THE NEW ZEALAND POPULATION: PATTERNS OF CHANGE

Population Monitoring Group
Report No.1

New Zealand Planning Council Monitoring Report
February 1984

ISSN 0112–2061
ISBN 0–908601–30–1

New Zealand Planning Council P.O. Box 5066 Wellington

22 December 1983

The Chairman,
New Zealand Planning Council,
WELLINGTON.

Dear Mr Douglas,

I have pleasure in forwarding to you, for transmission to the Planning Council, the first report of the Population Monitoring Group.

You will recall the PMG was set up by the Planning Council early in 1982, following a suggestion from the New Zealand Demographic Society that such a group was needed to identify important population issues and their implications for planning and policy-making.

The Monitoring Group was charged with the responsibility for integrating demographic considerations into the process of planning and policy formulation and for keeping the Planning Council informed on demographic issues.

Specifically, the Population Monitoring Group was given the following terms of reference by the Planning Council:

(a) To monitor demographic trends and to comment on policy implications

(b) To make, whenever necessary, an input into specific projects on the Planning Council's work programme

(c) To recommend to the Planning Council projects of a demographic nature which warrant further research, and to aid in the carrying out of research which the Council wishes to undertake.

In this, its first report to the Planning Council, the Population Monitoring Group provides an overview of demographic trends and considers their implications for policy.

Finally I would like to thank the group's liaison officer, Andrew Fraser of the Planning Council secretariat, for his assistance in the preparation of this report.

Yours sincerely,

P. G. Koopman-Boyden

Peggy G. Koopman-Boyden
Convenor
Population Monitoring Group

MEMBERS OF

THE POPULATION MONITORING GROUP

Ms Peggy Koopman-Boyden (Convenor)
Dr Richard Bedford
Ms Sharon Evans
Mr Alan Jones
Mr Jeremy Lowe
Mr James O'Neill
Mr Terry Papps
Prof. Ian Pool
Mr Jacques Poot

This report, published by the New Zealand Planning Council, was prepared independently by the Population Monitoring Group. The views expressed are the sole responsibility of the Population Monitoring Group and are not necessarily endorsed by the Planning Council.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

Section 1

SUMMARY

- By world standards, New Zealand's level of fertility is low, and is today at its lowest level ever. The non-Maori fertility rate has fallen to just below replacement level and may be levelling off at that rate (1.9 in 1981). The Maori fertility rate decreased sharply during the 1960s and early to mid-1970s, with a slower drop in more recent years to somewhat above replacement level (2.6 in 1981).

- Immediate implications of this trend are a reduced demand for pediatric medical services and primary school education. In the longer term, reduced fertility implies a markedly accelerated process of ageing.

- The Total population is projected to grow only slowly if current levels of sub-replacement fertility are maintained. From 1996 the number of births will begin to decrease. Although only a modest increase in the size of the Total population is projected, the demand for new dwellings will increase sharply in the near future, mainly because of the large population cohort entering the household formation ages.

- As a result of delayed marriages, fewer births occur to non-Maori mothers aged under 25 years. Maori births occur largely in the early years of childbearing, with high fertility to mothers under 25. Child spacing is particularly compressed among both Maoris and non-Maoris. The timing of births, along with the close spacing and the potential for negative effects on the mother's health, needs to be made a more explicit aspect of parent education.

- Life expectation in New Zealand is high by world standards, but has recently fallen behind. This is largely due to a lack of improvement in adult life expectation (particularly for males), and unsatisfactorily high levels of post-neonatal infant mortality. Promotion of changes in contemporary lifestyles, and in the social and economic environment of parenting, may be more effective than a medical policy response.

Very recently though, there has been an improvement in survivorship rates of the middle-aged. This could have a significant effect on increased life expectation and survivorship at older ages for the Total population, especially for males.

The subsequent increase in the number of one and two-person households will further accentuate the reduction in household size and the demand for smaller houses.

- In New Zealand, as in other developed countries, cardiovascular diseases are the single most important cause of death, with Maori females experiencing the highest risk, especially at reproductive and post-reproductive ages.

  Accidents are also a significant cause of death, particularly among males in the 15-24 age-group, Maori males of all ages, and the oldest age-groups.

- New Zealand is a migrant society, and recent trends illustrate the marked fluctuations in permanent and long-term external migration. Migration patterns have altered dramatically since about 1980, from a period of negative net migration in the late 1970s, to one of positive net migration. The change has occurred at least in part because of the return of New Zealanders who had migrated or travelled overseas in the late 1970s, but it is more the result of a reduced outward movement of residents.

  Immigration to New Zealand has been mainly from the British Isles. Pacific Islanders constitute the second largest immigrant group. Pacific Island immigration was significant in the early 1970s, but permanent migration from this source has slowed recently. Migration between Australia and New Zealand has normally been two-directional - Australians form the third largest overseas-born group in New Zealand.

- While a number of ethnic groups are represented in the New Zealand population, it is largely composed of those of European descent (86 percent in 1981). Since 1900 the New Zealand Maori population has grown as a proportion of the Total population, but this trend began to level off in the late 1970s.

- Since 1940 New Zealand has had a "youthful age distribution", but from 1961 ageing has occurred, and is projected to become more pronounced. There has been a numerical increase in older age-groups which, together with a decrease in younger ages, will continue. Thus, the youth dependency burden will continue to decline while the aged dependency burden increases. In the short term, however, both youth and aged dependency will decrease.

- The increasing proportion of the population aged 60 and over will necessitate greater support services. Furthermore, the increasing number of those aged 75 and over will disproportionately increase the demands for health and other social services. Changing patterns in consumer demand can also be expected.

- Major trends in full-time labour force participation have been the decreasing labour force participation of 15-19 year olds, the increasing labour force participation of women, and early retirement.

  The ageing of a large cohort of experienced workers will bring with it the increasing prevalence of illnesses such as arthritis and strokes, as well as a work force which becomes less geographically and occupationally mobile.

  In the medium term, labour force growth is likely to be about 2 percent per annum. The male labour force partipation rate is projected to decline further and the female rate to continue to increase until at least 1996.

- New Zealand's population has become increasingly urbanised from early in the history of European settlement. Today, over four-fifths of the population is classified as urban.

  Over a number of decades population has become geographically more concentrated in metropolitan regions and in the northern North Island. However, Auckland is the only metropolitan region to have experienced much growth since the late 1970s.

Since the 1981 Census there have been relatively rapid rates of growth in the Auckland, Northland and Bay of Plenty regions. There has been some slow growth in Canterbury, while the Wellington and Coastal-North Otago regions have experienced population decrease. Given the marked changes that have occurred in traditional growth relativities between regions, and the uncertainty surrounding future changes, it would be unwise for regional policy to discriminate automatically, either directly or indirectly, for or against particular classes of regions (eg metropolitan regions). Regional policy needs to be sensitive to the particular character of, and prospects for, individual regions.

Section 2

POPULATION GROWTH

(a) Introduction

The 3.2 million New Zealanders discussed in this report are composed of two major ethnic groups, Maoris and non-Maoris. The latter group is primarily of European origin but includes others as noted in Section 3(a).

By world standards New Zealand has a low density of population. However, because of the generally hilly or mountainous terrain of much of the country, densities are higher relative to productive land area. Furthermore, the population is unevenly spread - 84 percent of the population live in urban areas, and 73 percent are in the North Island. Within the North Island there is a further degree of concentration, particularly around Auckland, which, with its adjacent areas, accounts for one-third of the entire population. The other four main urban centres are Hamilton, Wellington, Christchurch, and Dunedin.

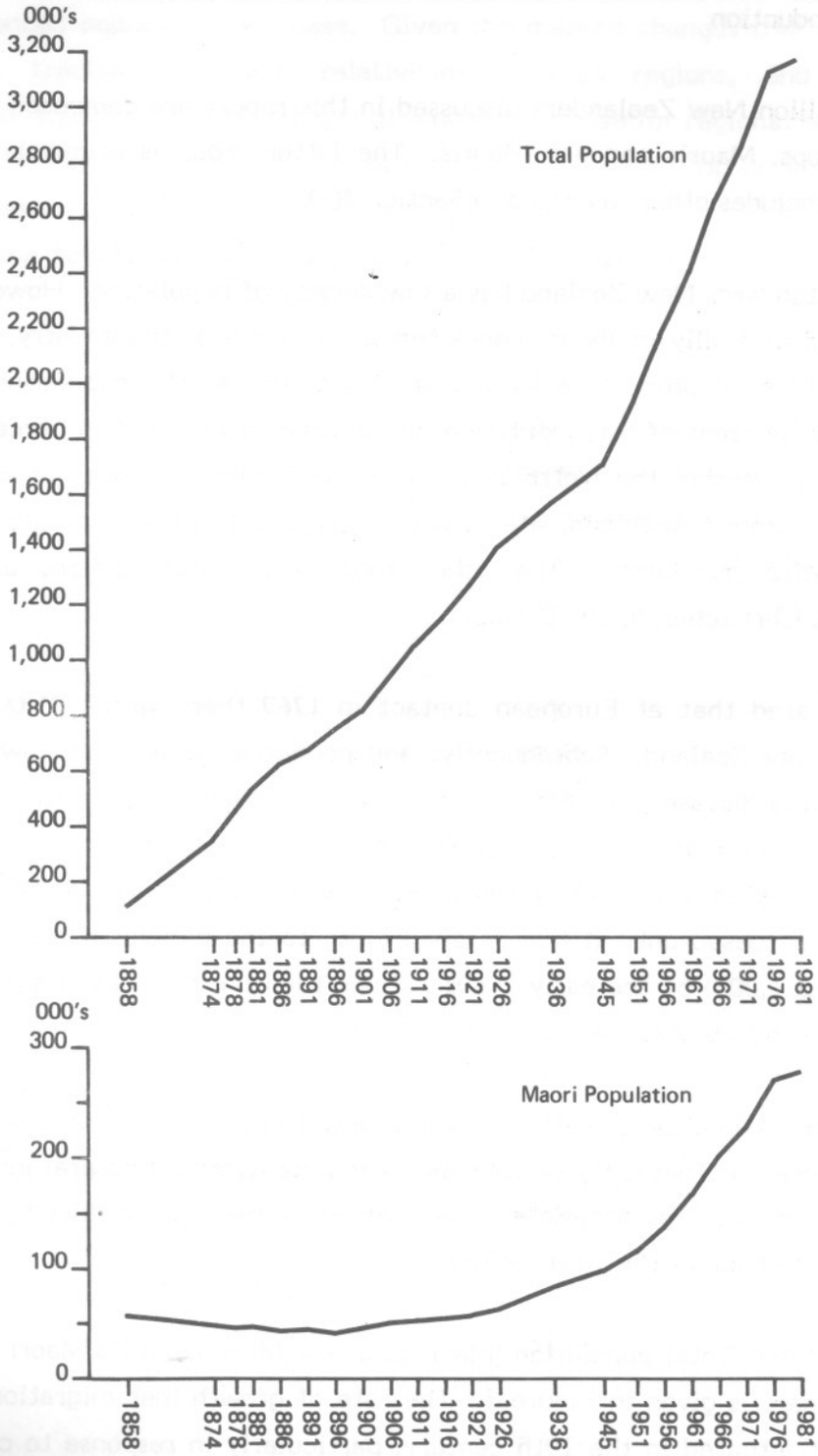
It is estimated that at European contact in 1769 there were 125,000 to 175,000 Maoris in New Zealand. Subsequently, and primarily because of newly-introduced communicable diseases, the Maori population decreased rapidly until 1857-58, when Maoris were outnumbered by non-Maoris for the first time. Maori population growth fluctuated until 1901 when numbers were only about 45,000. The growth rate then increased until it had reached close to the biological maximum fertility rate (40 per 1,000) by the early 1960s . Since then the rate has dropped sharply. In 1981 Maoris in New Zealand numbered 280,380.

While Maori population growth is possible only through natural increase, non-Maori numbers accrued from early settlement by immigration and natural increase. There were half a million non-Maoris in New Zealand by 1881, one million by 1908, and 2.9 million at the time of the 1981 Census.

The size of the Total population (Maori plus non-Maori) and its Maori component at selected years is given in Figure 1. The rate of growth (net migration plus natural increase) fluctuated in the 19th century, particularly in response to changes in the level of non-Maori net migration and the rapid decline in the non-Maori birth rate.

Figure 1

GROWTH IN THE MAORI AND THE TOTAL POPULATION, 1858–1981



Source: Census of Population and Dwellings 1951–1981, Department of Statistics

The growth rate was low during the depression and again in the late 1970s (the average annual growth rate for 1976-81 was 0.3 percent), while high rates (2 percent) were often achieved during the baby boom years, 1945 to 1966. In the late 1970s the crude birth rate declined but has since increased.

These fluctuations in the rate of growth of the Total population have primarily been due to changes recorded by the non-Maori population. The overall effects of changes in the components of growth prior to 1982 are shown on the left of Figure 2. In most years, natural increase has contributed more to growth than net migration, but in the late 1940s and early 1970s the net gain through immigration exceeded the net gain by natural increase. In 1979 the net loss through emigration exceeded the net gain through natural increase.

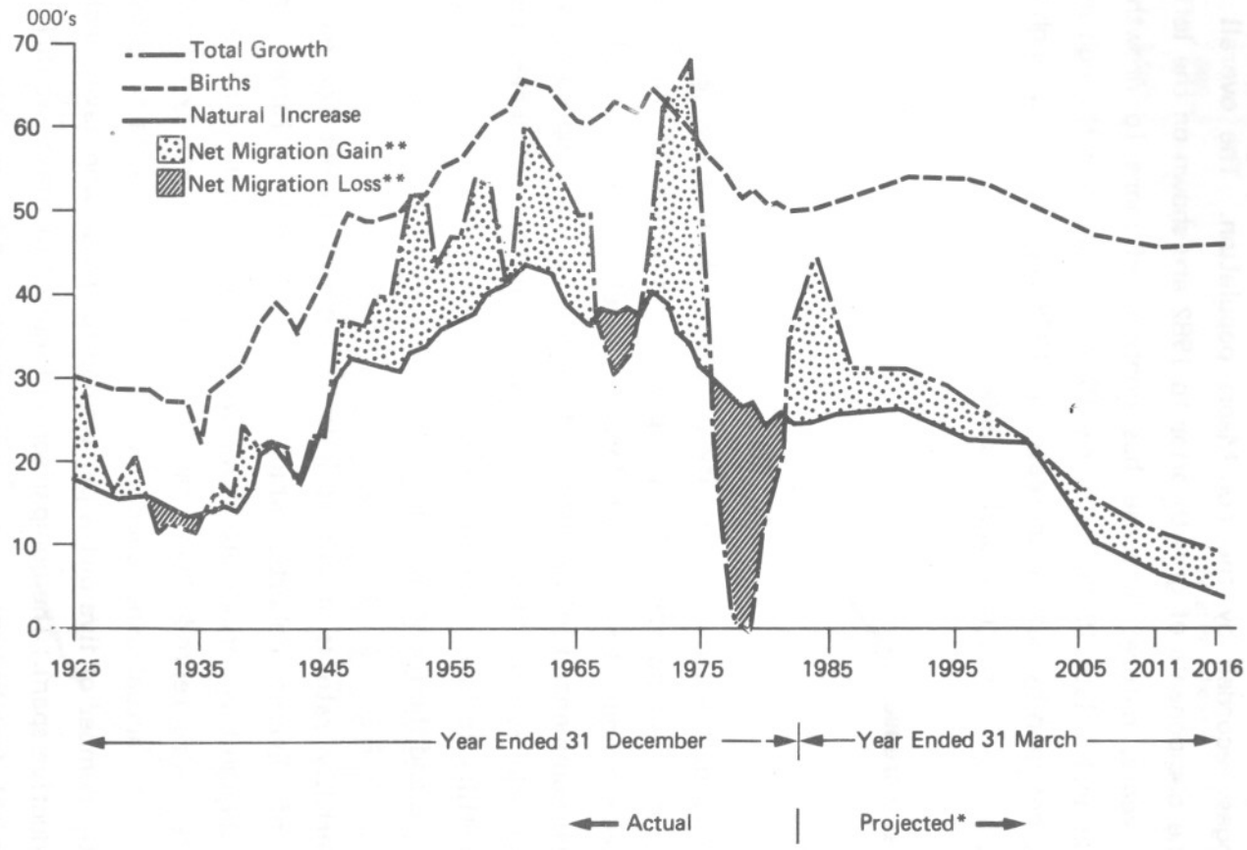
(b) Natural Increase

(i) Fertility

By world standards the level of fertility in New Zealand is low, and is now at its lowest level ever. Among low fertility populations however, the New Zealand level is in the upper range. The present fertility level is the result of a long-term decline, which commenced in the 19th century and was interrupted by a temporary upturn after World War II. The total fertility rate in Figure 3 shows the decline of non-Maori fertility to low levels in the depression, the return to a high level in the post-war period and the recent decrease.

The total fertility rate is a period index bringing together for each year the experiences of diverse cohorts, which have had very different reproductive histories. Although this period rate shows what a cohort would achieve if it were to follow for its entire reproductive span the patterns of fertility operating in one calendar year, the actual experience of each is measured by its completed fertility rate (the total number of live births per woman for those who have reached the end of the reproductive span). The comparison in Figure 4 of these two different indices shows the total fertility rate has exaggerated trends by slightly understating fertility in the depression and by markedly overstating the level during the baby boom.

Figure 2
HISTORICAL AND PROJECTED ANNUAL BIRTHS, NATURAL INCREASE, NET EXTERNAL MIGRATION AND TOTAL POPULATION GROWTH, 1925–2011

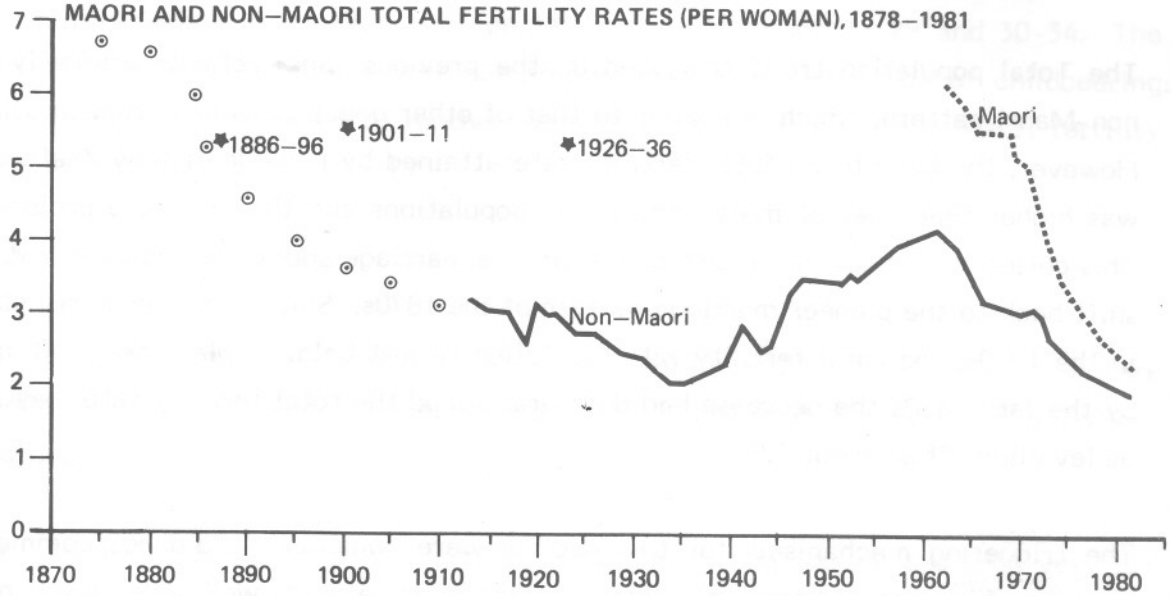


*From (31 March 1982 Base) Projections of Total Population, based on the 'Medium' fertility variant, 'Medium' short-term net migration, and long-term net annual immigration of 5000

**Figures are exclusive of the Armed Forces

Source: Census of Population and Dwellings 1925–1981, Department of Statistics Projections of Total New Zealand Population 1938–2016 (Base: 31 March 1982), Department of Statistics.

Figure 3
MAORI AND NON–MAORI TOTAL FERTILITY RATES (PER WOMAN), 1878–1981

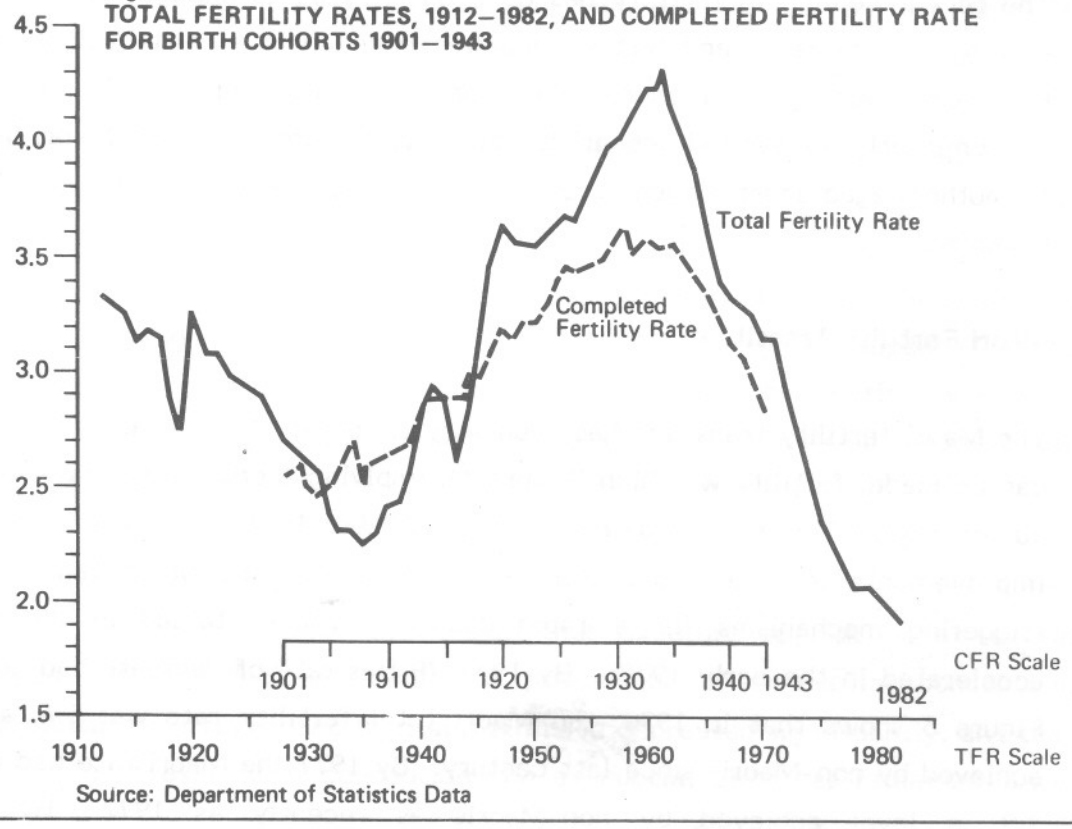


— Rates computed from Department of Statistics Data

✸ Maori Rates, estimated for various periods. From Pool, I., The Maori Population of New Zealand, Oxford and Auckland University Press, 1977

⊙ Non–Maori Rates, estimated for Census years. From Gibson, C.J., Demographic History of New Zealand, unpublished PhD dissertation, University of California, 1971

Figure 4
TOTAL FERTILITY RATES, 1912–1982, AND COMPLETED FERTILITY RATE FOR BIRTH COHORTS 1901–1943



Source: Department of Statistics Data

Non-Maori Fertility Transition

The Total population trend described on the previous page reflects primarily the non-Maori pattern, which is similar to that of other populations of European origin. However, the baby boom total fertility rate attained by non-Maori New Zealanders was higher than that of most comparable populations and the era more prolonged. This period is perhaps more correctly termed a marriage boom, involving, as it did, a shift back to the pioneer marriage pattern of the 1870s. Since then, and particularly in the 1970s, the total fertility rate has fallen to just below replacement, although by the late 1970s the decrease had decelerated and the total fertility rate may now be levelling off at about 1.9.

The triggering mechanisms for this decline were complex. It did not commence because of the use of hormonal contraceptives, it was already well underway prior to their general availability. Moreover, the experience of the depression shows low fertility could be achieved without modern contraceptive technology. Finally, it should be clear from Figure 3 that the decline spanned years of both economic boom and recession - it cannot therefore be attributed in any simplistic way to the state of the economy.

The recent decline in fertility has been due in part to changes in the timing and spacing of marriages and births, including once again a shift back to traditional European marriage and reproduction patterns involving delayed marriage and, concomitantly, delayed childbearing. In 1971, 76 percent of non-Maori births were to mothers aged under 25 years. By 1981 however, this was true for only 39 percent of births.

Maori Fertility Transition

The Maori fertility transition has been very different. For as far back as estimates can be made, fertility was high (Figure 3), implying a crude birth rate in excess of 40 per 1,000. This remained true until the 1960s. Post-World War II urbanisation, improvements in infant and childhood survivorship and other factors acted as triggering mechanisms for a rapid decrease, which started in the 1960s and accelerated in the early 1970s. By 1977-78 this rate of decrease had decelerated. Figure 3 shows that in 1970, the Maori total fertility rate was 5.4, a level not achieved by non-Maoris since last century. By 1977 the Maori rate had dropped to 2.9, a level achieved by non-Maoris as recently as 1972. By 1981 the

Maori rate was down to 2.6. This rapid decrease occurred at older ages: in 1981 the Maori rates were lower than the non-Maori in age-groups 25-29 and 30-34. The timing of Maori births was still compressed into the early years of childbearing: 57 percent of births were to mothers under 25 years old in 1981. Maori fertility remains very high at ages 15-19.

Recent Fertility Patterns

By the late 1970s the level and pattern of total fertility in New Zealand were similar to those of other developed countries. There were however a few distinct features:

(a) The fertility level was in the upper range among populations with very low fertility.

(b) The fertility level at 15-19 years was high by comparison with most other developed countries.

(c) Fertility regulation was extremely efficient. Two regional surveys have indicated high levels of sterilisation (well above those in the USA). Levels of hormonal contraceptive use appear very high whereas, by contrast, abortion levels are low.

(d) Child spacing was particularly compressed, with short inter-pregnancy intervals.

(e) The rapid decrease in Maori fertility produced a convergence with non-Maori levels although a differential still remained. There also appeared to be socio-economic differentials, notably that delayed childbearing was more likely among more affluent couples, and younger parenthood among lower income groups.

(f) The ex-nuptial fertility ratio is high - over 20 percent of all births. However, exact indices have shown that exposure to risk of ex-nuptial conception has declined, that the probability of ex-nuptial conception, precipitate marriage, and nuptial birth have decreased significantly, and that the rate of ex-nuptial conception and ex-nuptial birth has remained static

and is starting to decrease, except at ages below 17 years. (Problems with analysing ex-nuptial fertility are discussed briefly in Appendix III.)

Fertility Scenarios

Fertility is a complex phenomenon. It is important that this be recognised, because future population trends will be strongly influenced by changes in fertility. Four possible future patterns can be postulated, each of which has a different set of implications, and each of which could alter the projected pattern shown on the right-hand side of Figure 2.

I Further decline in the total fertility rate to the sub-replacement level already observed in some European countries, say 1.5-1.6. This scenario seems, at the moment, to be unlikely. Nevertheless, it has been adopted for what is termed the "low fertility" variant in the Department of Statistics 1983 population projections.

II Current levels of sub-replacement maintained. In view of the total fertility rate for the last few years, this is a likely scenario and is very close to the "medium fertility" variant in the official projections. It implies a slight recuperation of delayed births by those in their early thirties.

Projections assuming this pattern (Figure 2), show the number of births may climb from the present level of just under 50,000 to reach 54,000 in 1996. Thereafter it would start to decrease. Negative natural increase would eventually become apparent as the size of the population at risk of high mortality increased, without any compensating effects from fertility.

III A gradual increase in fertility to about replacement level resulting from a levelling off of the decline in fertility at younger ages, together with the "recuperation" of delayed births by couples in their late twenties or early thirties. This also is regarded as a likely scenario - being close to the high fertility variant in the official projections - and could be accomplished by very slight changes in fertility.

IV Rapid increases in fertility as a result of both recuperation of delayed births and a return to higher fertility at younger ages. Though feasible, this is the least likely of the four scenarios.

Maori Fertility Scenarios

Because the Maori fertility decline has been rapid and recent, and the pattern different from that of the non-Maori, it is necessary to develop separate scenarios. Two seem feasible:

I Maori fertility remaining higher than non-Maori at younger ages and lower at older ages. This can be viewed as a transitional pattern, and indeed often occurs among populations undergoing a rapid decline, particularly through the limitation of family size by efficient means such as sterilisation and hormonal contraception. A logical progression is to adopt a more varied pattern of timing and spacing. This scenario allows for a continuing decline at younger ages, with a slight recuperation to the non-Maori levels used in Scenario III by the 1990s.

II The maintenance of present levels and patterns. Given that the decline in the Maori total fertility rate decelerated so rapidly in the late 1970s, this is a viable alternative.

Using the first fertility scenario, the number of Maori births in 1996 would be over 7,500 or 12-13 percent of the Total, as against 6,600, 13 percent of the Total, in 1981. The second fertility scenario would give 8,800 births, constituting perhaps 14-15 percent of the Total in 1996.

(ii) Mortality

Life expectation in New Zealand today is high (Table 1), although not as high as in a number of other countries. Until recently New Zealand was at a similar level, but has slipped behind, due to unsatisfactorily high levels of mortality.

Although Maori and non-Maori levels of life-expectation have shown a long-term convergence, particularly since World War II, a differential still persists (see Figure 5 for females). This holds true for all but the perinatal ages.

The level of post-neonatal infant mortality is a sensitive measure of differences in standards of living. The New Zealand level for the Total population is twice that of Scandinavia, and the Maori level three times. Yet in the 1950s New Zealand had a level among the lowest in the world. Moreover, differential mortality at this age is predominantly produced by social and economic factors rather than biomedical ones.

Table 1: Life Expectation at Birth and 15 Years, 1981

At Birth

	Male	Female
Maori	65.4	70.0
Non Maori	70.8	77.2
Total	70.5	76.9

At 15 Years

Maori	51.7	55.0
Non Maori	57.2	63.3
Total	56.9	63.0

Source: Abridged Life Tables for 1981, Department of Statistics

These general trends in mortality have come at the end of different transitions for Maoris and non-Maoris. The general trends of each transition can be gauged from Figure 5.

Non-Maori Mortality Transition

In 1876 non-Maori life expectation at birth was the highest on record at that time. Mortality levels have undergone a long, gradual decline with the most rapid changes occurring prior to 1901, particularly at younger ages. Declines in mortality due to improved health services occurred during several subsequent periods - the early 1900s, 1920s, 1940s (when they were relatively rapid and were associated with the introduction of extensive social welfare programmes), and in the late 1970s.

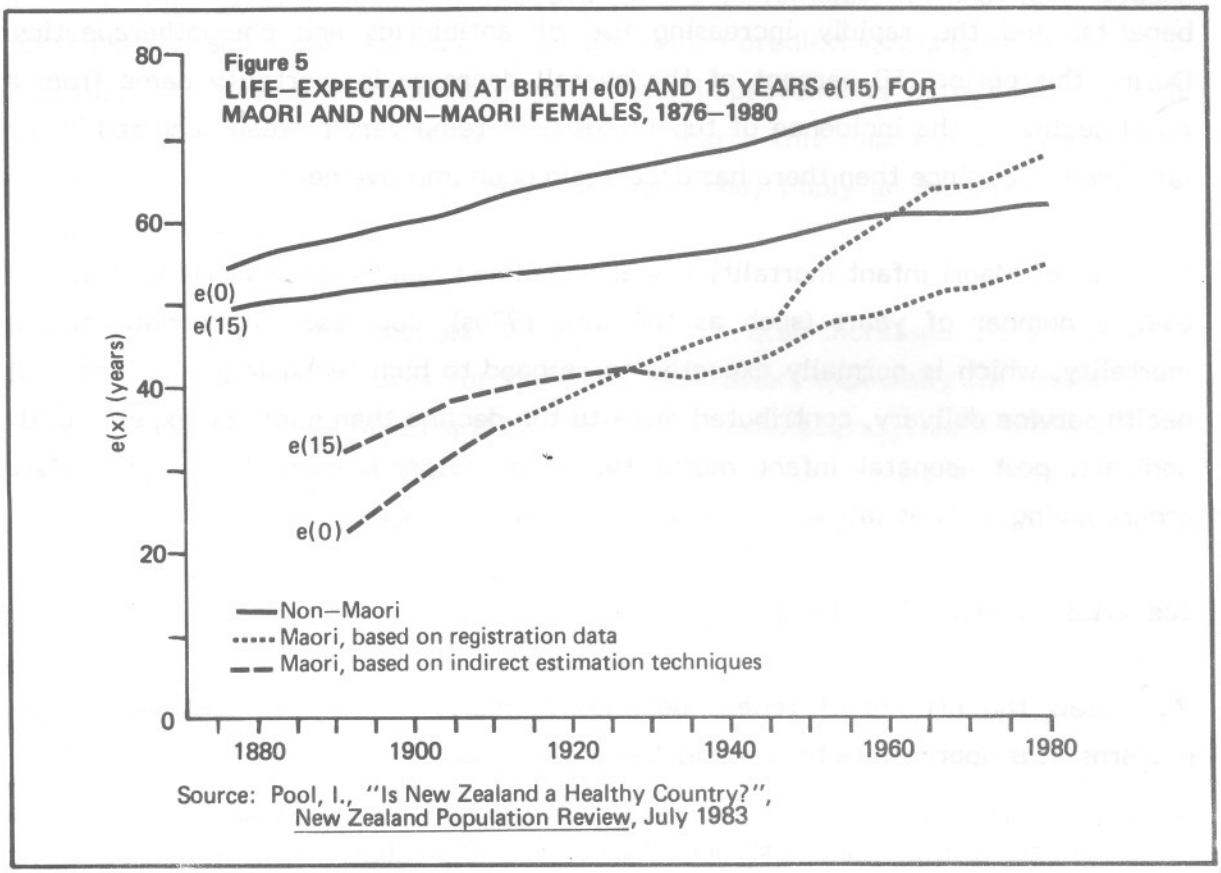


Figure 5
LIFE–EXPECTATION AT BIRTH e(0) AND 15 YEARS e(15) FOR MAORI AND NON–MAORI FEMALES, 1876–1980

Source: Pool, I., "Is New Zealand a Healthy Country?", New Zealand Population Review, July 1983

Post-neonatal infant mortality levels have remained unchanged since the early 1950s, when New Zealand's non-Maori levels were among the lowest anywhere. In the 1960s and early 1970s there was, in common with other developed countries, a lack of improvement in adult life expectation, particularly for males. This appears to have resulted from contemporary lifestyle (over-nutrition, smoking, alcohol,) and also possibly because contemporary cohorts include some persons who have, as it were, "artificially survived" infancy through medical intervention. Whichever factor operated, there was an improvement in the late 1970s, again mirroring a trend occurring overseas.

Maori Mortality Transition

The Maori mortality transition has been very different. From extremely low levels of life expectation at birth (well below 30 years), in the 19th century a rapid improvement in the early 1900s appears to have been produced, at least in part, as a result of the primary health care programmes of Maori medical practitioners such as Pomare and Buck. Further change took place after World War II, when an accelerated increase began. This was due to a combination of factors such as

efficient health programmes, the effects of new medical and social security benefits, and the rapidly increasing use of antibiotics and chemotherapeutics. During this period, 50 percent of the overall decrease in mortality came from a rapid decline in the incidence of tuberculosis. A temporary plateau occurred in the late 1960s, but since then there has once again been improvement.

The rate of Maori infant mortality has also declined rapidly since World War II. But over a number of years (such as the late 1970s), decreases in neonatal infant mortality, which is normally expected to respond to high technology and high-cost health service delivery, contributed more to the decline than might be expected. By contrast, post-neonatal infant mortality, which responds more to social welfare programming, did not fall as rapidly as might have been expected.

Scenarios for Mortality Changes

To review the effects of recent declines in mortality, and to postulate future patterns, it is appropriate to consider three components:

- infant (perinatal and post-neonatal) and childhood (up to 14 years) mortality
- mediatric (15-59 years) mortality
- geriatric (60+ years) mortality

As noted above, perinatal mortality declined significantly in the late 1970s but this had little overall impact on life expectation. Although post-neonatal mortality is still high relative to that of other similar countries, the overall effect of such a decline on life expectation would be relatively slight. It would, of course, have a marked effect on New Zealand's rank in terms of the infant mortality rate. Reductions in mortality at childhood contribute little to overall trends however, as the level is already very low at these age.

Mortality changes likely to influence life expectancy occur at adult ages. Recent life tables have shown a significant improvement in survivorship rates over a wide range of mediatric ages for both Maoris and non-Maoris. For the Total population the most rapid improvement between 1976 and 1981 has occurred for males, aged 40-59 years. However, the recent increase in mediatric survivorship merely compensates for the effects of the earlier rise in mortality among a number of non-Maori male cohorts and non-Maori female birth cohorts of the early 1920s,

and for the general lack of improvement for females in the late 1960s. Consequently, some caution must be adopted when predicting changes in mediatric mortality. To have a significant effect, these improvements must continue until 1986 and beyond. (Latest official projections carry this improvement through to 1991.) If such sustained improvements do occur, they imply an increase in the size of each cohort reaching geriatric age.

Recent life table data (Appendix IV) have demonstrated increased life expectation and survivorship at older ages for the Total population, especially for males. This holds true for both the Maori and the non-Maori population. These improvements carry a number of implications. There will be increased numbers at all geriatric ages, but the effect will be greater at older ages. The changes in sex ratios for 1976-81 show some movement back towards a more equal balance, but it is difficult to determine whether this is a temporary or a long-term trend.

Causes of Death

The causes of death which contribute to current patterns of mortality form too complex a mosaic to be discussed in detail here, but a few key points can be made.

The communicable diseases (those which are infectious, respiratory, diarrhoeal, etc) are of little general significance today except for respiratory diseases at post-neonatal ages, particularly among Maoris. By contrast, degenerative diseases increased in the 1950s and 1960s and are today the major causes of death. Declines in these causes have, however, been the key factor in recent improvements in survivorship at both mediatric and geriatric ages, apparently because of what might be broadly characterised as lifestyle changes, plus interventions such as the use of anti-hypertensives.

As in other developed countries cardiovascular diseases are the major cause of death. Patterns in New Zealand are similar to those overseas except in one respect - Maori females still suffer severe disadvantages (relative to Maori males and to non-Maoris) as regards coronary heart diseases at reproductive and post-reproductive ages.

Accidents are of considerable and increasing significance today as a cause of death. This is mainly due to the decline of other causes. For males, relatively high rates at ages 15-24 have always occurred and persist primarily because of motor accidents. By contrast, there has been a decline among older non-Maori males of workforce age as a result of the shift to tertiary industry. But for Maori males, accident death rates are uniformly high at all workforce ages because of Maori industrial participation patterns. At geriatric ages, which have always had high accident levels, there have been few changes.

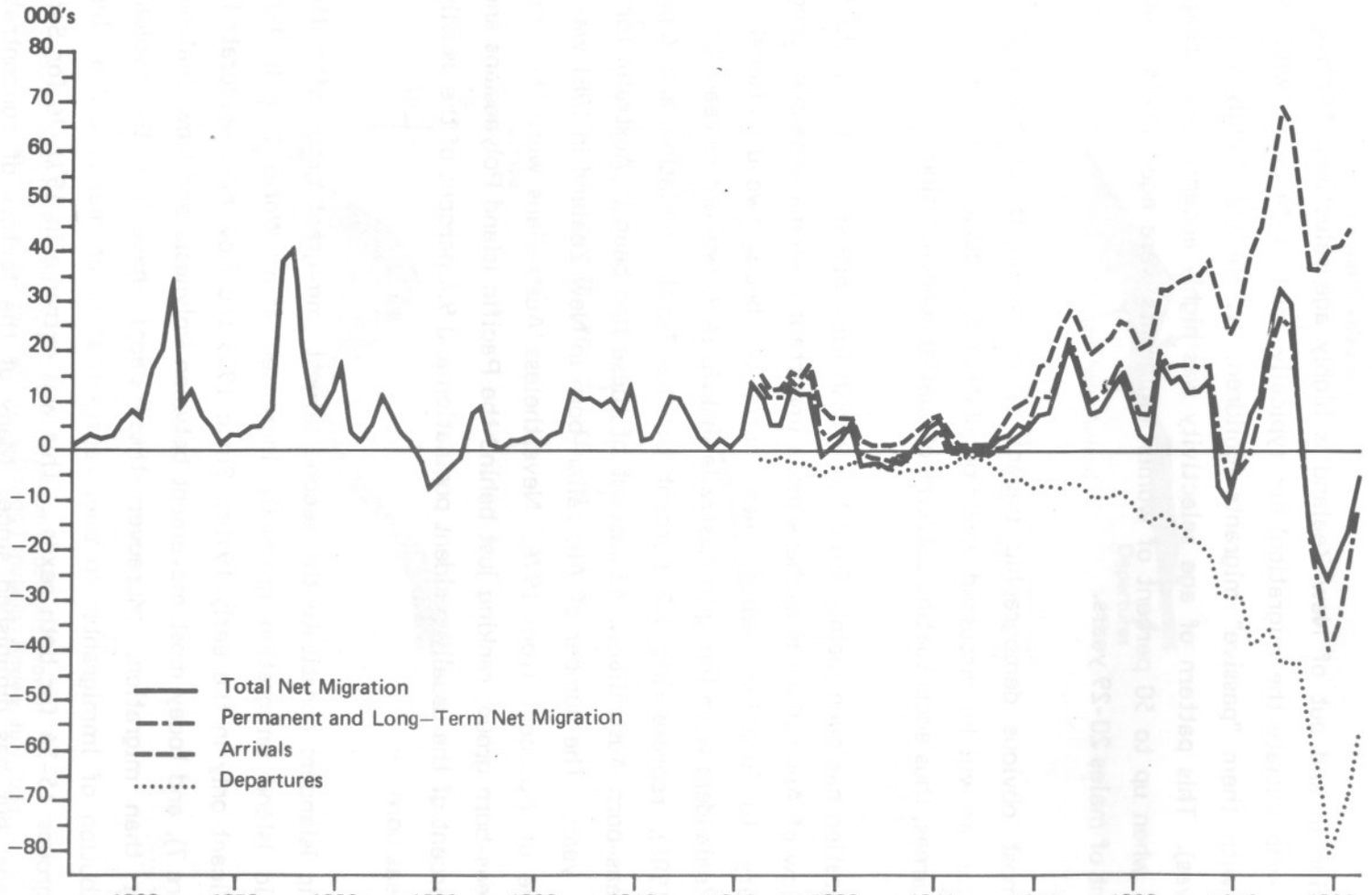
(c) International Migration

Historically New Zealand has been a migrant society. In most decades since the late 19th century however, natural increase has been the prime growth component. Figure 6 shows that after initial European colonisation, peak periods of immigration occurred in the 1860s, the 1870s, the early 1900s (when there was considerable movement from Australia), immediately after both World Wars, and in the early 1970s. Emigration was important at various periods of economic recession, but became a matter of critical public concern only in the late 1960s, and again in the late 1970s.

Since 1945 permanent and long-term immigration has fluctuated markedly. Over the long term however, there has been a general increase (Figure 6). Until 1968 immigration occurred mainly as a result of various displaced person, labour force, and family settlement policies pursued by different governments. It was also affected by conditions in the country of origin (usually the United Kingdom) and in New Zealand itself. Because immigration decreased markedly in 1968-69, an attempt was made to recruit immigrants. This resulted in one of the heaviest inflows in New Zealand's history in the early 1970s, a period in which immigration into Australia was curtailed. In the mid-1970s, New Zealand governments cut back on immigration.

By contrast, throughout the post-war period, emigration had demonstrated an almost perfect exponential increase. Net migration had thus been mainly influenced by fluctuations in immigration trends. In the late 1960s and again, and more spectacularly, in the late 1970s, decreases in immigration produced negative net migration. This was popularly interpreted as a sudden outflow. It was in fact due to the continuation of a long-term trend in emigration coupled with a sharp decline in immigration.

Figure 6
ANNUAL LONG–TERM AND PERMANENT MIGRATION, 1925–82



Source: Farmer, Ruth S.J., Department of Geography, University of Waikato

Since about 1980 migration trends have altered radically. Emigration has decreased, while immigration has increased. The latter has been due, at least in part, to the return of New Zealanders who had migrated or travelled overseas in the late 1970s, but the decrease in emigration was the key factor in the turn around.

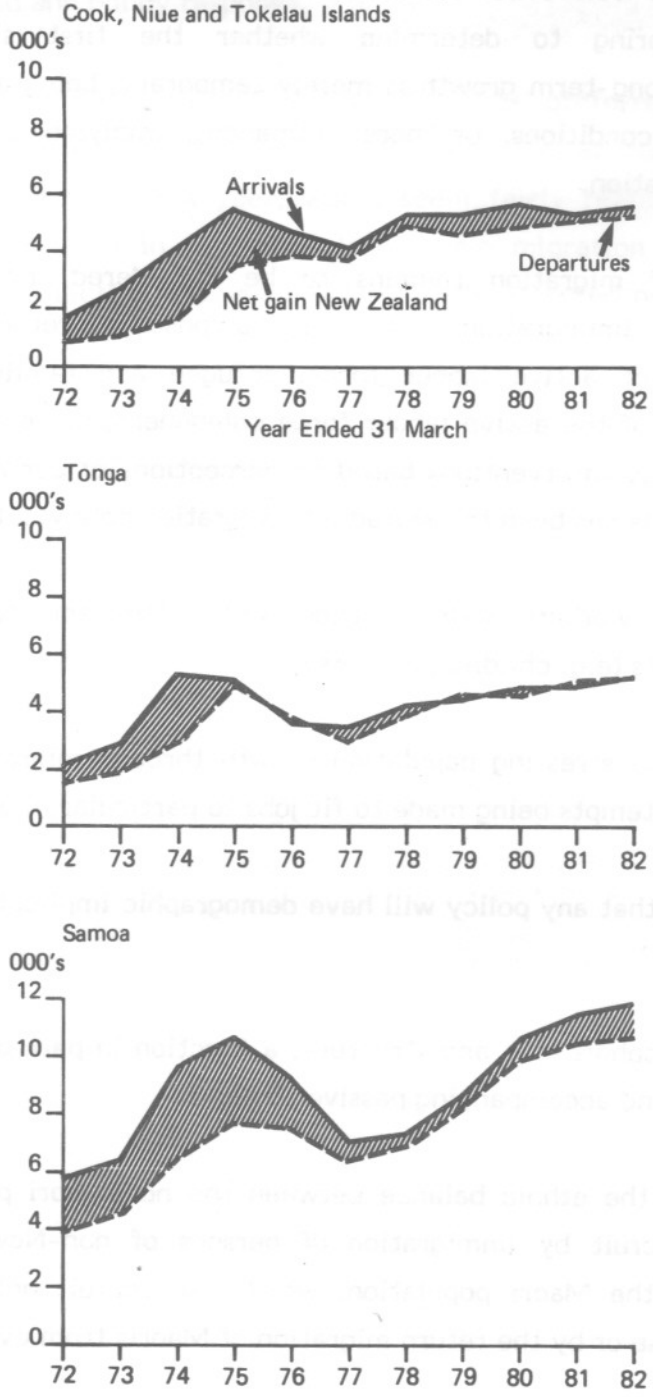
Migration in and out of New Zealand is highly age selective. "Active" migrants (those who initiate the migration) are typically aged 15-34 years, while they may bring with them "passive" migrants (children, or, through family reunion, older relatives). This pattern of age selectivity was highly accentuated during the late 1970s, when up to 50 percent of women emigrants were aged 15-24 years and 45 percent of males 20-29 years.

The most obvious demographic impact of migration is on the age structure. However, as will be discussed under population distribution, immigrants cluster in urban areas, thus accentuating patterns of spatial concentration.

Immigration has been mainly from the British Isles, either directly or via Australia. The flow of Australians is perhaps more important than many people recognise but, contrary to popular belief, has normally been two-directional. 176,714 New Zealanders were living in Australia in 1981 (a 97 percent increase between 1976 and 1981), representing 1.2 percent of the Total population and 6 percent of overseas-born Australians. 42 percent of these had been in Australia for less than three years. The number of Australian-born in New Zealand in 1981 was 43,809, a decline of 7 percent from 1976. Nevertheless Australians were the third largest overseas-born group, ranking just behind the Pacific Island Polynesians and forming 1.4 percent of the usually resident population and 9.4 percent of the usually resident overseas born.

Pacific Islanders constitute the second largest immigrant group after the British. Pacific Island emigration gradually increased after World War II, but became significant only in the early 1970s. Since 1975 the flow has decelerated markedly (Figure 7), and today most movement between Polynesia and New Zealand is travel rather than migration. Moreover, these people have had the typical age/sex distribution of immigrants: an over-representation of males, and a clustering at age-groups 15-34 for both sexes . This was extreme in 1971-76 for Samoans and Tongans, but has diminished since. Many of the factors of concentration noted earlier also apply to Pacific Island immigrants. They have clustered in Auckland (Central/South Auckland), Wellington (Porirua Basin) and Tokoroa urban centres.

Figure 7
MIGRATION BETWEEN POLYNESIA AND NEW ZEALAND, 1971/72–1981/82 BIRTHPLACE GROUPS



Source: Bedford, R.,"Net Migration and Polynesian Population Growth in New Zealand 1971–81", New Zealand Population Review, July 1983.

The trends and characteristics described above suggest net migration changes are currently affected by the dampening down of the various severe fluctuations introduced from 1968. Nevertheless the emigration patterns will require close monitoring to determine whether the first significant counter-trend to the long-term growth is merely temporary, being a function of current economic conditions, or more permanent, implying a new and radically different situation.

One other aspect of migration remains to be considered, namely the determinants of flow. Immigration is not only composed of returning New Zealanders, but also of active labour force, refugee and family reunion components. The size of the active labour force component, currently rather small, depends on policy interventions based on perceptions of current labour supply and demand. This has been translated into migration policy in two ways:

(a) recruitment of workers with specified skills, often accompanied by passive migrants (e.g. children, parents)

(b) a general policy stressing population growth through migration, with only limited attempts being made to fit jobs to particular migrants.

It must be recognised that any policy will have demographic implications, such as:

(a) the effect on cohort size and structure, a function in part of the size of the active and accompanying passive streams

(b) the effect on the ethnic balance between the non-Maori population, which can recruit by immigration of persons of non-New Zealand descent, and the Maori population, which can recruit only through natural increase or by the return migration of Maoris from overseas

(c) the effect on regional growth, particularly where job recruitment is for large-scale localised projects.

The effects of migration of those who do not immediately enter the workforce are not necessarily felt right away, but could exert an effect over many years. Refugee migration trends are the most difficult to project as they depend on need and policy response.

Given the factors noted above, the current official preferred projection which takes the short-run return migration effect into account and limits net migration gain to 5,000 a year, would seem fairly realistic. Of course, a sudden policy change in favour of large-scale migration recruitment could reintroduce the fluctuations which dramatically affected net migration in the 1970s.

Section 3

POPULATION COMPOSITION

(a) Ethnicity

Although a number of different ethnic groups are significantly represented in the New Zealand population, it is still overwhelmingly composed of those of European descent - 86 percent in the 1981 Census (Table 2). The New Zealand Maori population has grown as a proportion of the Total throughout this century. Recently though, this trend has begun to level off - New Zealand Maoris were 8.7 percent of the Total in 1976, 8.9 percent in 1981.

In addition to its significant Maori population, New Zealand has experienced a considerable inflow of Pacific Island Polynesians in recent years, as noted earlier. This flow has further enhanced the diversity of the population, especially in the North Island urban areas. Auckland has become the centre of a major Polynesian community and as such is recognised as an important focal point of the South Pacific. The Pacific Island Polynesian group made up 2.8 percent of the Total population in 1981. Since the mid-1970s natural increase rather than migration has been the major component of growth of the Pacific Island Polynesian population.

Table 2: Usually Resident Population by Ethnic Origin, 1981

	Total	As Percentage of Total
European	2,696,586	85.8
NZ Maori	279,081	8.9
Pacific Islands Polynesian	88,827	2.8
Other, Non-European	42,201	1.3
Not specified	36,612	1.2
Total	3,143,307	100.0

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

(b) Age-Sex Composition

(i) Sex Composition

Historically, New Zealand has had a high ratio of males to females because of the sex-selectivity of non-Maori migration. These levels of "masculinity" decreased as natural increase became the dominant factor in the growth of cohorts at adult ages. In older age-groups this shift occurred later - high masculinity ratios were still recorded at older ages earlier this century. However, today masculinity levels are also relatively low at geriatric ages.

(ii) Age Composition

The growth trends noted earlier have had significant effects on the changing pattern of the age composition of New Zealand's two major ethnic groups (Figure 8).

For most of this century, the Maori age composition has had a "youthful" structure because of its high level of fertility. This was reinforced between 1936 and 1956 by a rapid decline in mortality. By 1976 however, the effects of the rapid decline in fertility since 1964 were already evident in the sudden constriction of the pyramid.

The non-Maori population structure of 1878 shows the high level of masculinity at young working ages which is associated with migration. The youthfulness of a very high fertility population is also obvious. By 1896 both these patterns are changing. The peculiar distortion in 1916 is due to the war-time absence of males. At 1936 the pyramid reflects the mature pattern of a low fertility population, but this pattern is abruptly broken in 1956 by the baby boom. The 1976 pyramid resembles that of 1936 although there were some minor differences due to the depression and the baby boom fluctuations in fertility.