), in a period during which real Gross Domestic Product increased by 15 percent, reflects a substitution of part-time workers for full-time workers in addition to increases in labour productivity (the increase in total hours of work supplied was about 8 percent).

There was an increase of 59 percent in the incidence of part-time work between 1981 and 1986. This has reversed a trend which showed the rate of increase in part-time work slowing. After an increase of 68 percent in part-time work between 1966 and 1971, the rate dropped to 40 percent between 1971 and 1976 and went down still further to 26 percent between 1976 and 1981. The recent surge in participation means that 20 percent, or one employed person in five, now works part-time. In 1981 it was only 13 percent or one person in eight. While this increase has taken place at all ages and for both sexes it is the rapid growth in male part-time work that is especially significant - a 193 percent increase compared to a 34 percent increase for women. In relative terms this means a shift from one part-time worker in six being male in 1981, to one part-time worker in three being male in 1986.

TABLE 6: EMPLOYMENT AND UNEMPLOYMENT 1981-1986

Age Group		Full-time employment 1981	Full-time employment 1986	Part-time employment 1981	Part-time employment 1986	Total unemployment 1981	Total unemployment 1986	Unemployment rate 1981	Unemployment rate 1986
15-19	M	77,700	72,500	10,300	24,400	10,242	13,200	10.4	12.0
	F	59,800	59,300	12,000	23,100	12,225	11,800	14.5	12.5
20-24	M	116,100	111,700	2,700	9,500	7,935	7,300	6.3	5.7
	F	75,200	82,900	8,000	14,500	5,748	5,400	6.4	5.2
25-29	M	109,000	111,700	1,500	8,400	4,734	2,900	4.1	2.4
	F	42,000	53,500	17,800	23,200	2,349	4,800	3.9	5.9
30-59	M	490,600	481,400	6,400	33,500	11,364	9,600	2.2	1.8
	F	176,200	210,400	116,900	147,900	5,343	12,300	1.8	3.3
60+	M	37,500	35,000	10,300	15,500	210	900	0.4	1.8
	F	8,500	10,900	8,200	9,400	81	400	0.5	1.9
Total	M	830,900	812,400	31,200	91,300	34,485	33,900	3.8	3.6
	F	361,700	416,900	163,500	218,100	25,746	34,600	4.7	5.2

Sources: As for Table 5

Clark (1986) identified several reasons for the growth in part-time work: an increase in the number of women who have entered the workforce in response to social and economic change and whose only employment option is part-time work because of problems with childcare etc., growth in the general population, growth of the tertiary sector, technological change and an expansion of self-employment and contract work. Clark drew attention to the problem of an increasing number of young, unskilled labour market entrants for whom part-time work was becoming the only available employment option. In 1986, for the first time, men aged 15-19 employed part-time outnumbered women in that age group, although the difference is not statistically significant when Household Labour Force Survey sampling errors are taken into account. In the 60 and above age group male part-time employment is becoming an attractive transition from full-time employment to retirement. In relative terms the ratio of men to women in part-time work in this age group has increased from 6 men to 5 women in 1981 to 8 men to 5 women in 1986.

A discussion of part-time employment is usually couched in terms of concerns about the role of married women in the labour market and the emergence of a dual labour market in which part-time workers have little job security and unfavourable long-term prospects. Some policy implications of the Household Labour Force Survey findings in this regard are discussed briefly in the third section of this report.

c) Employment and unemployment

While the total number of people actively seeking part-time or full-time work increased from 60,231 in 1981 to 68,500 in 1986, aggregate male unemployment has changed very little over the five years. After peaking in 1983, earlier increases in male unemployment were followed by offsetting declines. The female unemployment rate for ages 25-29 and 30-59 increased considerably, however. This indicates that, despite the increasing female labour force participation, it has not become any easier for women to obtain a job when returning to work after child rearing. Since the economy is now going through a recession, increases in male and female unemployment of up to 15,000 in total seem likely during the year ending March 1987. New Zealand's unemployment rate, currently 4.3 percent, will nevertheless remain low by international standards.

Growth in employment between 1981 and 1986, in particular in 1984 and 1985, has played a role in New Zealand's relatively favourable unemployment record. However, there are also supply side factors. The increase in female unemployment may have discouraged some women from seeking work. The majority of people who could be available for work, but not seeking it, are women. In the quarter ending March 1986 4,700 women believed that suitable work was unavailable in their area, while 1,200 believed they lacked skills or were the wrong age. In addition, another 4,400 women were unable to find suitable childcare according to the Household Labour Force Survey.

Another factor which is probably contributing to New Zealand's low unemployment rate is external migration. During seven of the last ten years there have been more departures than arrivals, with the aggregate net outflow being about 100,000. The year ended June 1986 has recorded a net permanent and long-term outflow of 21,804. Net emigration can affect domestic demand for goods and services, while net immigration can induce positive economic growth, although not necessarily per capita. The typical profile of emigrants is one of young single adults while immigrants are characteristically married couples with or without children. This suggests that both emigrants and immigrants depress unemployment rates, all else being equal.

As noted in earlier reports, the incidence of unemployment does not fall evenly across the labour force: Table 6 for example shows the high unemployment rates among

the labour force: Table 6 for example shows the high unemployment rates among teenagers. The 1981 census indicated that young Maori and Pacific Island Polynesian women had very high rates of unemployment (Population Monitoring Group, 1985b). The Household Labour Force Survey for the quarter ending June 1986 confirmed that unemployment is still a serious problem among Maori and Pacific Island Polynesians. During this quarter the total unemployment rate of the New Zealand Maori labour force was 11.8 percent, while the Pacific Island Polynesian labour force had an unemployment rate of 6.7 percent. This compares with a rate of 3.2 percent for Europeans.

ETHNIC COMPOSITION

The ethnic composition of New Zealand's population continued to diversify during the year ended 31 March 1986 primarily because of international migration. The Maori population slightly increased its share of the total population since it recorded proportionately less net emigration in terms of natural increase (40.8 percent) than the non-Maori population (82.2 percent). The non-Maori population was variously influenced by the different ethnic origins of New Zealand's immigrants and refugee settlers. In general, the largest groups of British Isles ancestry declined in relative terms while the Polynesian and Indochinese communities expanded. The arrival of 91 Assyrian refugees introduced a new culture to New Zealand and the trend towards a more diverse multicultural population can be expected to continue as a result of the Labour Government's announcement on 18 February 1986 that immigrants seeking to enter New Zealand on occupational grounds would henceforth be selected on the basis of their personal characteristics rather than on whether they come from a Northern or Western European or North American country.

a) Ethnic statistics

In the 1981 census the term 'ethnic origin' was used to refer to the 'blood mixture of races' and people were classified according to a 'half or more' origin criterion. On this basis New Zealand's usually resident population of 3,143,307 people was made up of Europeans (85.8 percent), New Zealand Maori (8.9 percent), Pacific Island Polynesians (2.8 percent), other non-Europeans (1.3 percent) and people who did not state their ethnicity (1.2 percent).

Such broad categories are only a very crude indicator of the many aspects of ethnicity that scholars need to monitor and policy makers need to consider to improve the life chances of all residents. At least 14 features are important in varying degrees in identifying and assessing ethnic groups (Thernstrom, Orlov and Handlin, 1981). They are: common geographical origin; migratory status; race; language or dialect; religious faith or faiths; ties that transcend kinship, neighbourhood and community boundaries; shared traditions, values and symbols; literature, folklore and music; food preferences; settlement and employment patterns; special interests in regard to politics in the homeland and in the new country of residence; institutions that specifically serve and maintain the group; an internal sense of distinctiveness; and an external perception of distinctiveness.

In New Zealand the difficulties of obtaining reliable statistics on ethnic origin have been reviewed extensively by Brown (1983) and Pool (1977). The 1986 census statistics on ethnicity will not be directly comparable with those collected in previous enumerations, and this will cause problems in the assessment of trends in ethnic composition.

Attention is focussed below on the contributions of recent Pacific Island Polynesian

and refugee migration to ethnic diversification in New Zealand. The origins and composition of the European population have been reviewed briefly in previous reports (Population Monitoring Group, 1984, 1985b), and Maori population trends are the subject of a separate report (Pool and Pole, forthcoming).

b) Pacific Island Polynesians

The direct numerical contribution of international migration of people born in Polynesia to New Zealand's population since April 1971 is indicated in Table 7. Over the 15 year period to March 1986 the surplus of arrivals over departures exceeded 45,000 people. This is equivalent to almost twice the number (24,878) of people resident in New Zealand in March 1971 who had been born in the Cook Islands, Niue, Tokelaus, Tonga and Western Samoa.

In the five years since 1981 there has been a return to substantial net migration gains, especially from Samoa. This can be explained in part by the circumstances surrounding the Citizenship (Western Samoa) Act of 1982 (Macdonald, 1986), and partly by a deliberate policy in the Immigration Division of the Department of Labour to clear a backlog of applicants seeking to enter New Zealand under the terms of a quota arrangement which has characterised relations with Samoa since 1962. A Protocol signed by the governments of New Zealand and Western Samoa when the latter gained independence allowed for the entry of 1,500 Samoans to New Zealand each year. Since the mid-1960s the quota has been set at either 1,000 or 1,100 (the current level).

At the time of the 1981 census, the population enumerated in New Zealand which had been born in the five countries in Polynesia totalled 50,334. This represented 60 percent of the 83,970 people of Cook Island, Niuean, Tokelauan, Tongan and Samoan ethnicity in New Zealand in 1981. This ethnic Polynesian population is growing rapidly as a result of natural increase as well as immigration.

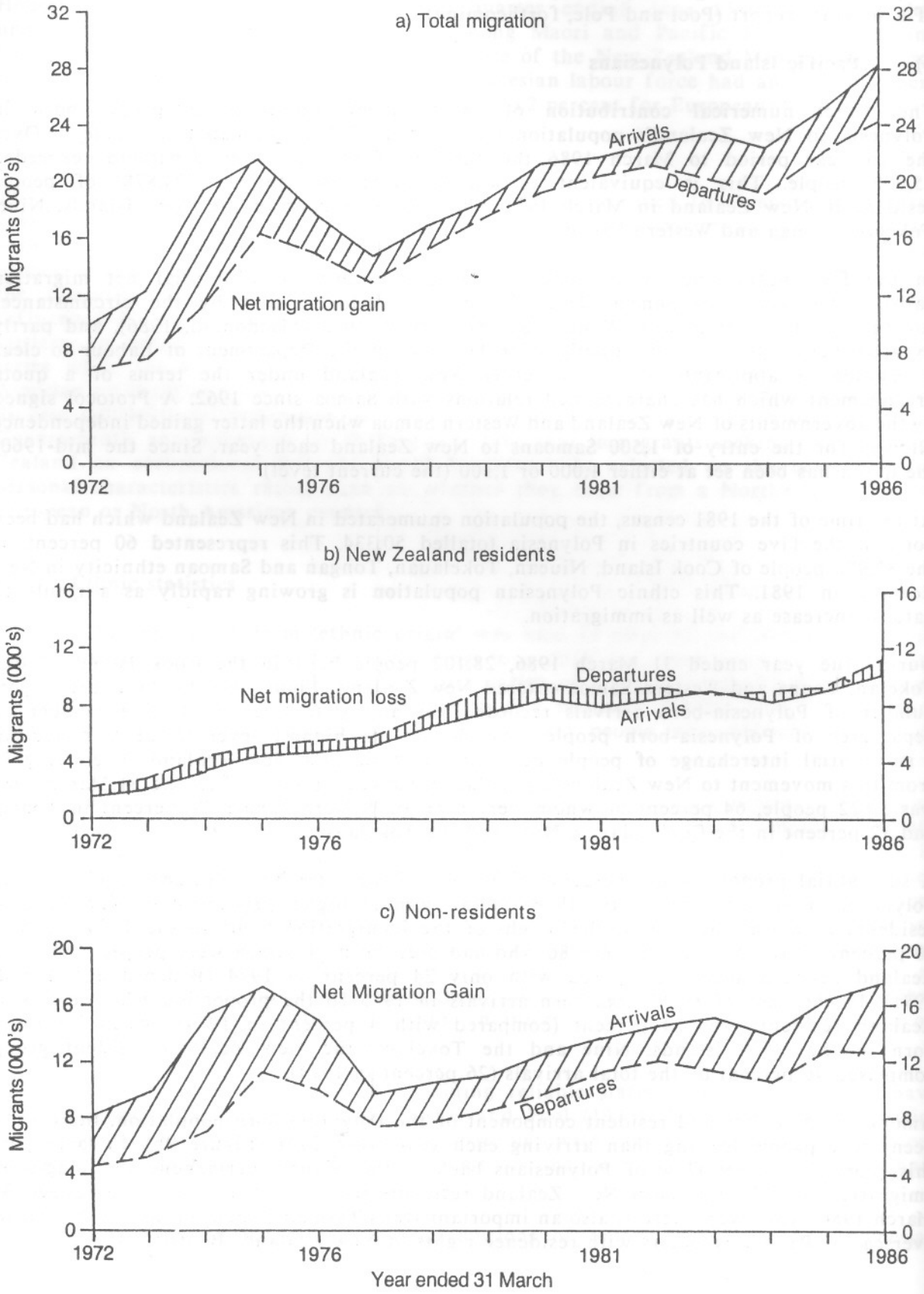
During the year ended 31 March 1986, 28,102 people born in the Cook Islands, Niue, Tokelau, Tonga and Western Samoa entered New Zealand (Figure 9a). This was the largest number of Polynesia-born arrivals recorded for any year since 1971. The number of departures of Polynesia-born people was also at its highest level (24,280), reflecting a substantial interchange of people between Polynesia and New Zealand. The net gain from this movement to New Zealand's population between 1 April 1985 and 31 March 1986 was 3,822 people, 64 percent of whom were born in Western Samoa, 24 percent in Tonga, and 12 percent in the Cook Islands, Niue and the Tokelaus.

A substantial proportion (37 percent) of these arrivals were New Zealand residents. The Polynesian migration flows of the 1980s contain a much higher proportion of New Zealand residents than was the case at the height of the immigration boom in the 1970s. Almost 40 percent of the arrivals in 1985/86 who had been born in Samoa were people with New Zealand resident status, compared with only 24 percent in 1974 (Bedford and Lloyd, 1981). In the case of the Tonga-born arrivals in 1985/86 the proportion who were New Zealand residents was 24 percent (compared with 4 percent in 1974), while for those born in the Cook Islands, Niue and the Tokelaus, the New Zealand resident group comprised 46 percent of the total arrivals (26 percent in 1974).

Among the New Zealand resident component of the Polynesia-born population, there have been more people leaving than arriving each year since 1971 (Figure 9b). In large part this represents a net flow of Polynesians back to the islands (permanent and long-term emigration of Polynesia-born New Zealand residents totalled 1,121 in the year ended 31 March 1986). However, there is also an important trans-Tasman dimension to the movement overseas of Pacific Islanders with residence rights in New Zealand (Bedford, 1986).

Fig 9

ARRIVALS, DEPARTURES AND NET MIGRATION OF PEOPLE BORN IN POLYNESIA,[a] : 1 APRIL 1971- 31 MARCH 1986



[a] People born in the Cook Islands, Niue, Tokelaus, Tonga and Western Samoa

Source: Migration Statistics Section, Department of Statistics, Dunedin

Table 7: Net migration gains and losses to New Zealand of Polynesia-born people, by migrant category 1971-1986

Country of birth and period [1]	Migrant Category: Permanent	Long-term: N.Z. Resident	Long-term: Non-Resident	Short-term: N.Z. Resident	Short-term: Non-Resident	Total
Cooks/Niue/Tokelau						
1971-76	3,439	-64	3,490	61	932	7,858
1976-81	682	-455	1,499	9	1,018	2,753
1981-86	-2	-256	1,050	390	954	2,186
1971-86	4,119	-775	6,089	460	2,904	12,797
Tonga						
1971-76	233	-14	-1,202	-98	5,341	4,260
1976-81	258	-552	-908	-407	2,322	713
1981-86	534	-29	-219	-68	2,270	2,488
1971-86	1,025	-595	-2,329	-573	9,933	7,461
W. Samoa						
1971-76	1,301	-265	-763	-1,163	12,394	11,504
1976-81	2,783	-866	1,126	-735	3,426	3,482
1981-86	4,811	-25	-620	-277	6,293	10,182
1971-86	8,895	-1,156	-2,509	-2,175	22,113	25,168
Total Polynesia						
1971-76	4,973	-343	1,525	-1,200	18,667	23,622
1976-81	2,118	-1,873	1,070	-1,133	6,766	6,948
1981-86	5,343	-310	261	45	9,517	14,856
1971-86	14,039	-2,526	1,251	-2,288	34,950	45,426

[1] The periods span March years, i.e. 1/4/71-31/3/76; 1/4/76-31/3/81; 1/4/81-31/3/86; 1/4/71-31/3/86.

Source: Published and unpublished tables produced by the Migration Statistics Section, Department of Statistics, Dunedin.

Short-term and long-term migration of Polynesians who do not have resident status in New Zealand (non-residents) has contributed substantially to growth in New Zealand's Polynesian population since 1 April 1971 (Figure 9c). Some of the Polynesians who arrive short-term subsequently gain residence status and settle in New Zealand (Cook Islanders, Niueans and Tokelauans automatically qualify for such status by virtue of being New Zealand citizens). Others, and this is especially evident in statistics for the Tonga-born and the Samoa-born migrants, eventually leave New Zealand after a long-term stay (Table 7).

Between 1 April 1981 and 31 March 1986 there were 14,856 more arrivals than departures in the Polynesian migration flows (Table 7). These people added the equivalent of 30 percent to the total Polynesia-born population enumerated in New Zealand in the 1981 census. The relevant contribution this migration made to the Polynesian population (both Polynesia and New Zealand born) enumerated in 1981 was 18 percent. Thus international migration in the 1980s remains a very important determinant of growth in this component of New Zealand's population.

c) Refugees

Refugees accepted for settlement in New Zealand between 1 April 1985 and 31 March 1986 included for the first time, a group of Assyrians. They are some of the many hundreds of Assyrian and Armenian Christians from Iraq that the World Council of Churches has assisted to settle in the United States of America, Canada, Australia and elsewhere. The Assyrians who have come to New Zealand are mainly urban and middle class people who have complex migration histories and varied linguistic and occupational skills.

Numerically the largest component of refugee immigration to New Zealand has continued to be the Indochinese although the numbers involved are still very small in comparison with total migrant flows to and from New Zealand and by Australian standards. The number of arrivals declined from 721 in the year ended 31 March 1985 to 677 in the year ended 31 March 1986. Most of the new settlers were admitted on a family reunification basis. In October 1985 the Government announced a quota for 70 Indochinese refugees without family connections in New Zealand. The size of the Indochinese communities has also grown through non-refugee immigration on family reunification grounds. Altogether around 7,000 Indochinese refugees have been settled in New Zealand between 1975 and 1986.

The impact of some longer running refugee programmes has been much smaller in recent years. In this regard it can be noted that during the year ended 31 March 1986 48 Russian Jews, 28 East Europeans and 24 disabled refugees were settled in New Zealand. An increase in the number of people seeking political asylum in New Zealand has also raised important policy issues as to the determination of refugee status, but the impact of these people on the ethnic composition of the population is very small.

POPULATION DISTRIBUTION

Results from the 1986 census indicate that there has been more rapid population growth in most regions during the five years since 1981 than in the previous intercensal period (1976-81). There has also been a reduction in the number of regions with population decreases, and an increase in the share of total growth occurring outside the northern North Island. Yet despite these trends, which are described in greater detail below, the northern North Island share of the total population growth remains very large by any standards other than those of the late 1970s, the number of regions with population decreases is still large by post-war standards, and there has been little growth in the South Island generally.

a) Regional population trends

Much the largest numerical increase in population has occurred in metropolitan Auckland (Table 8). Between 1981 and 1986 population growth in this region accounted for 45

percent of the total, and was nearly double the percentage increase recorded for the 1976-81 period. When growth in numbers in Northland, Waikato, Thames Valley, Bay of Plenty and Tongariro is also included, the northern North Island's share of total population growth between 1981 and 1986 is around three-quarters.

While population growth in Northland and the Bay of Plenty combined was only about half that in Auckland, it was larger in relation to their base populations (Table 8). Their growth rates were faster than that of Auckland, nearly triple and double the national growth rate respectively, and more than double the growth rates of most other regions. Thames Valley, Horowhenua and Clutha-Central Otago also grew more rapidly than Auckland, while Nelson and Marlborough experienced more rapid population growth than the national average.

A number of regions where population decreased during the second half of the 1970s have had increases in numbers of residents since 1981 or had smaller decreases. Taranaki's population increased by some thousands compared with an earlier decrease, Wanganui's increased by about three-quarters of its earlier decrease, and the West Coast had growth in population for only the second time since 1951 (Figure 10). Canterbury's population increased significantly compared with an earlier decrease. Wellington's population increased but by less than its earlier decrease and by less than half the increase recorded for Canterbury. The decreases in the Wairarapa and Coastal-North Otago regions were much lower than during the late 1970s.

The South Island taken as a whole had a population decrease of more than 8,000 people during the late 1970s, the first absolute decline in numbers for several decades. However, the population increased by about 13,000 between 1981 and 1986 restoring the South Island total to about 5,000 more than its mid 1970s population. The North Island population increased by nearly 120,000 people, and this comprised more than 90 percent of the total growth in numbers between 1981 and 1986 (Table 8).

A few regions have had less population increase or a larger decrease since 1981 than in the later 1970s. Tongariro, East Cape and Manawatu have had smaller increases, and Aorangi and Southland have had larger decreases (Figure 10). Tongariro's smaller increase is attributable to the termination of hydro-construction employment based at Turangi. The remainder of this region's population actually increased more rapidly than the national average growth rate. Aorangi had the largest and the most rapid population decline, but 80 percent of this was directly attributable to the termination of hydro-construction based at Twizel. Southland's population decrease was more than four times as large as its 1976-81 decrease. This region had much the largest, and the most rapid 1981-86 population decline if the exceptional effect of Twizel on the Aorangi figure is excluded, and was larger and more rapid than most of the 1976-81 regional decreases.

Obviously, a wide variety of factors has caused these differences in regional population growth rates. While differences in fertility, mortality and age structure effects are all significant, most of the variation is attributable to the differential impact of migration. Of major significance in this regard is regional employment growth and the increasing importance of retirement migration. The effect of large-scale project construction employment is significant in several regions including Northland, the Waikato, Tongariro, Taranaki, Aorangi and Clutha-Central Otago.

Retirement migration appears to have been important in a number of regions, most notably the Bay of Plenty. Although migration of the elderly has accounted for less than half the Bay of Plenty's population growth since 1981 (the major contribution coming from increases in the youth and working age populations) immigration of people over 65 years of age is contributing to important structural changes in the population.

Table 8: Population change in Local Government Regions, 1981-1986

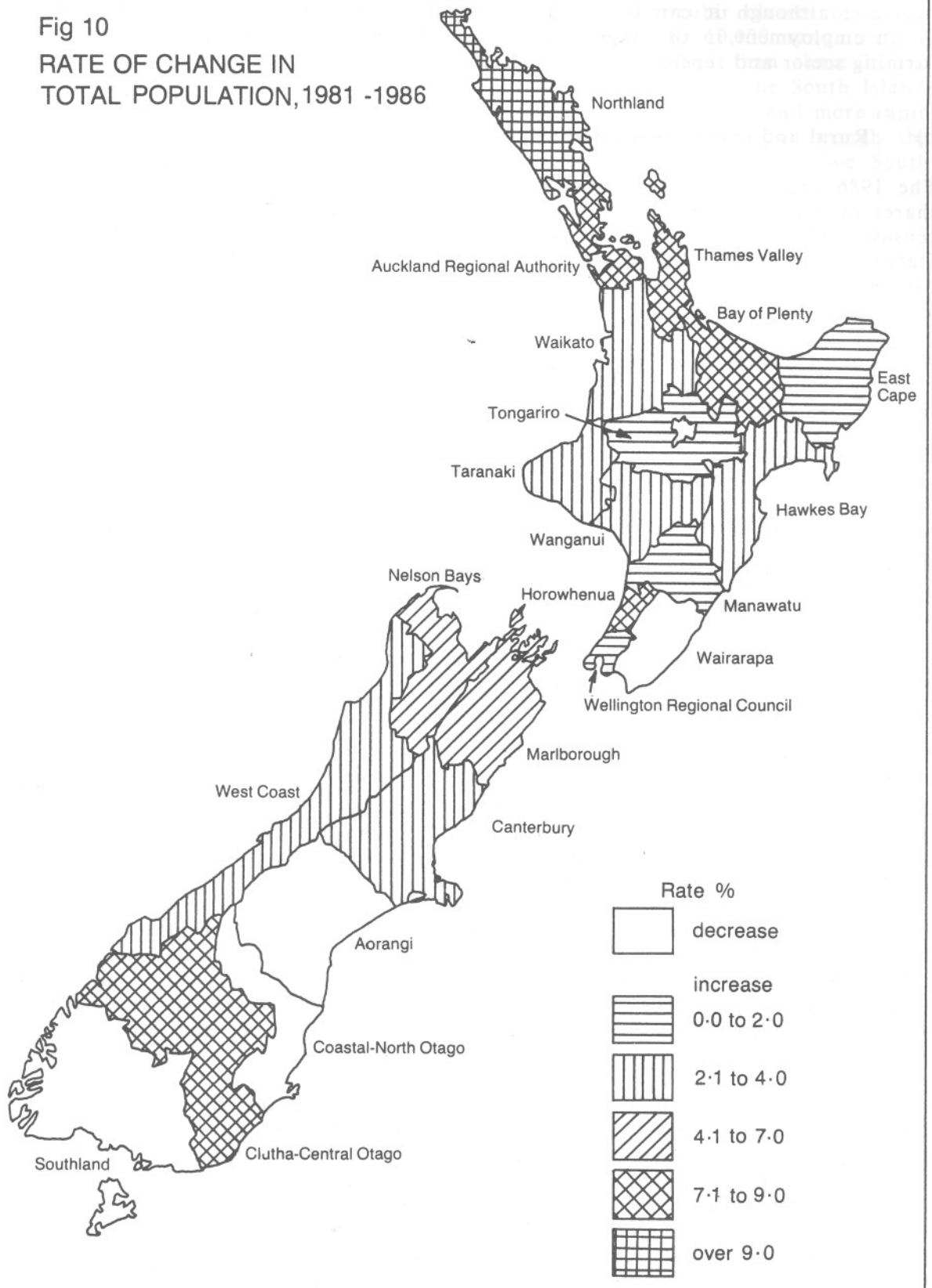
Region	Population 1981[1]	Population 1986[2]	Change 1981-86 Numerical	Change 1981-86 Percentage	Change 1976-81 percentage
North Island					
Northland	113,994	126,999	13,005	11.41	6.79
Auckland	824,408	887,448	60,040	7.25	3.93
Thames Valley	54,343	58,665	4,322	7.95	3.06
Waikato	221,850	228,303	6,453	2.91	1.65
Bay of Plenty	172,480	187,462	14,982	8.68	7.59
Tongariro	40,089	40,793	704	1.75	2.07
East Cape	53,295	53,968	673	1.26	1.57
Hawke's Bay	137,840	140,709	2,869	2.08	2.33
Taranaki	103,798	107,600	3,802	3.66	-1.48
Wanganui	68,702	69,439	737	1.07	-1.38
Manawatu	113,238	115,500	2,262	2.00	2.39
Horowhenua	49,296	53,592	4,296	8.71	2.06
Wairarapa	39,689	39,608	-81	-0.20	-3.22
Wellington	323,162	328,163	5,001	1.55	-1.88
South Island					
Marlborough[3]	36,172	38,225	2,053	5.67	2.70
Nelson Bays	65,934	65,648	3,714	5.63	2.46
West Coast	34,178	34,942	764	2.23	-1.84
Canterbury	336,846	348,712	11,866	3.52	-0.59
Aorangi	84,772	81,294	-3,478	-4.10	-2.94
Coastal-N. Otago	138,164	137,393	-771	-0.56	-4.94
Clutha-C. Otago	45,402	48,771	3,369	7.42	4.28
Southland	107,905	104,618	-3,287	-3.05	-0.67
North Island	2,319,184	2,438,249	119,065	5.13	2.40
South Island	850,758	863,603	12,845	1.51	-0.97
Remainder[4]	5,795	5,232	-563	-9.71	7.59
New Zealand	3,175,737	3,307,084	131,347	4.17	1.48

1 Population enumerated on 24 March 1981
2 Population enumerated on 4 March 1986
3 The 1981 total for Marlborough has been adjusted to exclude 1,385 army personnel present on defence force exercises on census night.
4 Included here are people enumerated on offshore islands and on board ships on census night, including Great Barrier and Chatham Islands.

Source: Department of Statistics (1986a).

Fig 10

RATE OF CHANGE IN TOTAL POPULATION, 1981 -1986



Source: Department of Statistics, 1986 a

In a similar way, no single factor can be isolated to explain Southland's population decrease, although it can be noted that there have been many recent redundancies in urban employment in this region, as well as direct effects from changes in the region's farming sector and repercussions of the 1984 floods.

b) Rural and urban population trends

The 1986 census results confirm that the urban (83.6 percent) and rural (16.3 percent) shares of total population are very much the same as they were at the two previous censuses. This indicates that the rural population, as measured by the Department of Statistics, increased at approximately the same rate of growth as the total and urban populations over the last decade, giving a 1981-86 rural population growth of approximately 26,000 people.

It is doubtful that there has been this much rural population growth in the sense of people engaged in farming and closely related activities living what are popularly regarded as rural lifestyles. There are significant numbers of people living what might be more accurately classified as urban lifestyles resident in what are officially designated rural areas, as well as some living rural lifestyles within designated urban areas. This mismatch distorts the measurement of rural population growth.

It is noteworthy in this regard that a large part of the Marsden Point oil refinery construction labour force was classed as living in 'rural' areas at the time of the 1986 census. This accounted for a significant part of Northland's 'rural' population increase since 1981. A significant part of the total New Zealand rural population increase between 1981 and 1986 occurred in close proximity to the Auckland urban area, and there was substantial 'rural' population growth in the area adjacent to Queenstown. It is likely that the population commonly described as 'rural' has not grown as much in the past five years as the official census designation suggests.

Rural population growth between 1981 and 1986 was highly concentrated (about 80 percent of the total) in the northern North Island especially in the Northland and Auckland regions. Much of the remaining rural population growth in the northern North Island occurred in the coastal Bay of Plenty and the Coromandel peninsula. In the southern North Island rural population increases in most regions were largely balanced out by the decreases in the Hawke's Bay and Wanganui regions.

In the South Island most counties experienced population increase although growth was concentrated in Nelson and Canterbury which had more than half of the total. A large part of the Central Otago increase represents tourism-related population growth outside urban boundaries, rather than rural population growth in a functional sense. Southland's rural population decreased by more than 1,000, the largest population decrease in the period.

While the urban population share changed little between the 1981 and 1986 censuses, some classes of towns grew faster and some slower than the national population. Their shares of the total population changed accordingly. Metropolitan Auckland, accounting for nearly 40 percent of total growth, increased its share of total population, while Wellington, Christchurch and Dunedin grew more slowly than the national average, and therefore decreased in their share of total population. The 13 main urban areas in the 30,000 to 100,000 population range accounted for roughly 20.5 percent of the total enumerated in both censuses. Urban areas in the 10,000 to 30,000 range slightly decreased their share while towns in the 1,000 to 10,000 range slightly increased their share of the total population.

The generally faster growth of the northern North Island and slower than average growth of the South Island is reflected in the growth rates of particular classes of urban areas. Non-metropolitan urban areas and towns in the 1,000 to 10,000 range in the northern North Island had generally more rapid population growth than those in the southern North Island, which in turn grew more rapidly than those in the South Island. Southern North Island secondary urban areas (the 10,000 to 30,000 range) had more rapid population growth than those in the northern North Island, though only through the effect of a single urban centre (Kapiti) on the aggregated total. Of the five South Island secondary urban areas, only Blenheim showed an increase in population.

Section 3

POLICY IMPLICATIONS

Recent trends in natural increase and international migration, described in the second section of this report, indicate that New Zealand's total population will continue to grow slowly unless there are radical and sustained changes in fertility levels or net migration patterns. Recent projections by the Department of Statistics suggest that by the year 2011 the New Zealand population could number around 3.7 million (assuming zero net migration and below replacement fertility), only 400,000 more people than were enumerated in the 1986 census.

The reality of slow population growth means that policy makers and planners will have to give much more consideration to changes in population composition, especially with regard to the numbers and proportions of people in each age group. Because of the significance of these changes when population growth slows down after a period of high fertility and substantial net immigration (the New Zealand experience in the 1950s and 1960s), the Population Monitoring Group has prepared a separate section on the policy implications of changing population composition. The policy issues reviewed below relate to international migration, the labour force, ethnic composition of the population and regional population trends.

INTERNATIONAL MIGRATION

New Zealand is on the threshold of a new era of migration policy. In August 1986 the Minister of Immigration tabled in Parliament a draft Immigration Bill and a Review of Immigration Policy (Burke, 1986). The draft Bill is to replace the Immigration Act (1964) and its numerous amendments, and is a substantially revised version of a Bill introduced to the House of Representatives by the National Government in 1984. The immigration policy review is a new departure. It is the first substantive statement on all aspects of immigration policy by a New Zealand government since 1974 when major changes were made to the conditions governing permanent entry to New Zealand (Colman, 1975).

The 1986 Review of Immigration Policy (hereafter termed the *Review*) sets out the objectives and principles underlying the Government's immigration policy. The Immigration Bill provides the legal framework within which immigration policies set out in the *Review* will be administered. The *Review* contains details of several important departures from previous immigration policy, and some of these that relate to labour migration in particular are outlined below.

a) Immigration and the labour market

Since the mid-1960s successive governments have regarded immigration as an instrument of labour market policy. Entry to New Zealand has been easy for people who have skills and qualifications needed in the workforce, especially if they are English-speaking and from a "traditional" source area. Preference has been accorded to migrants from countries in northern and western Europe, North America and Australia. Applicants from non-traditional source areas (such as South and Southeast Asia, Latin America, and Africa) could be approved only if the employer could show that recruitment from preferred sources was not possible and, in the case of nationals from developing

countries, that the applicant's skills were not in demand in his or her home country.

Two other policy guidelines which served to restrict entry on occupational grounds were firstly the requirement that a prospective immigrant be qualified in a particular skill or trade specified in an Occupation Priority List which the Department of Labour devised in response to the demand for labour in the New Zealand economy, and secondly a limit on the number of dependent children who could accompany their parents. The guideline with regard to family size dates back to the 1950s when it was considered appropriate to subsidise the travel of no more than four dependent children. It should be noted that neither the Occupation Priority List restriction nor the four-child rule has applied to Australian citizens (see section on trans-Tasman migration).

Under the new immigration policy, national origin as a factor in immigrant selection has been abolished, the consideration for skills demands in developing countries has been dropped, the Occupation Priority List has been made more responsive to labour market shortages, and a specified limit on the number of dependants that can accompany an occupational immigrant has been removed. In addition, a policy initiative to encourage immigration of entrepreneurs seeking to invest in business development in New Zealand, which was introduced in 1978, has been broadened in scope.

In terms of their potential impact on immigrant flows in the short-term, the most important policy changes are those concerning migrant source areas and entry of entrepreneurs. The abolition of national origin as a factor in immigrant selection will not, in itself, result in any increase in immigration levels because the predominant and self-regulating control over the volume of occupational migration will continue to be the state of the New Zealand labour market. The policy change will, however, widen the range of people and countries from whom occupational immigrants can be selected, and this should contribute to greater flexibility in recruitment to the work force. It could also result in some diversification in the ethnic composition of immigrant flows, although requirements that prospective migrants have adequate English language skills, and that they are interviewed by New Zealand consular staff or their representatives before departure for New Zealand will serve to restrict entry from some parts of the world.

Entrepreneur immigration has been given much higher priority than in the past, and restrictions on type of investment and nature of business have been removed. The emphasis under the new policy is on selection of people rather than proposals, with the standard requirement that "business immigrants" meet routine immigration health and character checks, and establish, through personal interview, their general suitability for settlement in New Zealand. There are no restrictions on the sector of the economy into which entrepreneurs can channel their investment and business activity; the guiding assumption is that people with good business sense should be left to select their own niche in the economy.

There is scope for a considerable increase in entrepreneur immigration once the more flexible provisions governing this type of entry to New Zealand are known overseas. Between 1978 and 1986 225 immigrants (excluding dependants) entered under the entrepreneur scheme including 52 from the United Kingdom, 46 from the Federal Republic of Germany, 33 from the United States and 21 from Hong Kong. Given that this sort of immigrant is also being sought by governments in Australia and Canada, there will have to be much more extensive advertising of opportunities for entrepreneurial activity in New Zealand. The *Review* foreshadows this by noting that "greater emphasis should be placed on this avenue for immigration to New Zealand in the presentation of and publicity about our immigration policy. Henceforth the opportunities for entry to New Zealand under the broad category for 'Business Immigration' will be given prominence

alongside the existing arrangements for occupational entry" (Burke, 1986, 20).

The Government does not envisage a sudden increase in the total numbers of business immigrants entering New Zealand given a requirement for NZ$150,000 to meet initial personal establishment costs and the competition for entrepreneurs with investment capital from Australia and Canada. However, there are countries such as Hong Kong and South Africa where political and economic circumstances might encourage many more business people to consider New Zealand as a future home. The prospect of a major influx of South Africans who would have the necessary financial, language and business qualifications is causing concern to organisations such as the Inter-Church Commission on Immigration and Refugee Resettlement (1986). This is a sensitive issue and one which will require careful monitoring by the Immigration Division of the Department of Labour.

One other innovation in the policy *Review*, which should be mentioned in the context of immigration and the labour market, is the creation of a new avenue for migration to New Zealand through a combination of family sponsorship and occupational entry. It is now possible for a New Zealand resident to sponsor the entry of a brother or sister or adult child who has a worthwhile skill (not necessarily one designated on the Occupational Priority List) involving appropriate training and relevant work experience, has a satisfactory permanent job offer, and meets other normal criteria including character, health and English language competency. The New Zealand resident sponsor is required to support the application and to assist with suitable accommodation on the family member's arrival.

In common with occupational immigration in general, it is expected that the number of adult brothers or sisters or adult children admitted under the sponsorship avenue would be governed in large part by the state of the labour market. However, it is recognised in the *Review* that this policy initiative, together with changes to the provisions governing family reunification, could be of considerable interest to many families resident in New Zealand who have kin in Western Samoa, Tonga and Fiji especially. In the *Review* it is noted that "It is expected that the changes approved might produce a 'bulge' in family reunification immigration in the first year or so of perhaps 2,000 persons and, once pent-up demand has been met, an annual additional flow of around 1,500 persons" (Burke, 1986, 23). The conclusion reached in the *Review* that, given current slow population growth, "these levels are unlikely to impose excessive demands on housing, education, health, social welfare and related services" seems reasonable.

b) Trans-Tasman migration

The *Review* makes it clear that the Trans-Tasman Travel Arrangement, which has facilitated the flow of Australian and New Zealand citizens across the Tasman, remains at the centre of political and socio-economic relations between the two countries. The benefits of a free flow of labour across the Tasman are seen to be matched in the areas of tourism, trade and investment, all of which are essential elements of CER (Closer Economic Relations).

The fact that the Trans-Tasman Travel Arrangement means that a very significant part of total immigration to New Zealand is not susceptible to direct control by Government is clearly recognised in the *Review*. The question of a reciprocal passport requirement for travellers entering New Zealand from Australia, to match that introduced by the Australian Government in 1981, is being reviewed in the context of a shift to a computer-based system for screening people arriving in and departing from New Zealand. The effective operation of such a system, which would serve the dual purpose of making

it easier for tourists and business visitors to fulfil immigration requirements, as well as in assisting to control the spread of international terrorism and crime links into New Zealand, would be enhanced if trans-Tasman travellers were required to carry identification. While this would represent a change in existing immigration policy, it would have little impact on the flexibility and freedom of trans-Tasman travel. New Zealanders going to Australia, and Australians returning there from New Zealand, already require passports to enter Australia.

A recent policy change, which has the potential to have a greater impact on trans-Tasman migration flows, is the decision by the Australian Government to impose a period of residence in Australia on eligibility for several social security payments, especially the unemployment and family benefits. The extent to which New Zealanders have been attracted to Australia by the prospect of benefits which could be claimed virtually on arrival is impossible to determine, but the new provisions will certainly discourage the movement of people who may be planning to use the Australian social security system to pay for their stay in that country.

Evidence from the Australian census in 1981 suggests that people born in New Zealand had higher rates of labour force participation and lower rates of unemployment than the Australia-born population (Pope, 1985). The proportion of New Zealand-born people residing in Australia who are unemployed may have increased by 1986, but it is unlikely to have reached levels which justify the recent public reaction in Australia against "Kiwi dole bludgers". As was pointed out recently in the *Evening Post* (21 August 1986), the 12,000 New Zealand-born people receiving the dole in Australia is just 1.8 percent of the total unemployed. It is not possible from these statistics to ascertain the number of unemployed New Zealanders who as recent arrivals in Australia are using the unemployment benefit to fund a holiday at the Australian tax-payers' expense from those who were born in New Zealand, migrated to Australia many years ago, and now regard themselves as permanent residents in Australia, and who are currently out of work.

Although trans-Tasman migration is heavily dominated by people aged between 15 and 29 years, "dole bludgers" are not considered to be a significant component of contemporary flows even though unemployment levels are increasing again in New Zealand. Much more significant for policy makers in both New Zealand and Australia is that an increasing number of people consider both countries as being part of a common labour market.

Since 1976 the stock of people in different occupation categories in New Zealand has been influenced more by migration across the Tasman than at any other time this century. The "brain drain" is not as substantial for some occupations (e.g. nurses and teachers) as is sometimes claimed, but trans-Tasman migration is an important process affecting the supply of skilled labour in New Zealand in the 1980s. By the same token, this process is also increasing competition between people born in Australia and New Zealand for jobs in Australia - a competition which must attract adverse comment from Australians as unemployment levels rise in that country. In this regard it is pertinent to reiterate a point made by the Economic Monitoring Group (1986) in their recent report on labour market flexibility that "it is certainly important to monitor trends in migration, especially to and from Australia, and to pay attention to the comparative economic trends, both those in the economies as a whole, and those affecting particular occupations" in Australia and New Zealand.

c) Labour migration from the Pacific Islands

The South Pacific Work Permit Schemes negotiated with the governments of Fiji, Tonga

and Western Samoa in the mid-1970s, have been extended in 1986 to include the central Pacific countries of Tuvalu and Kiribati according to the *Review*. The Labour Government is concerned to continue the "special responsibility" which successive New Zealand governments have assumed for assisting development in small Pacific countries where wage employment is not accessible to most adults. While accepting the merits of the work permit schemes in principle, the *Review* states that various practical aspects of their operation will be subject to re-evaluation.

One important issue which merits attention is the length of time people working under the schemes can stay in New Zealand. Current policy allows citizens of countries covered by the schemes to work in New Zealand for up to 11 months. Given the costs of travelling to and from New Zealand, plus the everyday living expenses here, it is questionable whether this period is long enough to enable Pacific Islanders to accumulate capital and acquire skills which can be used to foster development in the islands.

These objectives of capital accumulation and training are important policy objectives underlying the schemes - as the *Review* states, "the opportunity to work in New Zealand under these arrangements is valued by individuals and the Governments concerned. Money earned by the workers contributes significantly to village or community development projects in their home countries and there is often an element of training involved as the workers become familiar with particular equipment or processes" (Burke, 1986, 32). A longer period of employment in New Zealand, taking into account opportunities to save, the personal family circumstances of the workers, and the degree to which a greater training element should be built into the schemes, deserves serious consideration by policy makers.

The numbers of Pacific Islanders coming to New Zealand under the work permit schemes has rarely exceeded 350 in any year since the mid-1970s. The employment situation in New Zealand has not favoured these schemes which are tied to the availability of work in New Zealand in areas/occupations where the Department of Labour is satisfied there is insufficient local labour to fill vacancies. Procedures used by the Department to administer this aspect of the scheme are being reviewed to allow for a more flexible response to local labour demands, and these changes may increase opportunities for employers to gain approval for recruiting Pacific Island labour.

In reality, the schemes are likely to make a relatively insignificant contribution to the total volume of migration between New Zealand and its Pacific neighbours. Changes in policy with regard to source areas of skilled migrants, family reunification, and family sponsorship, will have a greater impact on the volume of Polynesian migration to New Zealand from areas like Tonga and Western Samoa than the work permit schemes.

Another policy change with implications for short-term labour migration from countries like Tonga and Western Samoa, which both have sizeable resident communities in New Zealand concerns the issue of work permits to visitors. The Labour Government has decided that previous guidelines, which permitted the issue of a work permit to a tourist only in exceptional circumstances, should be made more flexible to take account of seasonal and regional labour requirements. Accordingly, the *Review* points out that from the beginning of 1986 District Offices of the Department of Labour have been authorised to issue work permits to visitors who have a written employment offer which cannot be filled satisfactorily from job seekers on the local register of unemployed people. This attempt to remove some of the bureaucratic controls over labour recruiting will be welcomed both by employers and visitors from several overseas countries. The more flexible arrangements must be monitored, however, to ensure that there is not exploitation of unskilled Pacific Island migrant labour in industries which have

difficulty attracting and retaining local employees because of unpleasant working conditions.

d) Refugees

New Zealand is one of the countries that is only marginally touched by the world refugee crisis but it has accepted humanitarian and legal obligations to assist refugees by being a party to the 1951 United Nations Convention and the 1967 Protocol Relating to the Status of Refugees. The humanitarian aspects of refugee immigration are stressed in the *Review* and the Labour Government has undertaken to enact legislation to improve the refugee status determination procedures and to provide for the appeal of refugee status claims.

The published criteria used in selecting refugees for settlement in New Zealand focus on the family and other ties that refugees may have here as well as on their 'assessed ability to adapt to the New Zealand way of life'. An active and progressive refugee immigration policy requires that the refugees most needing help are defined in advance and sought out for settlement. Priority should be given to admitting refugees whose lives are in danger.

The viability of New Zealand's refugee settlement programme depends on a partnership between the private and governmental sectors that needs independent evaluation and access to greater resources. The Government is responsible for the admission of refugees but the sponsorship model used to help refugees settle in New Zealand is dependent on the work of the Inter-Church Commission on Immigration and Refugee Resettlement. The Inter-Church Commission co-ordinates community sponsors for refugees and is a key agent in recommending to the Government the number of refugees that it can provide sponsors for each year. It is becoming increasingly difficult to find enough sponsors despite a growing tendency for established refugee residents to sponsor relatives and friends. The search for sponsors needs to be widened since the sponsorship model of refugee settlement is known to be particularly effective.

Ensuring the successful settlement and participation in New Zealand society of refugees as well as other immigrants is emphasised in the *Review* as an important policy area. Often the process of adjusting to life in New Zealand, especially for refugees, is painful, not only because of being an outsider away from familiar ways of living, but also because of the non-recognition of overseas qualifications, downward occupational mobility and the effect that parents observe on their children's identification and acculturation (Farmer, forthcoming). More attention is now being given to some of these issues but greater resources are required to ensure that all but the most elderly refugee settlers have the language and cultural skills required to participate in a multicultural society of the time they choose to become New Zealand citizens.

LABOUR FORCE

The size and composition of the labour force at any time is the result of an interplay of socio-economic and demographic factors influencing labour supply and demand, conditioned by policy measures. The impact on the labour force of fertility, mortality, ageing and migration requires appropriate labour market policy responses, but - as has been emphasised in earlier Population Monitoring Group reports - these demographic processes in turn are affected by many aspects of public policy.

a) Labour market flexibility

With respect to labour market policy, an important question is whether the labour market is sufficiently flexible to enable quantity and price adjustments through labour mobility and wage determination, to ensure a reallocation of resources to where they are most valued by the community, and to achieve the fundamental objectives of economic efficiency and equity. The Economic Monitoring Group has argued that the degree of labour market inflexibility in New Zealand is exaggerated and no different from many other OECD countries, although a gradual freeing-up of the institutional framework, particularly regarding wage-setting, is desirable (Economic Monitoring Group, 1986).

Notwithstanding cyclical fluctuations during the 1981-86 period, growth in the number of jobs nearly matched growth in the total labour force of 11 percent. As noted earlier, this has been largely the result of workers accepting part-time jobs since the number of full-time jobs did not increase more than three percent over the same period. Although there currently appears to be no statistical evidence of a large mismatch between hours of work supplied and demanded relative to the total size of the labour force, there would seem to be limits to this process of substitution from full-time to part-time workers.

Clark (1986) has pointed to constraints on the growth of part-time work in the form of industrial legislation, trade union views and attitudinal factors. Moreover, in absolute terms there is still a considerable imbalance in the labour market: in the March quarter of 1986 123,400 workers were unemployed and actively sought work, or wanted to work more hours, or wanted to work but were discouraged from seeking work. In addition, there were on average 4,500 notified vacancies listed with the Department of Labour, which is only a proportion of the total number of vacancies in the economy.

Even more serious is persistent high unemployment among certain groups, which supports the theory of a segmented labour market in which women and ethnic minorities (especially Maori and Pacific Islanders), are over-represented in jobs with poorer wages, worse conditions and fewer opportunities for training and promotion (Population Monitoring Group, 1985a). Training and education programmes and partial employment subsidies are, in the long run, more effective than temporary job creation schemes and thus current policies encouraging the former would appear to be in the right direction. While true discriminatory practices may be difficult to disentangle from the often subjective interpretation of the statistical evidence, high unemployment rates among women and minority ethnic groups are a reality, and affirmative action may be required to overcome the inertia inherent in socio-economic forces shaping the labour market.

b) Internal and international migration

Another labour force problem is the large regional variations in incidence of unemployment. Appropriate policy responses to this are not easily formulated since the question about whether jobs should go to the workers or workers should move to the jobs can only be resolved when overall regional policy objectives have been taken into account. Although internal migration tends, on average, to be in the direction from regions with a slack labour market to those with a tight labour market, this appears to be part of a dynamic process in which growth of the more prosperous region is self-reinforcing.

External migration is another area of concern. There currently exists a renewed interest in the economic consequences of international migration, in particular in

traditional immigrant destinations such as the United States, Canada, Australia, and New Zealand. The complexity of the phenomenon has necessitated a large-scale computer modelling approach and the results of such a study are available for Australia (Norman and Meikle, 1985). In New Zealand a similar, but smaller scale, project is currently being undertaken after the results of a pilot study were published earlier this year (Poot, 1986).

Empirical research in both Australia and New Zealand, based on post-war experience, has shown that if immigration is used as an instrument for economic and population policy, the consequences for the labour market are not as undesirable as was traditionally thought (Chapman and Miller, 1986; Poot, 1986). Immigration does not appear to increase the aggregate rate of unemployment, although the uncontrolled component of immigration (consisting largely of New Zealand and Australian citizens) is itself sensitive to the business cycle and the resulting state of the labour market.

The macroeconomic result that immigration does not increase the rate of unemployment does nevertheless hide diversity in, and segmentation of, the labour market. Hence immigrants may compete with residents for jobs in some regions and industries while in others shortages may persist. Labour market policy should thus remain an important component of immigration policy. Beyond this migration has implications for ethnic composition and for other non-economic factors and thus must also be viewed in these terms.

POPULATION GROWTH AND ETHNICITY

One implication of the trend towards slow population growth in New Zealand is the likelihood that differential growth rates among ethnic sub-groups will become more apparent over time. Population projections prepared by the Department of Statistics suggest that between 1981 and 2011 the total population of New Zealand may grow by only 12 percent. Projections for the Maori population, prepared by Pool and Pole (forthcoming) indicate that Maori descent population (people who reported they were descendants of a Maori person of New Zealand in the 1981 census) could increase by 64 percent over the same period.

Data from Pool and Pole's projections show that the Maori descent population will not only grow far more rapidly than the total population, but it will also make a very significant contribution to the projected increase in numbers between 1981 and 2011. It was noted earlier in this section that the projected population for the year 2011 could be only 400,000 larger than that enumerated in 1986. Almost half of this (46 percent) could be accounted for by increase in the Maori descent population. Depending on the assumptions one makes about Maori fertility, international migration and inter-ethnic mobility the Maori descent population by 2011 could comprise between 15 and 19 percent of the total population of New Zealand. In 1981 the Maori descent population comprised 12 percent of the national total.

In addition to differential growth rates, there are also significant variations in the age structure of the Maori and non-Maori populations. Recent trends in the age composition of the population were described earlier in the report. Projected changes in population composition, and the associated policy implications of these, are the subjects of section 4 of this report. A more detailed examination of projected Maori population growth and composition trends is contained in Pool and Pole (forthcoming).

The other ethnic group which will experience much more rapid growth through both natural increase and net immigration over the next 20 years is the Pacific Island

Polynesian population. There are no projections giving details of the age composition or total numbers that could be present in the 1990s or early years of the twenty-first century. In this context it is appropriate to reiterate a point made by the Population Monitoring Group (1985b, 39-40) concerning the need for national population projections for the Pacific Island Polynesian as well as the total and Maori populations. Ethnic population projections are required for effective policy formulation in a multicultural society, and the Population Monitoring Group supports strongly the recommendation made by the Review Committee on Fertility and Related Statistics (Department of Statistics, 1985, v) that, subject to feasibility in terms of data availability and resources, as much as possible should be done to satisfy requirements in this regard. To give one example, health planning in the central Auckland Statistical Division where 65 percent of Pacific Islanders live, is very difficult without projections for this population.

POPULATION DISTRIBUTION

In several important respects the pattern of regional population growth since 1981 has been much more akin to that of the latter half of the 1970s than to the preceding 30 years of more decentralised growth. A continuation of recent trends for some decades is embodied in current official sub-national population projections, and if these prove valid, will result in a much greater concentration of population in the northern North Island, and relatively little growth in the southern North Island and the South Island. Regions having most of the land area and about half the population will experience either slow growth, or population decrease or fluctuations between slow growth and decline as their normal rather than temporary state. Such a trend would have major implications for community structure, individual opportunity and the delivery and viability of public and community services, in both the areas of population concentration and those regions with least growth.

At a broad sub-national level there are already significant regional differences in population age structures. Regions experiencing slow growth or population decline generally have significantly older age structures as a direct outcome of net outward migration. They have lost some of their potential for natural increase because young reproductively active adults (and older teenagers who will shortly become adults) are disproportionately over-represented in both international and inter-regional migration streams. Because these young people are also at ages when cohabitation and childbearing are likely to occur, migration has a flow-on effect into natural increase in regions of net inward migration. Continuation of the present pattern of regional migration trends will perpetuate and accentuate existing regional age structure differences within the context of a progressively ageing national population.

While much of the direct financial cost of supporting the aged is borne nationally, other social and economic costs fall on regional bodies and local communities. In regions with older, slow-growing or decreasing populations, heavier demands are placed on women in particular as voluntary community groups are being called upon to make a greater input to social service provision and support.

Sustained high levels of net outward migration also tend to mean disruption of family and extended family relationships as teenagers and young adults move away from older relatives. While this will actually be beneficial to some people, others will have little choice but to weaken family ties in order to take advantage of opportunities in another region. Such disruption of personal relationships at vulnerable ages may increase the potential for antisocial behaviour so that society at large will be disadvantaged in ways which have direct financial costs.

The effects of sustained high levels of net outward migration are not limited to social impacts on individuals, families and communities but include effects on future regional economic development. Even when the projected regional labour force is approximately in balance with the number of labour force members required in future, there may be difficulties in obtaining necessary skills in these regions. This is because there will tend to be a low rate of entry to the regional labour force and relatively low job turnover. In addition, the region will be relatively unattractive to migrants. An older national population is likely to be less geographically mobile in any case.

There are thus both social and economic implications at individual, regional and national levels of the prolonged continuation of substantial differences in regional growth rates. Any simplistic assumption that whatever changes are occurring are the necessary price of progress, may thus prove to be short-sighted. Any review of regional development policy will have to allow for the possibility that what appears to be in the national short-term interest is not necessarily what is in the national long-term interest.

POPULATION COMPOSITION: FUTURE TRENDS AND THEIR POLICY IMPLICATIONS

For most of the post-war period social and economic planning in New Zealand has been based on an assumption of population growth. Relatively high levels of fertility until the mid-1960s and quite substantial net gains to the population through international migration in most years between 1945 and 1975, fostered a belief among planners, politicians and the public that population growth was synonymous with and essential for social and economic development. Indeed planning for development required a growth-oriented ideology, and an essential part of this ideology, was continued increases in numbers of people. It was fashionable to draw a distinction between the "young" and "dynamic" populations of New Zealand, Australia, Canada and the United States, for example, and the "older" populations of Europe.

Demographic trends during the 1970s and early 1980s, described elsewhere in this and previous reports by the Population Monitoring Group, have produced a very different situation. While an ideology of growth still underlies most social and economic planning, the reality of steady increases in population is no longer certain. Fertility levels are low, and annual net losses to the population through international migration have been more common than net gains since 1975. The "young" population is ageing rapidly, albeit somewhat later than has been the case in most populations in Europe.

The composition of the population, especially with respect to its age structure, is undergoing quite dramatic change. It is essential that policy makers appreciate these changes if there is to be effective social and economic planning in New Zealand during the 1990s and beyond. The most significant demographic trends in the next 30 years will be caused by composition changes, not absolute population growth.

Social responsibilities and economic opportunities are determined, to a considerable degree, by demographic characteristics such as the distribution of people by age and sex. As indicated elsewhere in this report, the declines in fertility especially have produced a situation whereby age distribution will alter significantly from one decade to the next as birth cohorts (groups of people born in the same period) of different sizes pass through the life-cycle. Changes in social and economic policy will be required to cope with the evolving age structure of the population.

Large cohorts at one stage in their life-cycle will produce demands which could well dominate social life and policy concerns, perhaps to the detriment of the needs of smaller cohorts. Within a short span of time, however, the needs specific to one life-cycle stage will be supplanted by those characteristic of other stages as the same large cohort gets older. At the same time equally important and rapid shifts in policy may be needed for small sub-populations which draw heavily on services. A good example is the population aged 75 years and over which is going to remain a small minority, but will increase numerically at a very rapid rate. An analogy with these national level trends can be made with sub-national patterns demonstrated, for example, by the settlement of suburban areas in the 1950s or 1960s by populations which were relatively homogeneous in terms of age-distribution - typically the young couples of the "baby boom". At first there was a rush to meet the need for paediatric services, and primary schools, but this has had to give way to demand for intermediate then secondary schools as the large birth cohorts in these suburbs aged. Until recently little account could

be taken of the service needs of the very small minority of older people in such suburbs.

Almost two-thirds of the people who will be alive in New Zealand in 2011 are already present in the population. It is therefore possible to assess changes consequent upon the ageing of this part of the population with a high degree of certainty. The main unknown factors are the future numbers of births each year (which will determine the size of the population under 25 years of age in 2011), and the effect of international migration on numbers of males and females especially in the young adult age groups. In the following section, where changes in composition for the total population to 2011 are outlined, use is made of projections prepared by the Department of Statistics on a 1985 population base and of the unofficial projections prepared by Pool and Pole (forthcoming). Future estimates of births in the total population projections assume a "medium" fertility variant, and in the case of international migration it is assumed that there are net migration losses in the short term, and zero net migration in the longer term.

COMPOSITION TRENDS, 1981-2011

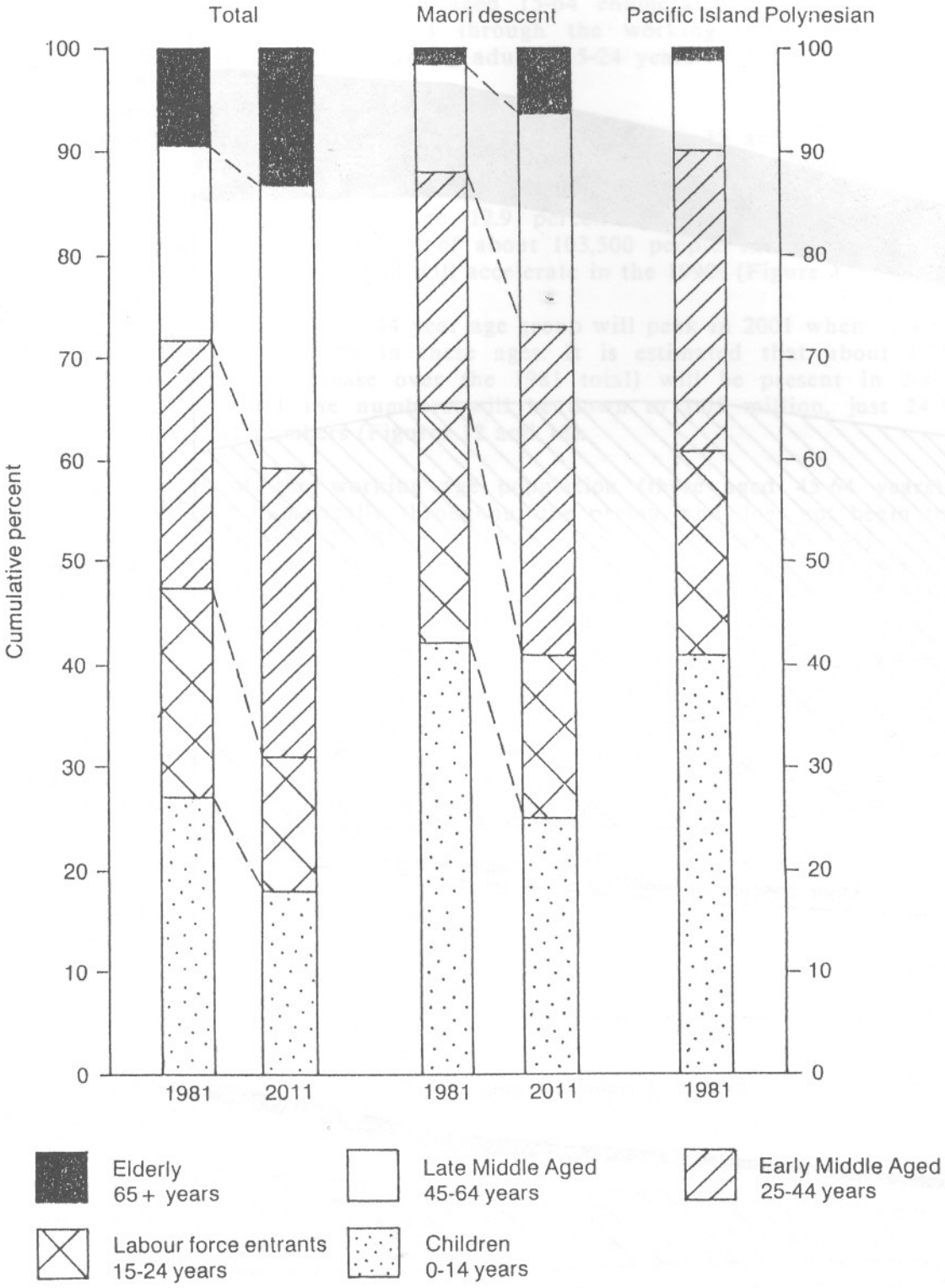
a) Total population

The ageing of the total New Zealand population between 1981 and 2011 is centred on the progression through life-cycle stages of birth cohorts originating in the high fertility decades of the 1950s and 1960s. In 1981 these people were aged between 10 and 29 years. Because the projections extend only to 2011 these important cohorts will still be in their forties and fifties at this time, and the full impact of their ageing on the elderly population will not become evident for a further ten to twenty years. The movement of key cohorts through the ageing process creates a bulge termed "population peristalsis" within the age distribution (Population Monitoring Group, 1985b). This effect has been characterised by rapid expansion in numbers in the older age groups (i.e. people born between 1946 and 1961), and an equally rapid contraction in numbers of those born since 1971. This process of peristalsis is accompanied by lesser surges which add complexity to the pattern without changing the overall trend towards an older population.

The simplest indication of this shift in the overall age distribution of the population is provided by the increase in median age. In 1981 the median age, at 28.3 years, was the highest it had been since the 1950s. The projected median age of 31.7 years in 1991 would be higher than at any previous date since population records were first kept in New Zealand. By 2011 the median age could be 39.1 years and still rising (Neville, in press).

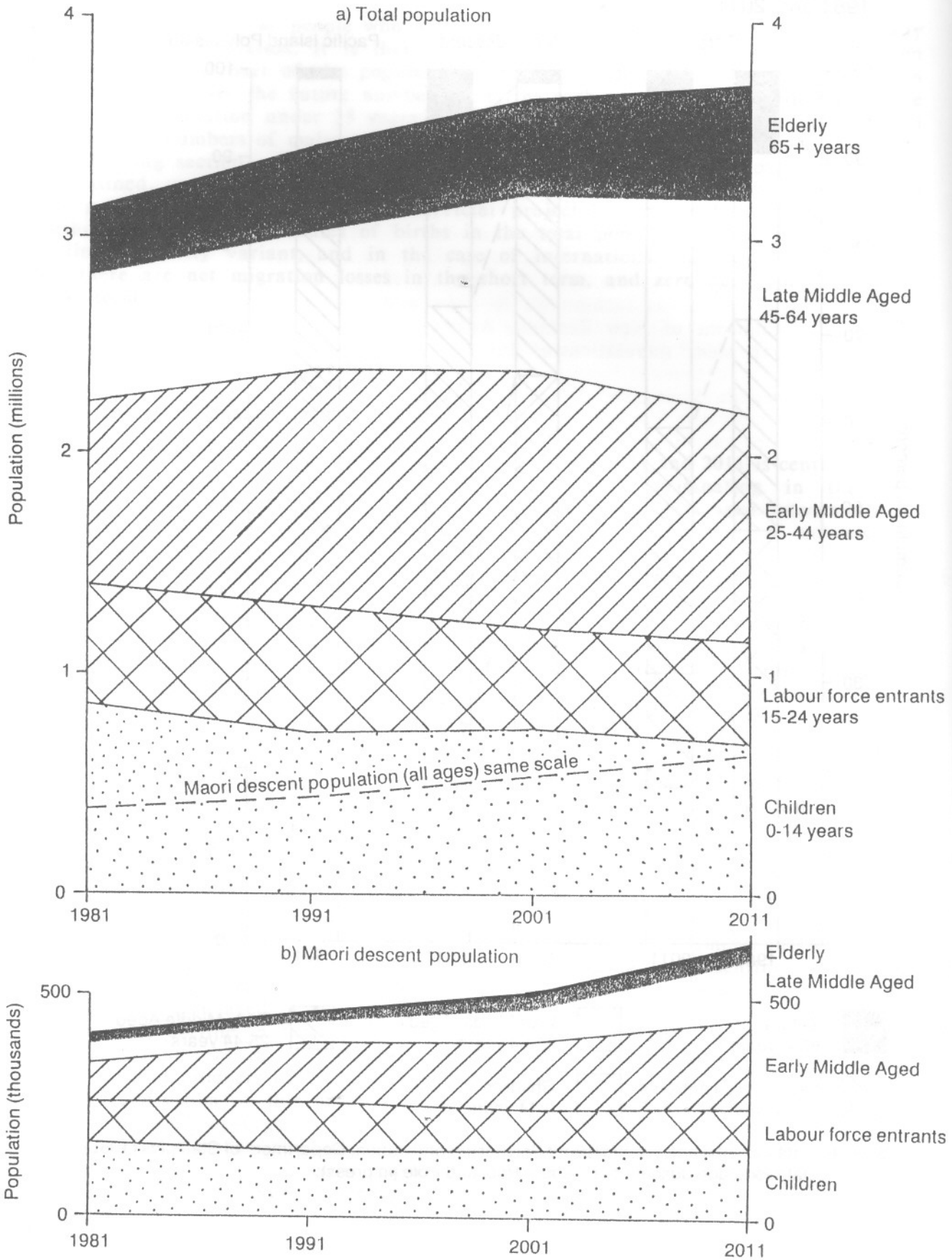
The policy implications of this shift are demonstrated more comprehensively if the population is subdivided into functional age groups representing the social responsibilities and economic activities of people at different ages (Figures 11 and 12). When children aged between 0 and 14 years are considered, it is found that there is an overall decline in their proportion of the total population from 26.7 percent in 1981 to 18.2 percent in 2011 (Figure 11). This also represents a substantial reduction in actual child numbers by 172,600 from 848,600 in 1981 to 676,000 in 2011 (Figure 12). Further subdivision of this group into the 0-4 and 5-14 age groups reveals that there will be a brief upsurge in the youngest ages in the early 1990s as a result of increased birth numbers consequent upon expanded numbers of young adults in the main reproductive ages. This effect is carried forward into the 5-14 age groups in the late 1990s and the early twenty-first century.

Fig.11
DISTRIBUTION OF POPULATION BY FUNCTIONAL AGE-GROUPS, 1981 and 2011



Source: Data for Total and Pacific Island Polynesian population, Department of Statistics (1985). Data for Maori descent population, Pool and Pole (in press).

Fig.12
POPULATION COMPOSITION BY FUNCTIONAL AGE-GROUPS, 1981-2011



Source: Data for Total population, Department of Statistics (1985).
Data for Maori descent population, Pool and Pole (in press).

Adults between 15 and 64 years show a consistent proportional increase throughout the period from a 63.3 percent share of the total population in 1981 to 68.7 percent in 2011. The population in these ages in 2011 is estimated to be 2.55 million, 26.7 percent larger than the population aged 15-64 enumerated in 1981. However, these changes are not evenly distributed through the working age population; they are focussed on the large cohorts of young adults (15-24 years in 1981) who reach their 40s during the thirty year period.

Both the numbers and proportion of people aged between 15 and 24 years will decline over the period 1981 to 2011, because the large cohorts have been concentrated at these ages in the early 1980s (Figures 11 and 12). A reduction of the proportion in these ages from 18.3 percent in 1981 to 12.9 percent of the total population in 2011 represents a contraction in numbers of about 103,500 people. Indeed, a decrease in this age group is already underway and will accelerate in the 1990s (Figure 13).

The surge in numbers in the 25-44 year age group will peak in 2001 when 31.9 percent of the entire population will be in these ages. It is estimated that about 1.15 million people (a 36.5 percent increase over the 1981 total) will be present in 2001 in this age group, but by 2011 the numbers will be down to 1.05 million, just 24.3 percent greater than the 1981 numbers (Figures 12 and 13).

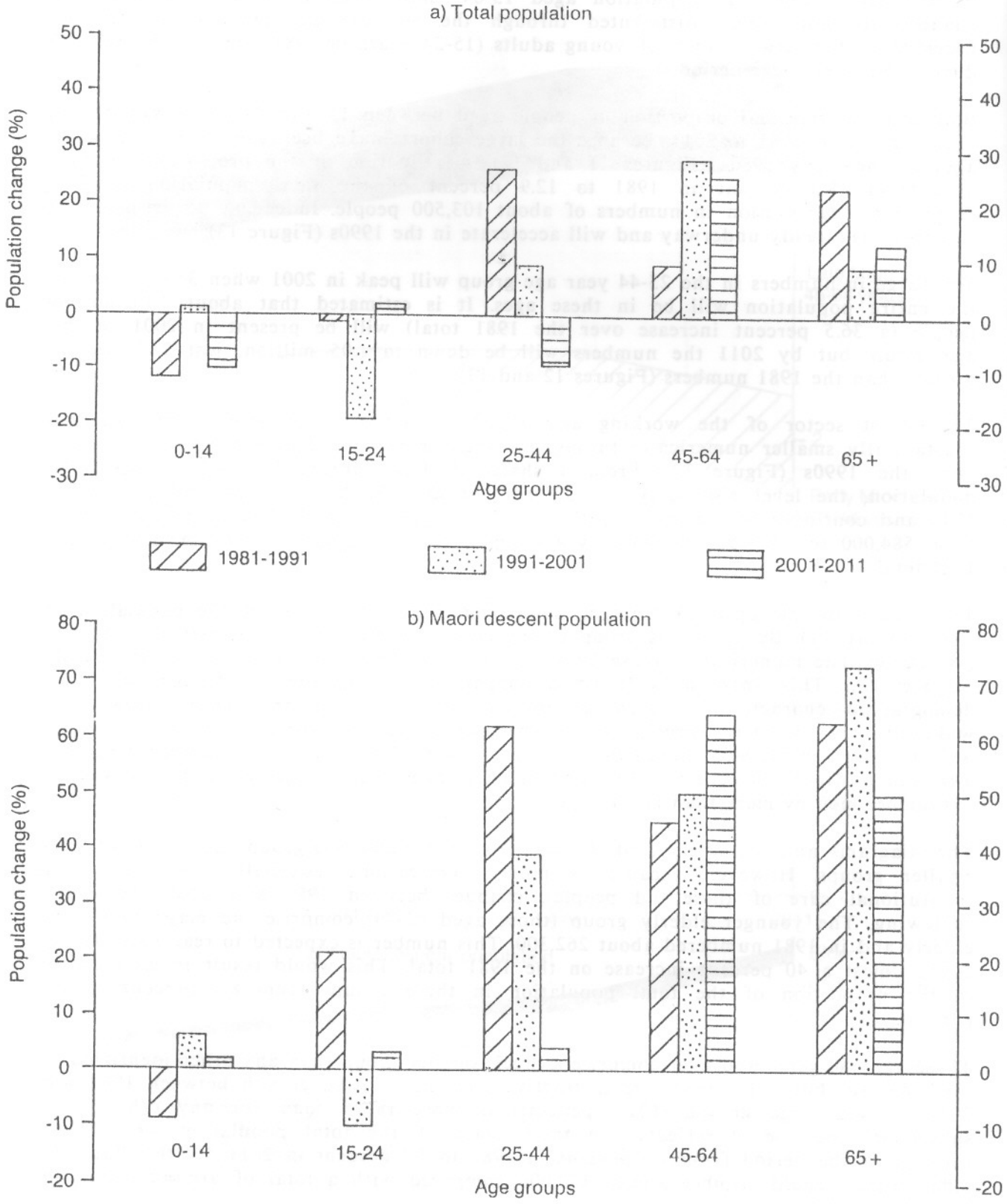
The oldest sector of the working age population (those aged 45-64 years) remains substantially smaller numerically throughout the period, and does not begin to escalate until the 1990s (Figure 12). From a share of 18.4 percent in 1981 of the total population, the level rises only to 18.7 percent in 1991 but then to 20.4 percent in 1996 and continues to escalate rapidly to 27.5 percent in 2011. The numerical growth from 584,000 to 1,018,500 in thirty years represents an increase of 74.4 percent on the 1981 total.

The elderly (people aged 65 years or more) comprised 10 percent of the population in 1981 (Figure 11). By 2011 this group is expected to comprise 13.1 percent of the total population. The numerical increase 1981-2011 is estimated to be from 316,200 to 484,800 (Figure 12). This increase will be accompanied by significant changes in other demographic characteristics such as marital status (particularly from married to widowed), the increasing propensity to live alone, and an imbalance of the sex ratio. At all ages over 60, and throughout the period 1981-2011, women outnumber men, and although a slight redressing of the imbalance is expected, at ages 80 and over women outnumber men by more than two to one.

The diagrams and statistics cited do not show the older age-group broken down into smaller groups. However, because of policy implications (especially for health and institutional care of these old people), changes between 1981 and 2011 are worth reviewing. The younger elderly group (those aged 65-79) comprise the majority of the elderly and in 1981 numbered about 262,300. This number is expected to reach 365,300 by 2011, almost a 40 percent increase on the 1981 total. This would result in an increase in the proportion of the total population in these groups from 8.3 percent to 9.9 percent.

Those aged 80 years and over comprise a much smaller group than any other identified in this analysis, but their needs are distinctive and the relative growth between 1981 and 2011 in these age groups (121.7 percent) is more rapid than for any other. This substantial increase is reflected in their share of the total population which rises throughout the period from 1.7 percent in 1981 to 3.2 percent in 2011. By this date the older elderly could number almost 120,000 compared with a total of around 54,000 in 1981 (Figure 12).

Fig.13
POPULATION CHANGE BY FUNCTIONAL AGE-GROUPS, 1981-2011



Source: Data for Total population, Department of Statistics (1985).
Data for Maori descent population, Pool and Pole (in press).

b) Maori and Pacific Island populations

Cohort changes in the Maori population are the subject of a separate report prepared for the Population Monitoring Group (Pool and Pole, forthcoming). Some of the major trends are summarised in Figures 11 to 13. It can be seen that the changes noted above for the total population will be both accelerated and exaggerated for the Maori descent population.

The younger age groups, which were a very important component of the population (almost 20 percent of Maori were aged 0-4 in 1966), will decline proportionately and absolutely. Until recently the Maori were a high fertility population with a particularly youthful base and the social and cultural effects of composition change may be rather more significant for this group than the total population. The current bulge at ages 15-24 years will first rise rapidly and then diminish. This has enormous implications for employment. At all ages over 25 years growth will be very rapid. At ages 65+ this will be in excess of 300 percent between 1981 and 2011.

As noted earlier, there are no projections for Pacific Island Polynesians but their population composition in 1981 is shown in Figure 11. Changes over the next 30 years may well have many of the elements noted already for Maori but exaggerated by the effects of large-scale immigration in recent years. This has been heavily age-specific and had a subsequent flow-on effect into natural increase.

c) Effects of composition trends: a summary

This brief review of changes in age composition has demonstrated that there will be a progressive structural transformation in New Zealand's population. This will be accompanied by major shifts in the needs and wants of the population - shifts which are not confined to the next 30 years. There will be further substantial changes in population composition after 2011 as the large cohorts born in the 1960s move into the age groups over 50 years old.

The efficiency of policy adjustments made to accommodate these large cohorts at all stages in their life-cycle will be tested for flexibility as much smaller cohorts follow in their wake. The fluctuations in relative rates of growth in numbers of people in the five age groups over the three decades 1981-1991, 1991-2001, and 2001-2011 (shown in Figure 13), give a clearer indication of the flexibility in planning that will be required particularly in the case of the Maori descent population.

POLICY IMPLICATIONS

The critical theme running through the following commentary is that the arrival of large cohorts at particular life-cycle stages will produce pressures on potential demand for services needed at that stage of life. Moreover, behaviour and consumption patterns typifying that age-group may come to dominate planning in both the business and social policy areas. As the bulge moves up, peaks in demand and consumption will change and this could produce problems of policy formulation and implementation unless care is taken to ensure there is flexibility in planning.

There is another theme relevant to this discussion. At the same time as population peristalsis is occurring at younger ages, the size of the elderly population will be growing at an unprecedented pace. The special needs of this population will have to be serviced during a period when flexible planning is essential to meet the needs of other

cohorts. Some implications of changes in age structure are outlined below for a number of policy domains: business, labour force, housing, education, social welfare and justice, and health. The Social Monitoring Group's (1985) report *From Birth to Death* has identified many of the key social attributes and policy concerns of the passage of cohorts through the life-cycle, and this study provides a useful baseline for the present review.

a) Business

As noted above, the movement of population through the life-cycle affects consumption and demand for various commodities. Cohort changes produce patterns of demand which may be more complex than is often recognised and may extend from basic needs such as clothing and housing (discussed separately below) to demand for luxury and other consumer items (Sceats, 1986a and Sceats, 1986b). For example, demand patterns for music and entertainment may be affected as an unusually large group of young people moves into early middle life, assuming, of course, that taste continues to be related to age as it has in the past. Thus radio programmes aimed at people aged between 45 and 64 years will double their audience between 1981 and 2011 in New Zealand while the number of teenage and early adult listeners, who constitute a very different listening public, will decline. Another current example is in the area of overseas travel where the arrival of large cohorts of young adults is causing a travel boom in all developed countries. One effect of this is to inflate numbers of arrivals and departures in the international migration statistics.

It must be stressed, however, that demand for consumer items is not merely a factor of cohort size *per se*, but of other patterns of demographic behaviour which affect the potential savings and disposable income of an individual or of a couple. In the latter case complex factors may be operating including labour force participation and employment and, less obviously, the responsibilities for dependants which a couple might have. The latter (termed the "age dependency" by demographers) is affected by three interacting factors: when and if the couple have children; when their responsibilities (including tertiary education) for child rearing terminate; and when they assume responsibility for elderly parents/relatives (Menken, 1985).

Couples in their late 30s in 1986, who had their children early and were born when their parents were relatively young, could be in a position where they have reduced responsibilities for young children, and may be earning two incomes. They can look forward to a further 20 years of employment and thus may have a high disposable income. Their consumption patterns in areas such as housing, travel, consumer durables, electronic goods and so on might be quite favourable in a business sense. In contrast, the young adults of the 1980s who may have high levels of disposable income as reflected in their current patterns of consumption, but who are late starters in childbearing, will not reach the post-parental state until they are nearing retirement. Thus through their forties and fifties they will be faced with costs associated with childrearing, which is now extended for many because increasing proportions of children attend tertiary educational institutions. At the same time these cohorts may need to commence saving for retirement.

b) Labour force and employment

The labour force age-group will grow more rapidly than the population as a whole although it is projected that this trend will ease off from about 2011 (Figures 11 and 12). Consequently the proportion of the population aged between 15 and 64 years will

increase: from 64 to 69 percent for the total population between 1981 and 2011, and even more rapidly for the Maori descent population (from 58 to 69 percent).

Unemployment has been concentrated at young ages. For the total population the entrant age-group (15-24 years) will show a slight percentage decline this decade and a more rapid decline in the 1990s (Figure 13). Unemployment is also affected by the level of economic activity and according to the National Sectoral Working Group (1986) will remain a problem into the early 1990s at which point the combined effect of sustained economic growth and a slackening in labour force growth, reflecting earlier declines in birth rates will lead to a falling trend in unemployment. Increasing tertiary full-time education participation rates also affect labour force participation rates, and the two key elements - demographic and workforce participation - point to a decrease in numbers joining the workforce. This picture, however, does not hold true for young Maori who have been most severely affected by unemployment. Their labour force entrant cohort is increasing very rapidly during the 1980s (21 percent), but will decline in the 1990s.

This labour force projection for Maori has both short-term and long-term implications. In the short-term, there will be severe pressure to find jobs for young Maori - more so even than in the early 1980s. In the longer term, unless this disadvantage is overcome the current young adult Maori population (15-24 years) may pass through the remainder of its life-cycle always severely underprivileged by comparison with its non-Maori peers. Assuming subsequent smaller Maori labour force entrant cohorts find job seeking easier, young Maori today may also be underprivileged by comparison with future Maori cohorts. This stark and highly undesirable effect of composition-derived changes will affect all related areas of social policy. There will also be significant regional differences with adverse effects being most marked in those urban areas where there are significant concentrations of Maori, and in rural areas where Maori have been a high percentage of the total population and where unemployed urban Maori are now returning (e.g. Hokianga and Opotiki counties).

Sub-nationally (regionally and by industry) the effects of age and cohort composition changes will be even more marked than at the national level, and will require more fine-tuning both in terms of economic and personnel policies. For staffing within industries all aspects of vertical change (hiring, promotion, seniority, and rejuvenation of the workforce) will be affected (Sceats, 1986). A factor affecting recruitment, promotion and seniority which is often overlooked is the length of time required for recruitment and training in the skilled occupations. Thus the fall off noted above in the labour force entrant cohorts in the next decade may be affected, in one direction or another, by educational and recruitment strategies in place in 1986. The new medical specialists and university teachers of 1995, for example, should already be commencing undergraduate training; the new lawyers, accountants, doctors and secondary school teachers of 1995 are sitting school certificate this year, and so on. In other words, policies relating to recruitment and training for the late 1990s should be being formulated in 1986.

c) Housing

The housing sector is affected by cohort shifts particularly as these are related to another element of socio-demographic change - patterns of household and family formation. Significant changes in household formation are occurring among people who are unrelated (e.g. students living in flats, those living in institutions such as old people's homes or halls of residence), and among those ethnic groups who favour co-residence of multi-generational families. In addition, changes occur during the family life-cycle including marriage or cohabitation, extension of the household as children

are born or adopted, contraction as children leave home, and dissolution of the household through separation or divorce, or death.

The passage of cohorts of markedly different size through the life cycle is compounded as young people co-reside with other unrelated people or live alone for a longer time than in the past. Cohabitation (of a conjugal type) or marriage is no longer linked closely to childbearing in the way it was in the past, so that the age when most couples have children and thus require a "family-type" dwelling is now older. This may mean that these couples are in the housing market at the same time as post-parental couples who have possibly higher levels of disposable income. As a result, in both cases there may be a mismatch between needs and the type of housing available.

Also there is growth in the elderly population, particularly among women living alone. This must be coupled with the fact that a very long term trend of declining family size is producing fewer descendants and thus "carers" per elderly person. Finally, external migration patterns may further confound an already complex situation. Younger people tend to predominate in outflows and while this may have little effect on housing vacancies the inflows, even of returning New Zealanders, consist more typically of somewhat older people, often at a stage in the family life-cycle when housing is required.

This description is not intended to be demographically deterministic. Instead the intention is to point out that demographic changes are interacting with other broad-sweeping social trends. For example, the decision to delay cohabitation/marriage and childbearing by a couple, or the choice of independent residence by a widow, are social factors which have always been evident. The difference today is that the age-groups most involved in these two situations are proportionately large, in the case of the young adults, or growing rapidly in number, in the case of the elderly.

A particularly acute intersection of demographic and social change affecting housing is solo-parenthood (or lone-parenthood). Historically, solo-parents were likely to have been widows, but high levels of premarital conception and precipitated marriage by teenagers and young adults in the 1960s and early 1970s are in part the determinants of current high levels of separation and divorce and thus of solo-parenthood. Another factor is an increase in the proportions of young women deciding to keep their babies rather than have them adopted. The high levels of teenage pregnancy in New Zealand must give continuing concern, but against this there has been a significant decline in pre-marital conception and early marriage (Sceats, 1985). Thus one might project in the mid- to long-term a decrease in separation and divorce and in solo parenthood, which would reduce pressure from this source on housing.

Pool (1986) has examined the relationships between population and social trends and housing in a report for the National Housing Commission. Pressures on housing demand will be associated with large cohorts reaching prime reproductive ages, delayed childbearing, increase in the post-parental population, numerical increases in the elderly age groups, and increases in the single-person widowed households. Among the Maori and Pacific Island Polynesian populations three additional factors will influence patterns of potential demand. The first is population growth which is related to the large cohorts at prime reproductive ages and the effects of international migration. The second concerns the tendency for higher proportions of Maori and Pacific Island Polynesians to live in multi-family households. Finally, there is the high degree of geographical concentration of Polynesians in the northern half of the North Island, especially Auckland.

There are also several "special needs" groups that can be identified in the context of

housing demand. These include low-income cohorts aged between 15 and 44 years of age (especially Maori and Pacific Island Polynesians), the elderly (independent and dependent), and multi-family households. In the cases of Maori and Pacific Island Polynesians, cohorts aged 15 to 24 years are currently subject to very high levels of unemployment and to high levels of teenage pregnancy. Consequently, they will have only a limited opportunity to accumulate capital and savings for housing. The independent elderly have special housing needs for another reason. They may be occupying housing which no longer suits their requirements (e.g. large family houses) but which could be appropriate for other types of household. There is thus a mismatch between demand and stock in some areas of the housing market.

In sum, potential demand and special needs for housing are strongly affected by demographic and social trends. Moreover, the growth in the number of dwelling units is affected by a mismatch between the characteristics of the stock available (e.g. apartments as against detached dwellings, the number of rooms per dwelling, location of the dwelling, rental costs) and the demand for non-family, nuclear family or multi-generational family households, for expanding or contracting families, and for single or multi-person occupancy. Consequently, the housing sector is significantly influenced by shifts between categories of housing types as well as overall growth in number of units.

d) Education

Many New Zealanders who received their primary and secondary education in the 1950s, 1960s or early 1970s, will have recollections of classes of forty or more pupils, a corps of hastily trained teachers, and prefabricated classrooms connected by duckboard across muddy playgrounds. These are all part of the national heritage from the late 1940s to late 1970s as a stretched education system tried to cope with burgeoning enrolments. Hopefully these are phenomena of the past, yet the slow population growth forecast for the future is not going to eradicate composition problems. Primary school classes which peaked between 1965 and 1980 are declining but will increase again in the early 1990s. Secondary school enrolments, which are at peak now, will decline in the 1990s and then will increase again in the late 1990s (Department of Education, 1986).

Enrolments at some levels of education - preschool, post-compulsory secondary and tertiary - are subject to changes in participation trends. Pre-school attendance is high in New Zealand by international standards (Karmel et al, 1983), but will probably increase further. Post-compulsory attendance in all institutions is extremely low by international standards. Only 24 percent of 18 to 23 year olds in New Zealand in 1984 were in some form of part-time or full-time education compared with 49 percent estimated for 1985 for Northern America, 28 percent for East Asia, 27 percent for Latin America, and 32 percent for Europe. Moreover, New Zealand is notable among OECD countries for its high proportions of part-timers at the tertiary level (Karmel et al, 1983).

Staffing levels in education institutions depend on enrolments, on policies relating to staff:student ratios, and on the demographic structure of the teaching population. At present across all levels in New Zealand the numbers of students per staff member are high. This point was noted as particularly problematic for universities (Karmel et al, 1983). To achieve approved staff:student ratios in the state system by 1995, given the demographic and enrolment changes noted earlier, would require raising the projected number of kindergarten teachers by 350 or an increase of 24 percent more than would be the case if present levels of staffing are maintained. At the primary level 2,000 extra teachers or 11 percent more than for present ratios would be required while at

secondary level the figures are 3,000 teachers, or 25 percent over and above the maintenance of present levels (Department of Education, 1986).

Similar data are not readily available for universities, but some estimates can be made. The key age group of 18-23 year olds, who represent 68 percent of all internal students, will decline by about 12 percent between 1985 and 1995. Against this, however, it will be necessary to fill 261 vacancies and recruit an additional 570 staff to bring staff:student ratios into line with those in the United Kingdom (Joint Report, 1985). A further point is that participation levels at the key ages are still very low in New Zealand - only 9 percent of people aged between 18 and 23 years are at university. If by 1995 this proportion were to increase, say to 15 percent (comparable to that found in Australia but still rather modest by Canadian and United States standards), and if a staff:student ratio of 1:11.5 were to be achieved (the current ratio is 1:13.7), then demand for teachers would increase substantially. The additional numbers needed would be in the same range as those required to improve primary or secondary teaching ratios - between 2,000 and 3,000 staff.

c) Social welfare and justice

In the social welfare sector a dominating issue is superannuation for the elderly. This is an area in which economic and demographic factors intersect in a way which is extremely complex and beyond the scope of the present report (see, for example, the range of views contained in articles in the *New Zealand Population Review* by Farmer, 1979; O'Neill, 1980; Brosnan, 1980; Stephens, 1981; Easton, 1981).

It is sufficient here to note briefly some key demographic parameters which must be taken into account in the superannuation debate. Ageing, in the sense of an increase in the proportion of the population aged 60+ or 65+ years, will be a major composition change. There will also be an increase in the number at older age groups, particularly at those aged 75-84 years and 85+ (Table 9). Aged dependency ratios (population 60+ per 1000 at the labour force ages, 15-64 years; population 65+ per 1000 population 15-64) will not change significantly because there will also be substantial growth in the labour force during this period. Youth dependency (population 0-14 per 1000 population 15-64) will decline significantly, and overall demographic dependency will also decrease (Table 9).

In addition to the superannuation debate there is the fact that the large cohort aged 15-29 years has a disproportionate influence on many aspects of the current social life of New Zealand. This has two effects: firstly social policy becomes dominated by the needs of this group perhaps to the detriment of others. Secondly, unless refined rates are used when measuring social behaviour, the age composition effect of this cohort may distort our assessments of behaviour.

An example relating to crime statistics will suffice to illustrate the effects of age composition or unrefined rates. Crimes such as robbery, assault and public disorder are most commonly carried out by young males in the large cohorts currently aged 15-29 years. The increase in the size of this age group in the late 1980s will be particularly marked for young Maori. Yet few public comments on the increased incidence of crime in New Zealand note the possibility of such a composition effect on crime rates and especially Maori crime rates. While not wishing to minimise the social importance of the present "crime wave", the question must be asked whether public concern is being heightened, in part, by the use of crime rates which do not take account of distortions due to composition effects.

Table 9: Aspects of Ageing, 1981-2011

Population Group	1981	2011	Change 1981-2011 %
60 years +			
Number	445,794	700,700	57
% of total population	14	19	
65 years +			
Number	316,191	486,800	54
% of total population	10	13	
65-74 years			
Number	204,048	280,600	38
% of population 65+	65	58	
75-84 years			
Number	90,831	148,600	64
% of population 65+	29	31	
85 years +			
Number	21,312	57,600	170
% of population 65+	7	12	
Dependency ratios (per 1,000)			
Pop. 60+/Pop. 15-59 years	237	249	5
Pop. 65+/Pop. 15-64 years	157	161	3
Pop. 0-14/Pop. 15-64 years	422	223	-47
Pop. 0-14 + 65+/Pop. 15-64 years	579	384	-34

f) Health

The health implications of changes in cohort composition are reasonably well known and understood, especially the effects of a rapid increase in the number of elderly over 75 years of age who are heavy users of hospital facilities. Nevertheless, the full implications of composition changes particularly as they affect issues such as demand for different medical specialities, have not been investigated in detail.

A regional study, for example, has shown that the number of patients at all ages admitted annually to Waikato Hospital will increase by 26 percent in the period 1979-2011 (Pool and Sceats, forthcoming). The number of patients aged 65 years and over is expected to jump by 56 percent, however. In this study admission rates by cause, by age and by sex were applied to the projections of the older population for the year 2001, assuming no change in rates. Because of composition changes there will be major shifts in the relative significance of different causes of illness. A more refined analysis by cause, which also allows for age-specific admissions, showed that because of differential changes in the structure of the 65+ age group, estimated age-specific admission rates for two causes, namely Alzheimer's and related diseases and "fracture of neck of femur", would increase by 11 percent and 10 percent respectively. The age-specific rates for others such as neoplasms and ischaemic heart disease would remain virtually unchanged (Pool and Sceats, forthcoming).

This case-study highlights several important issues. More rapid growth in the elderly population than in the population as a whole will increase proportionately the number of heavy users of health care facilities. Composition changes within the 65 and over age group will reinforce this effect and bring into increasing prominence causes of morbidity, for example Alzheimers and "fracture of neck of femur", which are costly to the hospital system. Both these causes require heavy bed-use and labour-intensive nursing. The arrival of increasingly large cohorts at older ages will thus add pressure to hospital and residential care facilities (Social Monitoring Group, 1985). At present existing demographic structures are producing rather different pressures. For example, the largest cohorts are aged between 15 and 29 years when motor vehicle accidents reach their highest age-specific levels.

THE 1986 CENSUS AND FURTHER RESEARCH

During 1987 a great deal of socio-demographic data on the New Zealand population will become available as the 1986 census results are released. Much more comprehensive analysis will be possible of the policy implications of changes in regional population composition, which are more complex than at the national level, of household and family structures, of different ethnic groups, and of particular occupations and industries. These topics will be examined in greater depth by the Population Monitoring Group in their 1987 report on New Zealand's population.

REFERENCES CITED

Bedford, R.D. (1986), "International migration in the South Pacific: a New Zealand perspective", *New Zealand Population Review*, Vol. 12, No. 1, 32-48.

Bedford, R.D. and Lloyd, G. (1981), "Migration between Polynesia and New Zealand, 1971-1981: who are the migrants?", *New Zealand Population Review*, Vol. 8, No. 1, 35-43.

Brosnan, P. (1980), "Superannuation: funded or pay-as-you-go?", *New Zealand Population Review*, Vol. 6, No. 4, 37-42.

Brown, P. (1983), *An investigation of official ethnic statistics*, Occasional Paper No. 5, Department of Statistics, Wellington.

Burke, K. (1986), "Review of immigration policy, August 1986", *Appendices to the Journal of the House of Representatives, G-42*, Government Printer, Wellington.

Chapman, B.J. and Miller, P.W. (1985), "A hitch-hiker's guide to the labour economics of immigration", *Discussion Paper No. 136*, Centre for Economic Policy Research, Australian National University, Canberra.

Clark, A. (1986), *Part-time work in New Zealand*, Planning Paper No. 25, New Zealand Planning Council, Wellington.

Colman, F.M. (1975), "Review of immigration policy. Policy announcements 2 October 1973 to 7 May 1974", *Appendices to the Journal of the House of Representatives, F-21*, Government Printer, Wellington.

Department of Education (1986), "Report for the year ended 31 March 1986", *Appendices to the Journal of the House of Representatives, E-1*, Government Printer, Wellington.

Department of Statistics (1985), *Report of the Review Committee on fertility and related statistics*, Government Printer, Wellington.

Department of Statistics (1986a), "1986 census of population: final population and dwelling counts", *Information release 86/Y1/13*, 29 August, Census Statistics Section, Christchurch.

Department of Statistics (1986b), *Trends and patterns in New Zealand fertility 1912-1983*, Department of Statistics, Wellington.

Department of Statistics (1986c), *Demographic trends bulletin, 1986*, Government Printer, Wellington.

Department of Statistics (1986d), "Household labour force survey, March quarter, 1986", *Information Release No. 86/W1/2*, Department of Statistics, Wellington.

Department of Statistics (1986e), "Household labour force survey, June quarter, 1986", *Information Release No. 86/W1/3*, Department of Statistics, Wellington.

Easton, B. (1981), "Superannuation: funded or pay-as-you-go?", *New Zealand Population Review*, Vol. 7, No. 1, 47.

Economic Monitoring Group (1986), *Labour market flexibility*, Economic Monitoring Group Report No. 7, New Zealand Planning Council, Wellington.

Farmer, R.S.J. (1979), "National superannuation", *New Zealand Population Newsletter* Vol. 5, No. 3, 13.

Farmer, R.S.J. (1987), "The social consequences of alternative types of immigration for integration and acculturation in New Zealand", in R. Tabbarah and R.T. Appleyard (eds), *Economic and social aspects of international migration*, International Union for the Scientific Study of Population, Liege (forthcoming).

Inter-Church Commission on Immigration and Refugee Resettlement (1986), "South African migration", *Moving: an Occasional Newsletter on Refugee and Immigration Issues*, Vol. 1, No. 2, 2-3.

Joint Report (1985), "Review of university funding", Chairman of the University Grants Committee and Director-General of Education, Wellington.

Karmel, P.H. et al. (1983), *Reviews of national policies for education, New Zealand*, OECD, Paris.

Macdonald, B.K. (1986), "The Lesa case and the Citizenship (Western Samoa) Act, 1982", A.D. Trlin and P. Spoonley (eds), *New Zealand and international migration: a digest and bibliography, No. 1*, Department of Sociology, Massey University, Palmerston North, 73-86.

Menken, J.L. (1985), "Age and fertility: how late can you wait?", *Demography*, Vol. 22, No. 4, 469-483.

National Sectoral Working Group (1986), *Towards 1995: patterns of national and sectoral development*, New Zealand Planning Council, Wellington.

Neville, W. (in press), "Age and sex structure", in ESCAP, Population Division (eds), *New Zealand population*, Country Monograph Series, United Nations, Bangkok.

Norman, N.R. and Meikle, K.F. (1985), *The economic effects of immigration on Australia* (2 volumes), Committee for Economic Development of Australia, Melbourne.

O'Neill, C.J. (1980), "Perspectives on the welfare state and social policy in the 1980s: a review essay", *New Zealand Population Review*, Vol. 6, No. 3, 12-23.

Pool, D.I. (1977), *The Maori population of New Zealand, 1769-1971*, Oxford and Auckland University Presses, Auckland.

Pool, D.I. (1986), *Population and social trends: implications for New Zealand housing*, New Zealand Housing Commission, Wellington.

Pool, D.I. and Pole, N. (1987), *The Maori population to 2011: demographic change and its implications*, (in preparation).

Pool, D.I. and Sceats, J. (1987), "Demographic composition trends and health care until 2001", in Bui Ita Doan (ed.), *The future of health and health care systems in industrialised society*, Greenwood Press (Praegar), Westport, Connecticut.

Poot, J. (1986), "Immigration and the economy", *Occasional Paper*, Institute of Policy Studies, Wellington.

Pope, D. (1985), "The trans-Tasman connection: facts and implications of Australia-New Zealand migration", *Journal of the Australian Population Association*, Vol 2, No. 1, 55-67.

Population Monitoring Group (1984), *The New Zealand population: patterns of change*, Population Monitoring Group Report No. 1, New Zealand Planning Council, Wellington.

Population Monitoring Group (1985a), *The New Zealand population: contemporary trends and issues*, Population Monitoring Group No. 2, New Zealand Planning Council, Wellington.

Population Monitoring Group (1985b), *The New Zealand population: trends and their policy implications, 1985*, Population Monitoring Group Report No. 3, New Zealand Planning Council, Wellington.

Sceats, J. (1985), *Induced abortion in New Zealand, 1976-1983*, Government Printer, Wellington.

Sceats, J. (1986a), "Changing demographic face of New Zealand", Paper presented at the Annual Conference of the New Zealand Market Research Society, The Chateau.

Sceats, J. (1986b), "Que sera sera" *Accountants Journal* (in press).

Social Monitoring Group (1985), *From birth to death*, Social Monitoring Group Report No. 1, New Zealand Planning Council, Wellington.

Stephens, B. (1981), "Superannuation: funded or pay-as-you-go?", *New Zealand Population Review*, Vol. 7, No. 1, 42, 46.

Thernstrom, S., Orlov, A. and Handlin, O. (eds) (1981), *Harvard encyclopedia of American ethnic groups*, Harvard University Press, Cambridge (Massachusetts).