

Who Gets What?

THE DISTRIBUTION OF INCOME
AND WEALTH IN NEW ZEALAND



NEW ZEALAND
**Planning
Council**

*Te Kaunihera Whakakaupapa
Mo Aotearoa*

Parsons

Who Gets What?

THE DISTRIBUTION OF INCOME AND WEALTH
IN NEW ZEALAND

Income Distribution Group

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Foreword

This report builds on and updates the Planning Council's 1988 publication on income and wealth, *For Richer or Poorer*.

It is written in the context of the two broad objectives of the Planning Council's current work programme — to seek ways of returning the New Zealand economy to a sustainable full employment growth path at high wages, and to aid understanding and resolution of Treaty of Waitangi issues and improvement of the social and economic position of Maori. An efficient and growing economy, providing full employment, is a necessary precondition of better living standards for all members of the community.

In the year of the 150th anniversary of the signing of the Treaty of Waitangi, it is appropriate that the well-being of Maori, relative to that of non-Maori, should be an important part of this report.

While this report takes a broader perspective than *For Richer or Poorer* there is much about which we are still not well informed, and these areas will be the subject for further study by the Income Distribution Group.

Our work owes much to members of the Department of Statistics, in particular Robert Templeton and Karen Wong, and to the analysis in the Department's recent report, *The Fiscal Impact on Income Distribution 1987-88. Who Gets What?* is a joint effort to which all members of the Income Distribution Group contributed substantially. However, the group would like to thank especially the secretariat members, Alison Robins (now overseas) and Des O'Dea, who, between them, did the bulk of the analysis and drafting. We are grateful also for the contributions of Stuart Payne (Department of Statistics) on estimating wealth from estate returns, and Abdur Khan (Department of Social Welfare) who carried through much of the computer analysis. Finally we acknowledge the helpful comments received from many persons. They include Brian Easton and members of the Planning Council and its secretariat, in particular Tilley Reedy and Derek Wallace.

The contents of the report, however, are the responsibility of the Group. The report was finalised in October 1990.

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Introduction

The first report of the Income Distribution Group, *For Richer or Poorer* (June 1988), provided a snapshot of the distribution of wealth and income in New Zealand for the year ended March 1986. This report provides an update to the year ended March 1988. It concentrates on data concerning the extent of inequality in income distribution and wealth-holdings in New Zealand, whether expressed by gender, race, age or family type. It also considers the influence of government expenditures and revenues on inequality. In addition, the report shows how family size affects living standards.

The period from 1985/86 to 1987/88 was one of slowing economic growth, rising unemployment, and a fall in the underlying rate of inflation. It included the sharemarket boom — and subsequent crash in October 1987. The tax and social welfare benefit systems were also substantially overhauled during this time. In October 1986, the Family Support and Guaranteed Minimum Family Income schemes were introduced. A major shift in the tax base took place, with the introduction of a comprehensive goods and services tax (GST) on spending, and major reductions in personal tax rates, especially at higher income levels.

The comparisons for the two-year period are made for market income, disposable income, and final income adjusted for the government budget. The report concludes that income became less equally distributed between the two years. The cause appears to be mainly higher unemployment, rather than any sizeable shift in the impact of government on the distribution of income. Wealth is found to be less equally distributed than income, with gifted and inherited wealth playing a part in this.

Fairness and standards of living

The report does not state whether the degree of income inequality, or the amount of redistribution by government, is fair or not. Thus when we say income became less equally distributed, or that tax payments became more so, we do not state whether that is good or bad. That is for the reader to decide. This is appropriate, as moral philosophers argue as much about what constitutes fairness as do politicians and bar-room debaters. There are many areas over which disputes can occur:

1. How to define standards of living

The report concentrates on inequalities in income and wealth, but they are only one aspect. Inequalities in standards of living can also relate to differences in health, unemployment, crime rates, life expectancy, cultural benefits, access to social and physical amenities, leisure time, educational attainment, and even political power and influence. However, poor achievement in most of these indicators is correlated with income and wealth inequalities, and they tend to reinforce each other. Some people, though, may prefer to trade off income for leisure or cultural benefits.

2. Measuring the degree of inequality

The analysis in much of this report uses percentile measures, showing how much income is received by the bottom 10 percent of income earners through to the top 10 percent. Inequality can be said to be reduced if the bottom 10 percent receive a larger share at the expense of the top percentile. But if the middle income groups lose to the benefit of both the top and bottom income groups, we need to introduce a value judgement to determine whether this is an increase or decrease in equality. It is also important to know not just which income levels are gaining or losing but which household types, such as families or retired people. For this reason, we also present analysis by household life cycle stage.

3. The nature of the data

We consider data averaged over groups of households. Changes in the averages may be small even though many individuals and families may have experienced much greater changes. Self-employed people in particular may have a good income one year but significant losses the next (and they can affect averages significantly, as was the case for the lowest 10 percent of households in 1987/88).

4. The concentration on material wealth

This ignores the whole question of valuing the environment as a provider of resources for economic growth and cultural amenities, and as a receptacle for the wastes of that growth.

5. What constitutes fairness

One approach is to consider what New Zealanders think. The Royal Commission on Social Policy, in its survey of New Zealanders' attitudes and values (1988, Vol.I), found that, in late 1987, 96 percent of the population thought that it was important for the government to consider the effect on poorer people when making economic decisions. Whilst 79 percent thought that the welfare of society should be shared by all, only 45 percent thought that it was the government's responsibility to ensure people's welfare. Our tax system was thought fair by 42 percent, and unfair by 53 percent. But 49 percent thought we got good value from our system of taxes, services and benefits, against 40 percent who did not.

Fairness could be seen as equality of opportunity. Unequal starts, through lack of formal and informal education, and discrimination or differences in socio-economic background need to be redressed before the market race can start fairly. If the market process was fair, this equalising of opportunities would ensure that the pattern of income would reflect abilities and preferences for work relative to leisure. But aspects of the market are not fair — there is discrimination, use of monopoly power, the influence of custom. As well, seemingly arbitrary shifts in supply and demand, beyond the control of any individual, affect wage rates and employment, so the outcomes of a market economy do not necessarily reflect how hard a person has worked, or how well they have used their abilities.

A further issue is that wage rates are based largely on the ability of industry to pay. But standards of living are affected by family size — though there are problems of the degree of redistribution within a family (Edwards 1981). Thus fairness in relation to market incomes may be looked at from the perspective of the individual wage earner, but fairness of standards of living is better looked at in terms of real disposable income per household member. This issue is addressed in this report by adjusting market incomes, first for the impact of government, and then further adjusting for differences in household size by the use of equivalence scales. The scale we use assumes, for example, that a married couple with two dependent children requires 38 percent more income to have the same equivalent income as a couple without children.

6. Efficiency and equality

The Royal Commission survey indicates that New Zealanders on balance wanted a move to greater equality of income, but that many were concerned that higher taxes would have adverse effects on economic efficiency — in other words, they feared that in redistributing the cake, the cake would shrink.

Concepts of income

The starting point is market income (wages and salaries, profits, investment income, etc.). Adding cash transfers from government — benefits, pensions, etc. — gives total income, and then deducting direct taxes gives disposable income, or 'money in the hand'. To this can be added the value of services — such as health and education — provided by government at less than full cost, plus other government spending, less indirect taxes, company taxes and other government revenues. The outcome is final income, or market income adjusted for budget (see p.5).

Disposable income provides spending power, but this spending power, and its distribution, is altered over time by changes in the prices of goods and services. Real disposable income measures are the result of adjusting disposable income to take account of inflation.

Wealth is the stock of assets which generates the flow of incomes or, more generally, well-being. Our focus is mainly on personal marketable wealth — that is, on assets owned by individuals.

Special features of this report

This report builds on *For Richer or Poorer* by extending and improving coverage in three important areas.

a) Extended Maori/non-Maori comparisons

On average Maori are disadvantaged in terms of 'material' well-being. At the 1986 Census, incomes of Maori full-time workers averaged around 80 percent of 'total' population incomes. Because Maori families are larger on average, this lower income per household must stretch further (see Chapter Six). Causes of the income differentials include the younger age-structure of the Maori population and the lower educational and skill qualifications of many Maori (Haines 1989).

An underlying historical cause has been the alienation of Maori economic resources over the past 150 years — through sale, confiscation in some regions, and adverse judicial interpretations of Maori rights under the Treaty of Waitangi. For example, only a very small proportion of New Zealand's economically productive land is retained under Maori freehold title, and that which is, is often of poorer quality (see Chapter Eleven, and Asher and Naulls 1987).

There are also 'non-tangible' aspects of Maori well-being which cannot be measured numerically. The maintenance of kinship links, the retention of turangawaewae, gathering places for hapu and iwi members on ancestral soil, and the preservation of taonga (treasures), including Te Reo Maori (the language)¹, are matters of great importance to Maori.

b) Extended discussion of income and wealth

Our coverage of income concepts and personal wealth-holdings has generally been expanded. The 'imputed' income from homeownership and the value of 'unpaid' work are discussed briefly. We have drawn on a new source — data on investment income and insurance premiums from the Household Expenditure and Income Survey (HEIS) — to provide alternative estimates of personal wealth.

In this report, the discussion is usually of personal wealth — that is, the assets owned by or assignable to individuals, families and households. But we refer also to the value of pension entitlements, whether state-provided, job-related or personal, and to 'human capital' — that is, individuals' potential future earning power. In general, the wider we extend our definition of wealth, the more equal its distribution becomes.

c) Income and wealth changes with stage of life cycle

For each of us, our income, spending needs and wealth change through life. From low levels in early adulthood, income generally rises to a peak in middle age, and assets are accumulated (especially through home purchase). But family spending requirements also increase. Later in life income drops, especially on retirement, as do living costs (mortgage paid off etc.).

¹ "... it is estimated that some 50,000 New Zealanders, almost all of Maori descent, are fluent speakers of Maori, while perhaps a further 100,000 understand the language" (*Te Reo Maori*, New Zealand Official Yearbook, 1988-89, p.217). Persons of Maori 'origin or descent' numbered 404,775 at the 1986 Census of Population.

This means that the demographic structure of our population has a profound influence on the distribution of income and wealth, and that changes in the distribution over time are at least partly because of changes in population composition.

Virtually all of the incomes data we use provide a 'snapshot' of the distribution over the population at a given point in time. The cross-sectional data, however, are limited in what they can tell us about the long-term causes of the current distributions, and whether the distribution of income totalled over the whole of people's lifetimes, or of their lifetime accumulation of wealth, is more or less equal than the distributions at a given point in time. We do not have longitudinal data, but as a substitute we have provided information on income and wealth distribution with households classified by life cycle stage. This is a valuable complement to the more traditional, and sometimes misleading analyses based on ranking households in order, from low to high incomes.

Outline of the report

Chapters One to Eight focus on income distribution. They trace a path from individual market incomes through to household spending power, with government playing a major role in redistributing market income, by means of taxes and social welfare transfers. The redistributive effects of government social services expenditure, such as on health and education, are also outlined. Finally, the influence of gender and ethnicity on income distribution is discussed, as well as the relationship between income and wealth through life.

The next section of the report (Chapters Nine to Twelve) measures wealth and its distribution. Estimates are given of the major components of wealth. Various approaches to the measurement of the distribution of wealth, and its relationship to income distribution, are looked at. This includes discussion of age, ethnicity and gender differences. Chapter Thirteen offers conclusions.

Appendix One sets out our recommendations for further research, and Appendices Two and Three contain technical background material and data.

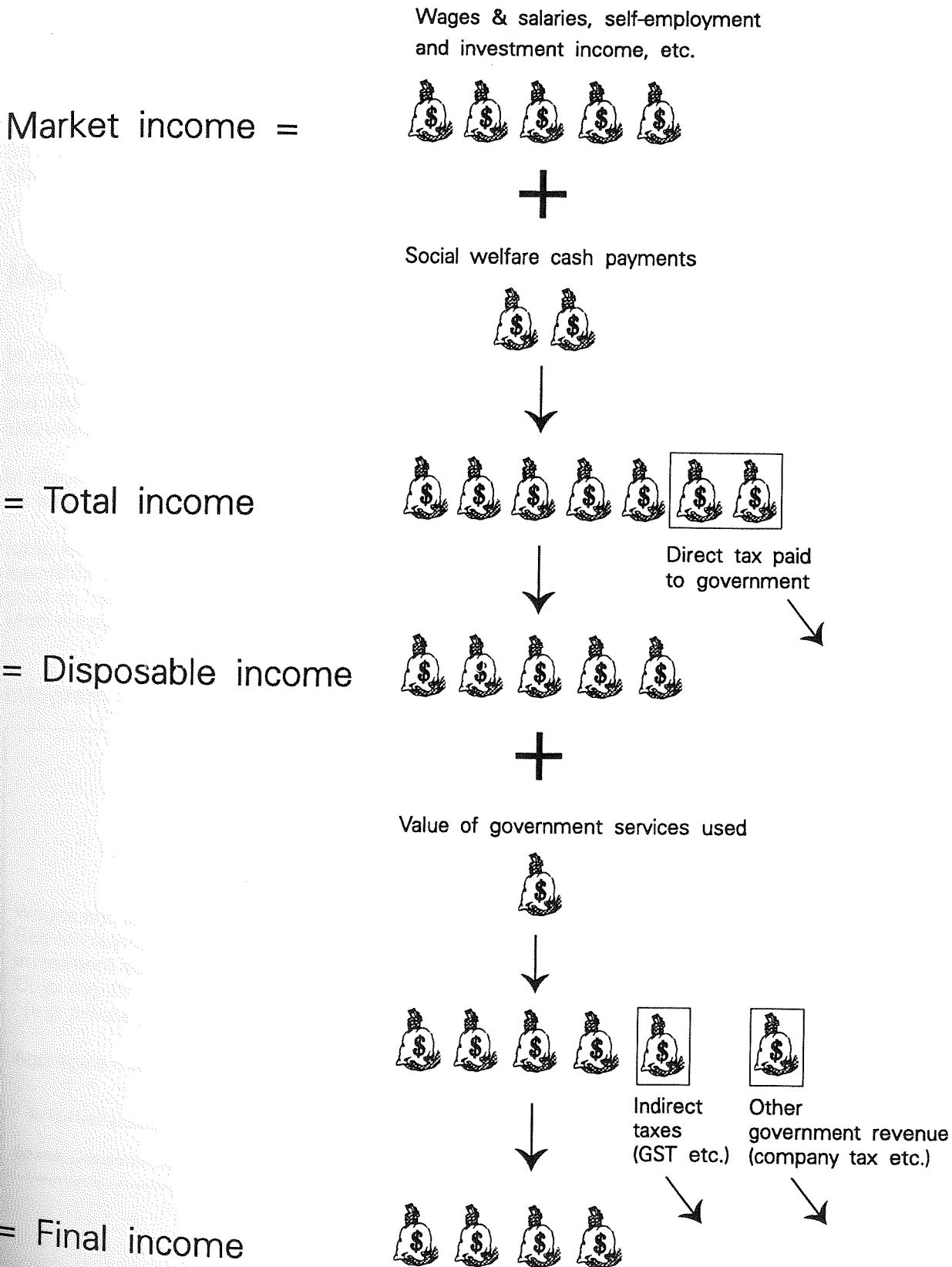
Data sources

The raw data for our work has been drawn very largely from the Department of Statistics' Household Expenditure and Income Survey (HEIS). The Department's ASSET model has been used to impute tax and benefit payments for individuals and households. Where appropriate, this material has been supplemented from other sources, principally the five-yearly Censuses of Population and Dwellings, data on estate duty returns, and property valuation data from Valuation New Zealand. It should be noted that the estimates and conclusions could be affected to a degree by sampling error.

We have focused especially on 1987/88. Later data have become available during the preparation of the report, but an advantage of 1987/88 data is that the HEIS sample size was larger than usual in that year — for purposes of revising the Consumer Price Index — and so provides more accurate estimates for population subgroups.

Market Income to Final Income

How government redistributes income



Chapter One

Market Income and its Distribution Among Individuals

Income is generated firstly in the market-place. In this chapter we study the distribution of market income for individuals. In later chapters we look at market income across households, market incomes received by Maori, and by women compared with men.

Market income

In this report market income refers to income received from: wages and salaries; self-employment; investment in financial assets, shares, property, etc., (in the form of interest, dividends, rent and royalties); and other regular *private* income sources (partly regular receipts of occupational and personal pensions, but also educational scholarships and bursaries, directors' fees, income from hobbies and odd jobs, etc.).

In Chapter Two the definition is widened to discuss 'non-cash' items such as fringe benefits, capital gains (or losses), imputed income from homeownership and unpaid household services.

Infogram 1.1 shows that earnings from employment are the largest component of market income at around four-fifths of the total. The proportions in 1987/88 are similar to those in earlier years. The downwards trend in 'other regular income' reflects a definitional change between 1981/82 and the two later years. More detailed data show that the job superannuation component in this did increase throughout the years.

Infogram 1.1

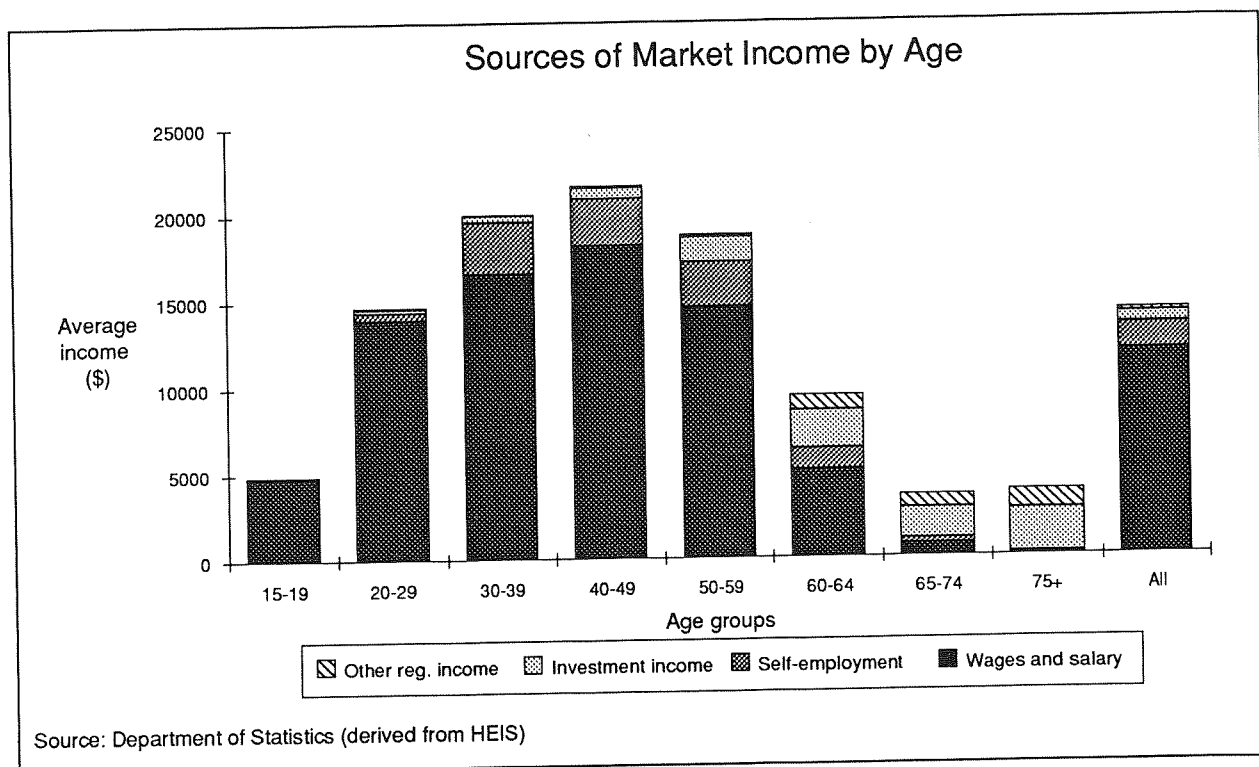
Sources of Market Income						
years ended 31 March 1982, 1986, 1988						
	1981/82		1985/86		1987/88	
	\$m	%	\$m	%	\$m	%
Wages and salaries	14339	79	20605	78	27788	82
Self-employment	2167	12	3178	12	3617	11
Investment income	975	5	2055	8	1872	6
Other regular income ¹ (e.g. private pensions)	<u>578</u>	<u>3</u>	<u>554</u>	<u>2</u>	<u>528</u>	<u>2</u>
Aggregate market income	18059	100	26391	100	33805	100

¹ In 1981/82 includes 'hobbies and odd jobs' and educational bursaries, but not in the two later years.

Source: Department of Statistics (derived from Household Expenditure and Income Survey [HEIS]) (see Appendix Two for details)

Before discussing the distribution of market income across the adult population, it is useful to examine how the average amount, and its composition, differs across age groups. Infogram 1.2 presents this information for 1987/88.

Infogram 1.2



The bars in this infogram represent total market income for each age group divided by the total number of people in the age group, including those not receiving any market income.

As people age their sources of market income, on average, diversify. Between the ages of 15 and 29, wages and salaries make up 97 percent of market income. This proportion diminishes steadily with age. Conversely, self-employment income increases in importance for older age groups. In these groups the proportion of income received from investments and private superannuation (the largest component of other regular income) increases as employment earnings fall off.

Market income of individuals

Employment earnings

Influences on the distribution of earnings from employment during the period 1981/82 to 1987/88 include: the increased level of unemployment, particularly since 1986; the continuing increase in work-force participation of women; an increase in the proportion of the population over the age of retirement; and, from the early 1980s, increased participation in education and training.

All these, except the increased participation of women, have lowered the proportion of adults engaged in gainful employment.¹ The net effect has been a slight increase in the proportion of adults employed from

¹ For the rest of this section, use of the word 'employed' will refer to the gainfully employed who include the self-employed, wage and salary earners, and those working unpaid for a relative.

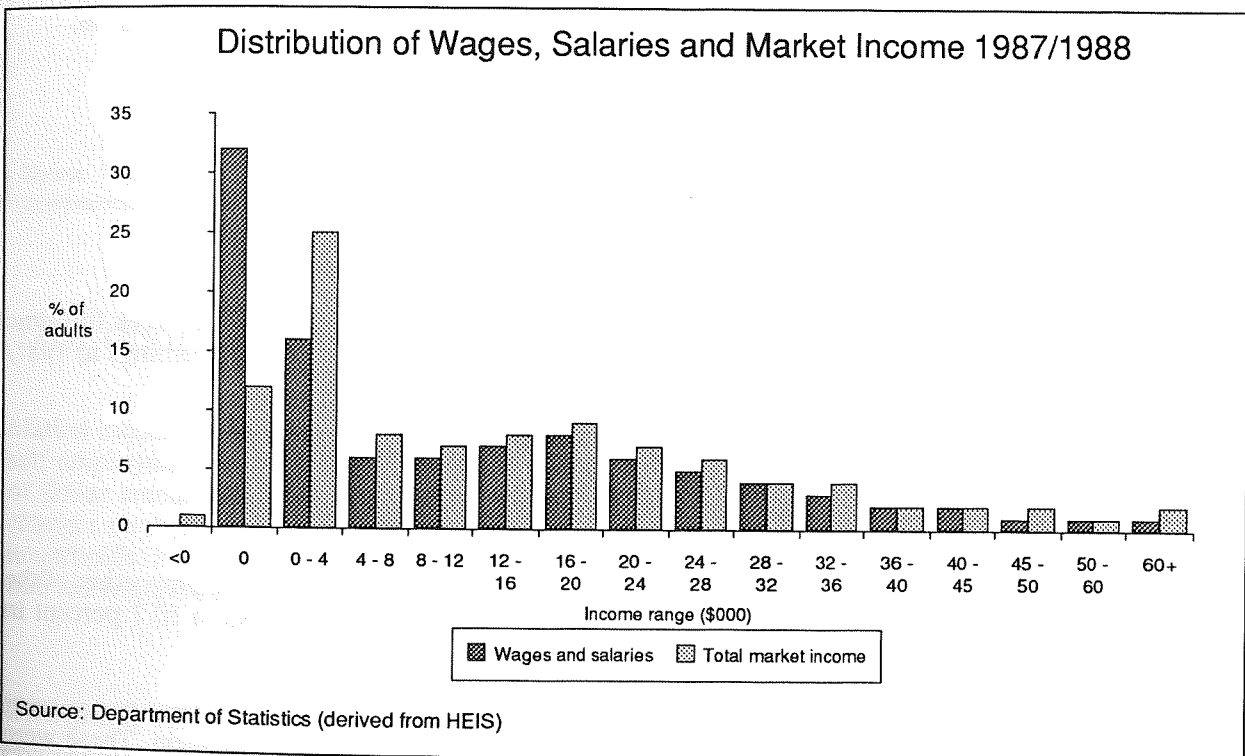
60 percent in March 1981 to 61 percent in March 1988. The proportion of adult women employed has increased from 45 to 51 percent, but that of adult men has decreased from 76 to 72 percent.

Part-time employment has increased markedly in recent years, associated largely with the rising participation of women in the work-force. Of those employed in March 1988, 20 percent were part-time, comprising 35 percent of employed women and 9 percent of men. (See Haines 1989, for details of recent employment trends.)

The distribution of wages and salaries

Infogram 1.3 compares the distribution of wage and salary earnings with the distribution of market income for all adults for the year ended March 1988.²

Infogram 1.3

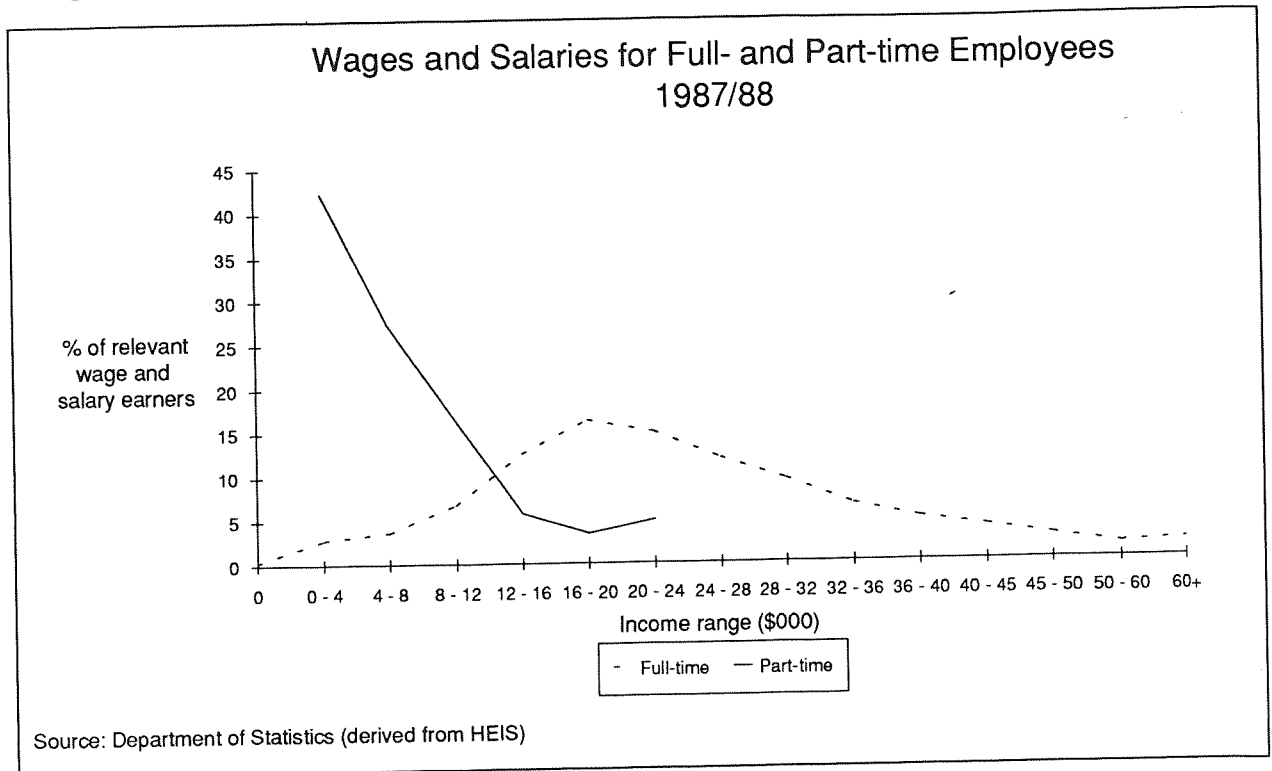


This illustrates the extent to which wage and salary earnings determine the distribution of market income. Sixty-eight percent of adults received wage or salary income in 1987/88. Eighty-seven percent received income from the market. The 1 percent of adults with negative market incomes incurred losses from self-employment. Many of the retired who earn little or no income from employment do receive market income from their investments and from private pensions.

Infogram 1.4 illustrates the distribution of wages and salaries across full-time and part-time (less than 30 hours a week) wage and salary earners identified as such at the time of the HEIS interview in 1987/88. Forty-two percent of adults were working as full-time wage and salary earners. Another 11 percent were part-time wage and salary earners, and a further 15 percent were not working at the time of the HEIS interview, but at some point in the year did receive wage and salary earnings. Many of those at the lower end of the wage and salary distribution are either part-time or part-year workers.

² Where HEIS data are used, adults are defined as those aged 15 and over, excluding those aged 15-18 still at school (that is, all except those eligible for family benefit).

Infogram 1.4



Part-timers received on average \$6,600, and full-timers \$24,200. Average hours worked per week full-time were 42.8 and part-time, 14.5. For those who worked full-time for the full year, average earnings in 1987/88 were \$27,850.

Income from self-employment

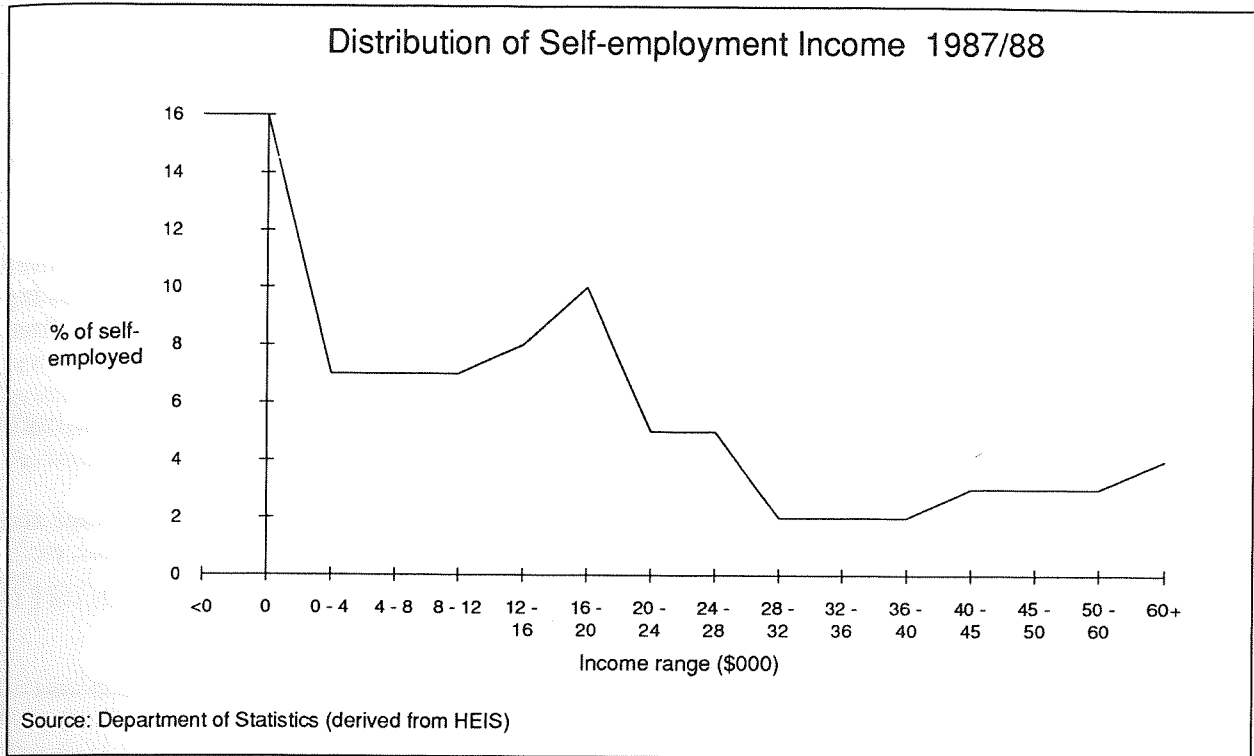
During the 1980s there has been a steady increase in the number of self-employed. The proportion of the employed labour force who are self-employed rose from 9.1 percent in March 1986 to 10.7 percent in March 1990 (Household Labour Force Survey).

Self-employment income is defined by HEIS as the before-tax profit/loss of a business. Thirty-two percent of those engaged in self-employment earned negative or nil incomes from their involvement. These were split 50:50 between negative and nil earners. Nil earners can include those whose records are not available, as well as new businesses. Those self-employed who recorded a positive income flow from their activities were spread widely across the earnings range as shown in Infogram 1.5.

Investment income

Income from investment includes interest, dividends and rent — net of expenses and royalties — but not private pensions. Fifty percent of the adult population earned some form of income from investments in the year 1987/88 but 90 percent of these received under \$2,000 from this source. Less than 1 percent of the whole adult population received more than \$10,000 income from investments in 1987/88. The highest average incomes from investment are received by the elderly. Men over the age of 60 were the only age-sex group with an average annual income from investments greater than \$2,000 in 1987/88.

Infogram 1.5



The distribution of market income

Market income is the sum of all the components we have looked at up to this point — wages and salaries, self-employment earnings, investment income, and other private regular income. The distribution, in terms of dollar amounts across individual adults, is shown in Infogram 1.3 for 1987/88. Infogram 1.6 shows changes over time in the distribution of market income received by quintiles of adults. Individuals (or households) have been divided into five groups — quintiles — each containing 20 percent. The groups are ordered from lowest to highest on the basis of their income (see Appendix Two for details).

Infogram 1.6

**Share of Market Income Received by each Quintile of Adult Individuals
for years ended March 1982, 1986 and 1988**

	Market income quintiles of adults (%)					Total	Average (\$)
	1	2	3	4	5		
	Low				High		
1981/82	-0.2	2.6	14.3	28.9	54.4	100	8,200
1985/86	-0.5	3.3	14.7	27.9	54.6	100	11,550
1987/88	-0.9	2.7	14.1	28.3	55.8	100	14,400

Source: Department of Statistics (derived from HEIS)

Over the six-year period shown, the upper quintile and, over the last two years, the top two quintiles — that is, 40 percent — of the adult population, have increased their share of market income compared with the middle and lower quintiles.

Income trends over time adjusted for inflation

The increase in average market income over time shown in Infogram 1.6 is largely due to inflation. (Prices increased 120 percent between 1981/82 and 1989/90.) *Real* income changes can be measured by adjusting for the changes in the Consumer Price Index (CPI) over the period (see Infogram 1.7). The averages from Infogram 1.6 are expressed in terms of their purchasing power in 1987/88 dollars.

Real average market income for all adult individuals fell more than 10 percent between 1981/82 and 1987/88, from \$16,200 to \$14,400 in 1987/88 dollar terms.

Additional data allow us to examine trends in real incomes through to 1990, but for full-time wage and salary earners only (excluding part-timers, self-employed, those whose income is from investments, etc.).

Infogram 1.7

Trends in Real Market Income (adjusted for changes in the CPI)			
	1981/82	1985/86	1987/88
Average for all adult individuals			
Market income ¹ (1987/88 dollars)	16,200	15,000	14,400
Change between periods	-7.4%	-4.0%	
Changes in real gross income² for full-time wage and salary earners			
	1981/82 to 1985/86	1985/86 to 1987/88	1987/88 to 1988/90
	(% change)		
1st (bottom) quintile	-8.0	-1.4	+1.9
2nd quintile	-8.8	-1.0	+2.4
3rd quintile	-9.2	-0.2	+2.7
4th quintile	-9.0	+0.2	+2.6
5th (top) quintile	-8.6	+1.3	+2.4
All full-time wage and salary earners	-8.8	+0.2	+2.5

¹ Derived from averages in Infogram 1.6.

² Gross (before-tax) income from all sources, but for full-time wage and salary earners only. The source data on movements in gross incomes are from the Department of Statistics' releases on Real Disposable Income Indexes.

Source: NZPC calculations based on Department of Statistics' data

These data are the indexes of changes in pre-tax income (from all sources) from the Department of Statistics' quarterly series on Real Disposable Income. The outcomes, adjusted again for price changes, are also shown in Infogram 1.7. For all full-time earners, real gross incomes also fell very significantly between 1981/82 and 1987/88, by about 8.5 percent, but then increased 2.5 percent to 1989/90.

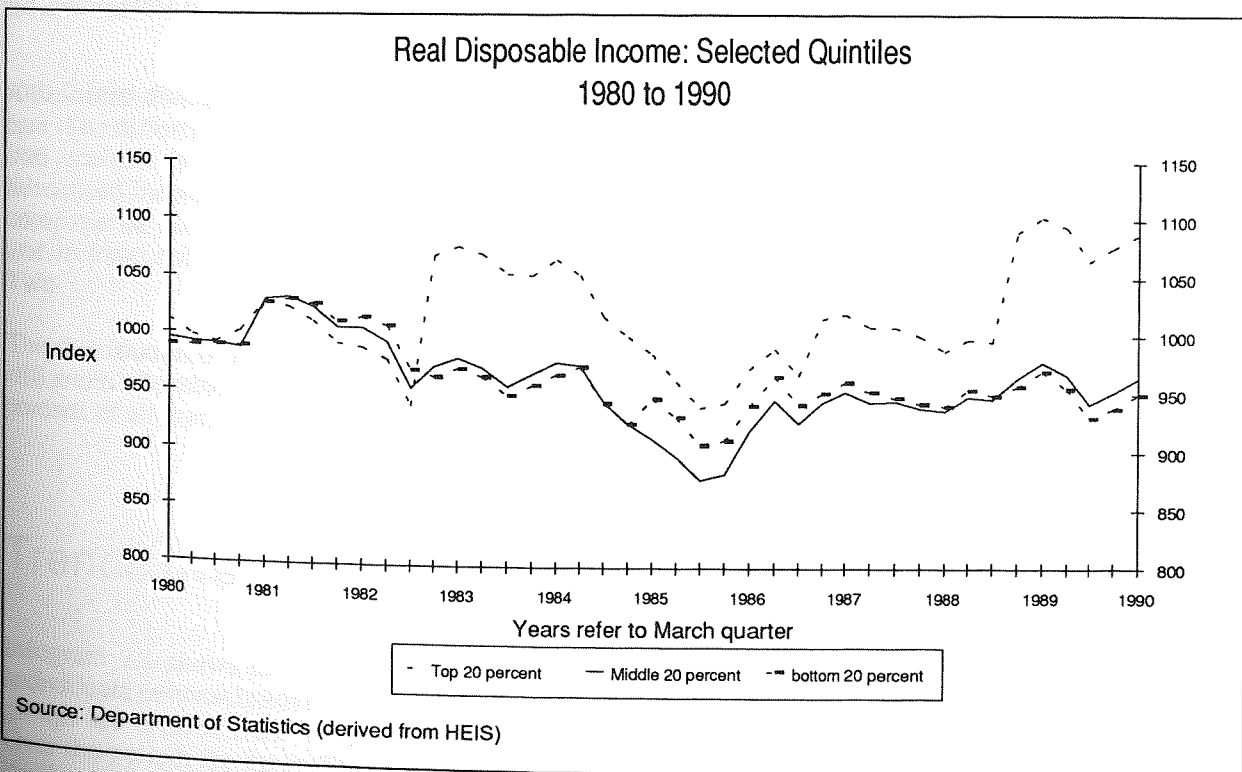
This source also allows some analysis of change in real incomes at different points in the income distribution (for full-time earners). Separate data are available for each quintile of earners. The changes over time for these quintiles are also shown in the infogram.

The individuals making up each quintile will change from period to period, so that the income paths of individuals could differ a lot from the group averages. However, the quintile averages show a picture consistent with that shown by the all-individuals average. Real income for most quintiles fell 9 to 10 percent between 1981/82 and 1987/88, and rose by 2 to 2.5 percent in the last two years. For the top quintile of full-time earners, however, real income fell about 2 percent less from the 1981/82 starting point. This gain, relative to lower income groups, occurred mainly in the 1985/86 to 1987/88 period. Therefore the income range widened in this period for full-time wage and salary earners.

Trends in real disposable income

In later chapters the impact of taxation and benefits on household income is discussed in detail. Here, some data on the impact of tax changes on the real income of full-time wage and salary earners are presented. The Real Disposable Income Indexes in Infogram 1.8 are from the same source as the indexes of gross income just discussed. Again they cover full-time wage and salary earners only. Applying the changing tax rates at different income levels allows the calculation of changes in real disposable (after-tax) income since the start of the 1980s.

Infogram 1.8



Indexes for the bottom, middle and top quintiles are charted in Infogram 1.8. They show very clearly that changes in the personal tax scale were the dominant influence on the distribution of after-tax earnings. This was particularly so in October 1982 and October 1988, when the upper income bracket had very significant after-tax gains. The shifts in pre-tax income just discussed, were minor by comparison.

The infogram shows clearly also the impact of inflation over time. Real disposable income for full-time wage and salary earners has fallen on average during the 1980s from the peak reached at the beginning of 1981. The fall was largely concentrated in the 1982-85 period, since when there has been a recovery. However, at December 1989 the average index for all full-time wage and salary earners was still less than the 1980/81 base, and only the index for the top quintile had increased over the decade.

Summary

The degree of individual participation in the market economy varies considerably. A substantial proportion of adults receive zero market income because they are not in paid work, and they do not receive income from other sources such as investments or pensions. Even of those who do participate actively, some receive negative incomes, from business losses, or have low incomes because they work only part-time or for part of the year.

These differences help explain the wide range of variation of market income among individuals, but suggest also that it is more useful to examine how income is distributed between households. We do this in Chapter Two. What is clear is that it is the extent of work-force participation as well as its nature — whether full-time or part-time — which mainly determines the distribution of market income between individuals. Work-force participation fell between 1985/86 and 1987/88, more so for full-time workers. In consequence, market income became less equally distributed.

As well, for those in full-time employment, the income range widened in this period. When measured after-tax, this widening difference between the top income bracket of full-time employees and other full-time employees is much more marked. That is, for those in full-time employment the changes in the tax scale, especially in 1982 and 1988, had a larger impact on the income distribution than changes in the market distribution of employee income.

For individual employees in general, real incomes fell during the 1980s. Only for the top fifth of full-time employees did the purchasing power of their after-tax income increase over the decade.

Chapter Two

Market Income Distribution Between Households, and Non-cash Income

So far we have examined the distribution and sources of market income received by individuals. However, most individuals' standard of living is determined not only by their own income, but also by that of the other people they share their living arrangements with. In this chapter, therefore, we examine the income of households. Most households are based on a family, and resources are shared (not necessarily equally). Individuals living in flats do not pool their resources to the same extent as families.

Households with higher market incomes often have them because there are more household members earning income. In fact, the average number of adults per household is greater for higher market income households (see Appendix Three). A significant trend in the contribution of household members to market income has been an increase in the work-force participation of women with dependent children. The 1986 Census showed that less than half of children aged 5 to 14 (43 percent) had mothers at home full-time compared with 56 percent in 1976 (Social Monitoring Group 1989, p.154). Children beginning paid employment, but still living with their parents, also contribute to household income. In 1987/88, over all households, the principal income earner contributed on average about 70 percent of household market income, spouses about 17 percent, and other household members about 12.5 percent.

Households' market income adjusted for household size and composition

A household's standard of living is determined by its income in relation to expected or required expenditure. The different commitments households have because of their size and life cycle stage need to be taken into account in considering the distribution of income. 'Equivalence scales' can be used to adjust household income for the demands resulting from different household size and composition. As a result, comparisons can be made which more accurately reflect differences in standard of living. In this report we use an extended version of the Whiteford (1985) geometric mean scale. This is described in Appendix Two.

The distribution of market income among households is more equal than for individuals; and more equal still when allowance is made for household size and composition. The bottom half of adults receive only 7 percent of all market income, whereas the bottom half of households receive 14 percent.

Trends over time in household market income

Infogram 2.1 shows the distribution of household market income from 1981/82 to 1987/88 by deciles. Individuals or households have been divided into ten groups — deciles — each containing 10 percent. The groups are ordered from lowest to highest on the basis of their income (see Appendix Two for details). Over the period, the inequality of the household distribution of market income increased. The upper four deciles (top 40 percent) of households increased their share of market income from 71 percent in 1981/82 to 76 percent in 1987/88, at the expense of the middle and lower deciles. The magnitude of change in the household distribution is greater than that in the distribution of individual market income.

Infogram 2.1

Share of Market Income (Actual and Equivalent) Received By Income Groups of Households years ended March 1982, 1986 and 1988											
Market income deciles of households (%)											
	1	2	3	4	5	6	7	8	9	10	All
Market income:											
Actual											
1981/82	-0.1	0.9	3.8	6.3	8.1	10.0	11.9	14.4	17.6	27.1	100
1985/86	-0.3	0.6	2.9	5.8	7.8	9.8	11.9	14.6	18.0	29.0	100
1987/88	-0.8	0.3	1.9	5.2	7.7	9.9	12.4	15.4	19.2	28.7	100
Equivalent											
1981/82	-0.1	1.1	4.0	7.4	9.0	10.5	12.1	14.8	17.0	24.3	100
1985/86	-0.3	0.8	3.8	6.9	8.7	10.4	12.4	14.3	17.4	25.6	100
1987/88	-0.7	0.5	2.5	6.4	8.8	10.9	13.4	14.9	18.1	25.3	100

Source: Department of Statistics (derived from HEIS)

When equivalence scales are applied to take into account household size and composition, the upper deciles are again seen to have increased their share of market income.

Some explanation for these changes is given by examining changes in the distribution of the components of market income.

The share of wages and salaries going to the higher income deciles increased. Income from self-employment became more concentrated at both ends of the income distribution during the later part of the period. From 1985/86 to 1987/88, the top decile increased its share of self-employment earnings from 47 to 53 percent, while increased losses for some self-employed people saw the bottom decile's share change from minus 3 percent to minus 9 percent (losses) in the same period. For investment and other regular income the share of the top decile increased between 1981/82 to 1985/86, but then fell in the following two years.

Wages and salaries have the greatest impact on the distribution of market incomes, as they make up its largest component overall. However, as can be seen in Infogram 2.2, this is not the case for the lowest deciles where self-employment and investment income are more significant.

The effect of household type and employment status on market income distribution

Employment status and household type have a strong influence on market income distribution. In particular, national superannuitant and sole parent households (see Infogram 2.3), as well as those households suffering losses from self-employment, are clustered in the lower income range. Thus the bottom 40 percent of the 'all adults' distribution of *individual* market income (those with market income less than \$4,850 in 1987/88) is made up of the following groups:

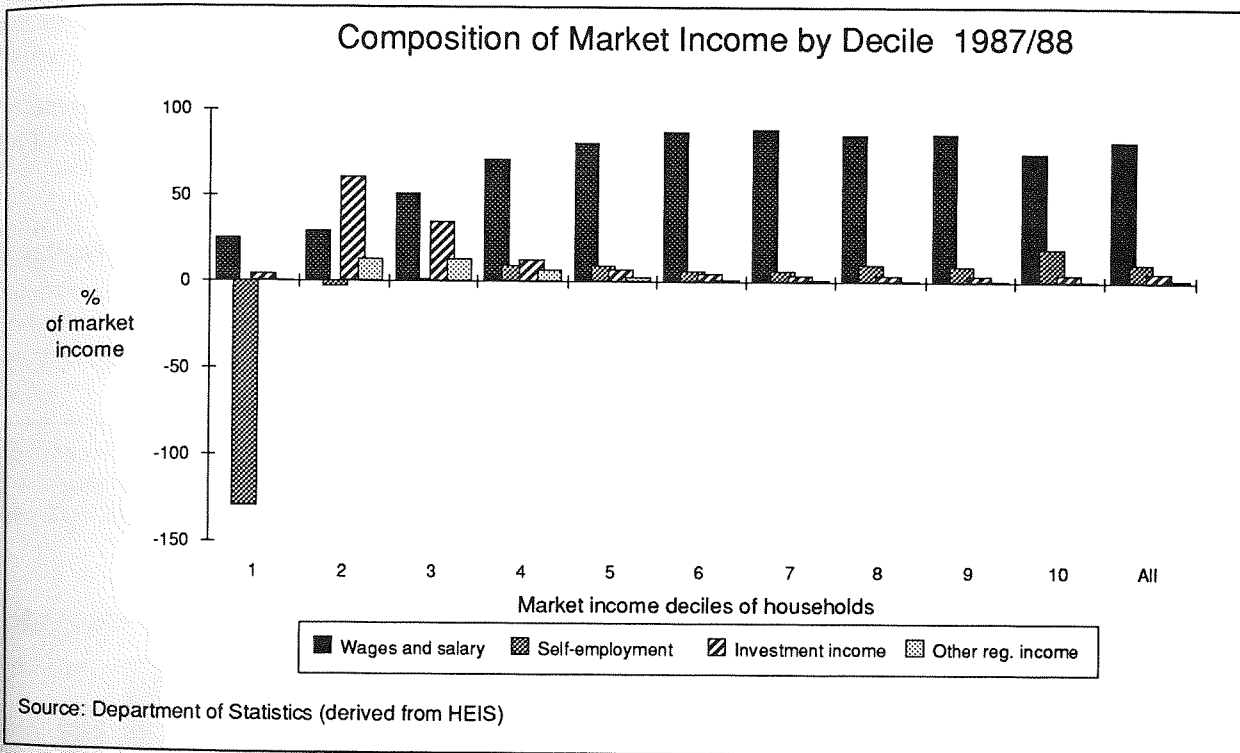
Superannuitants	36.1 percent
Other beneficiaries	17.1 percent
Self-employed	4.0 percent

Part-time or part-year workers	12.1 percent
Full-time employees	0
Spouses not in paid employment	17.2 percent
Other non-workers	13.4 percent

(Percentages are of a total of approximately 940,000 individuals in this lower income range.)

In terms of life cycle household types, Infogram 2.3 shows the distribution across the lower quintiles of market income.

Infogram 2.2



Infogram 2.3

Percentage of Households in the Lower Income Range of Specified Household Types 1987/88

Quintiles of market income (\$ per annum)	Percent of households in the quintile which are in the category:				Total
	Single person aged 60 plus	Couple (woman aged over 60)	Sole parent household	All other households	
Lowest quintile (under \$2,300)	34	23	19	24	100
2nd quintile (\$2,301 to \$19,900)	17	18	14	51	100
All households	11	10	9	70	100

Source: Department of Statistics (derived from HEIS)

Thus '60 and over' and sole parent households are a large proportion of those households with low market incomes. Other beneficiary households, and those whose income is low because income from self-employment is low or negative, also account for many households in the lower income range. Although the numbers of self-employed are relatively small, those who had an income loss have a disproportionate impact on average incomes in the bottom percentile (decile or quintile).

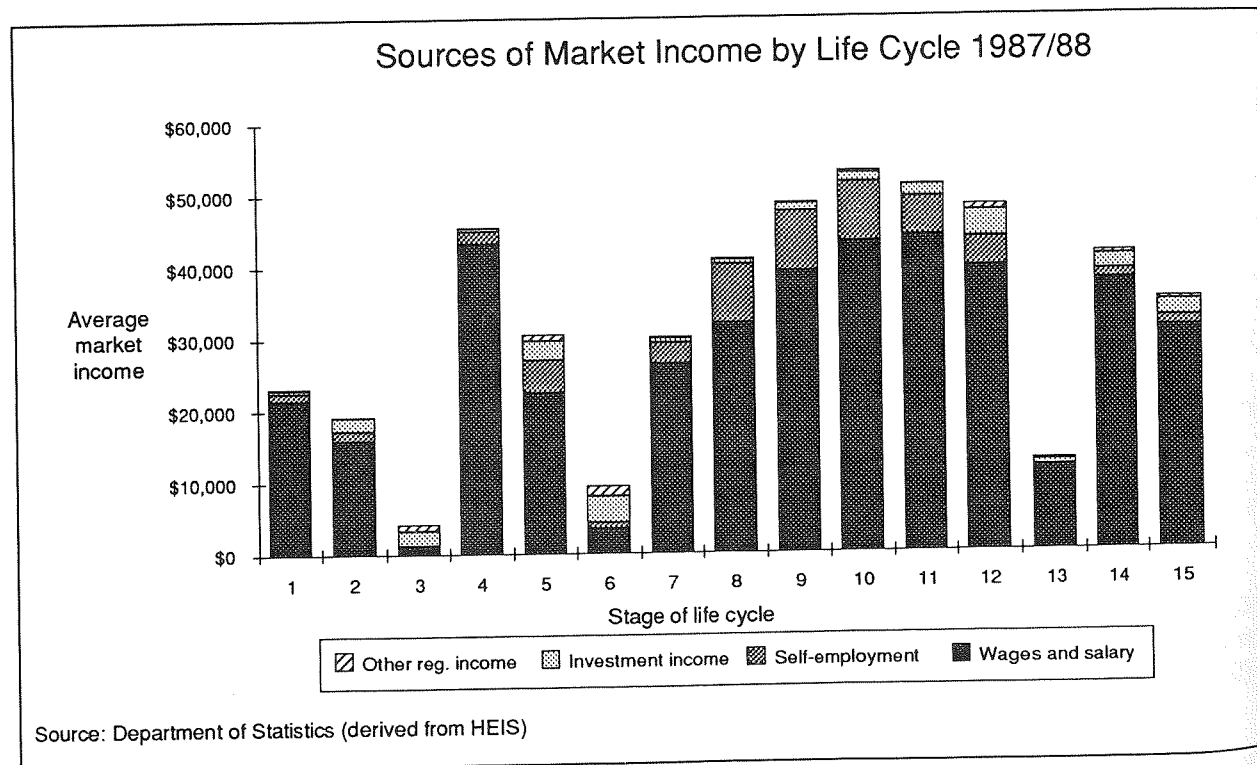
The average loss over all households in the lowest market income decile in 1985/86 was minus \$1,300 in 1985/86, and in 1987/88 minus \$3,000. This shift, which reflects the experience of only a proportion of households in the decile, can mislead if it is assumed that it was actually experienced by all households in the bottom decile.

Market income over the life cycle

The 'life cycle typology' used here is described in detail in Appendix Two. The information presents a picture of households in different life stages at a point in time, rather than tracing what has happened to particular family types over time.

Infogram 2.4 illustrates the distribution and composition of market income over the life cycle groupings.

Infogram 2.4



Key: Households' stage of life cycle

Single person	Couple (age of female)	Couple with children (age of female)	
1 15-39	4 15-39	7 <30	13 Sole parent
2 40-59	5 40-59	8 35-39	14 Other family
3 60+	6 60+	9 30-34	15 Non-family
		10 40-44	16 All households
		11 45-49	
		12 50+	

The market earnings of couples with children increases through to when the woman is in her mid-forties, and then falls off as income-earning children leave home and their parents approach retirement. The average earnings of couples without children are lower than those households with children in the middle-age group. The average market income earnings of single people living alone aged 40-59 are lower than those of single people aged under 40. Although average income from investment and self-employment is higher for older single people, this is not enough to offset the lower wages and salary income on average over these households.

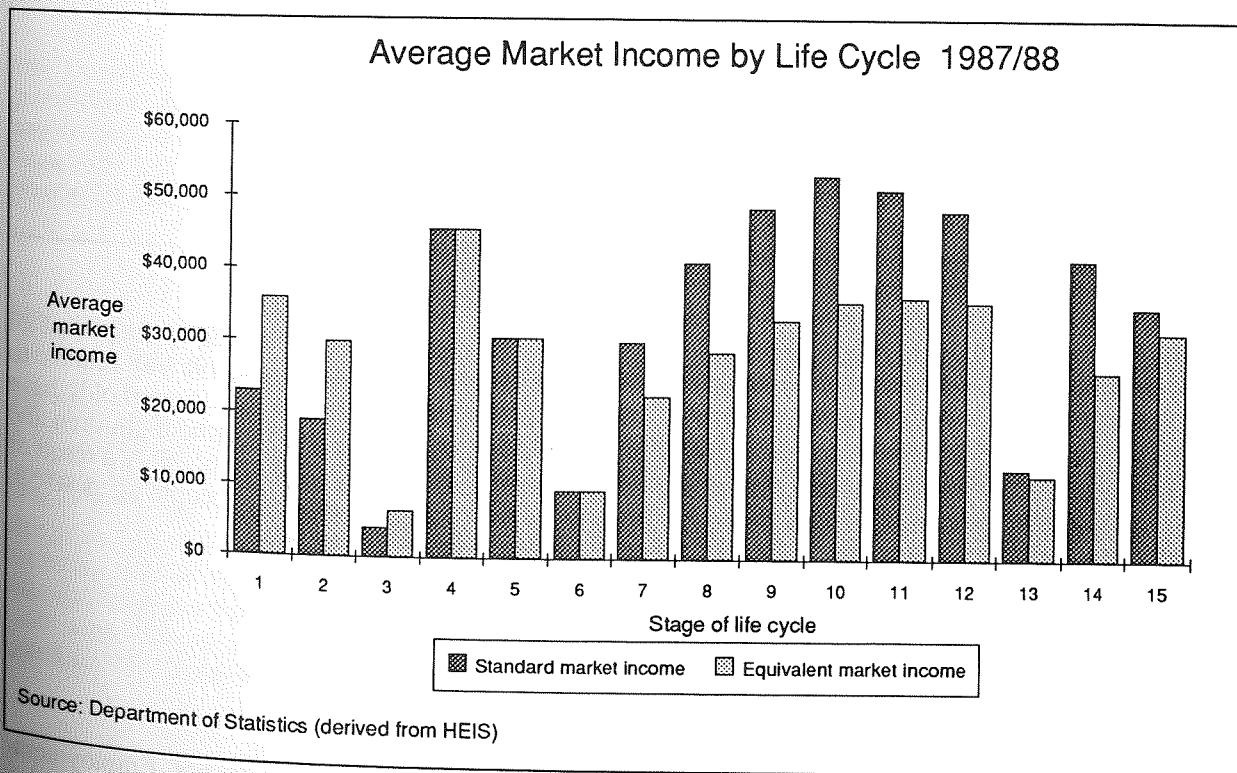
Non-family households (non-related individuals living together) have a moderately high level of market income, and sole parent households a low level.

Investment income is concentrated amongst the older age groups. However, couples without children aged 40-59 also have a reasonably large share, as do the non-family and 'other family' groups, the latter comprising extended families with many containing elderly people. Other regular income (predominantly private superannuation) is also strongly distributed towards the older age groups.

Infogram 2.5 shows how the relativities between average market income across life cycle groups shift after the equivalence scale has been applied to adjust income for household size and composition. Couples without children provide the benchmark for the scale. People living alone become relatively better off, and couples with children relatively worse off in terms of their equivalent market income. Sole parent households (with an average of 1.4 children in 1987/88) become slightly worse off as do non-family households (which in 1987/88 contained an average of 2.3 adults). The 'other family' group has the largest households on average (4.9 members in 1987/88 compared with 3.6 to 4.5 for households containing a couple and children). They are most affected by the process of adjusting for household size and composition.

In terms of equivalent market incomes, the life cycle groups who are best off are young couples, followed by young people living alone and older nuclear families. Those less well-off are sole parents, young families and those aged 60 and over.

Infogram 2.5



Source: Department of Statistics (derived from HEIS)

Infogram 2.6 compares the share of market income across life cycle groups for 1985/86 and 1987/88. The relative standing of each group can be obtained by comparing their share of market income with their share of households. Changes in shares of market income must be looked at in relation to changes in the distribution of households across the groups. (Too much should not be read in to small changes between the two years.)

Infogram 2.6

	Share of market income		Distribution of households	
	1985/86	1987/88	1985/86	1987/88
Single person				
15-39	2.8	3.0	3.9	4.0
40-59	2.2	2.9	3.5	4.5
60+	1.5	1.5	10.4	10.7
Couple				
15-39	8.5	9.5	6.3	6.3
40-59	7.9	7.5	7.3	7.4
60+	2.8	3.1	8.9	9.7
Couple with children				
<30	8.0	8.0	8.7	8.0
30-34	10.3	10.4	7.9	7.6
35-39	13.2	12.3	9.0	7.6
40-44	9.3	11.4	5.7	6.5
45-49	8.2	7.4	4.7	4.3
50+	7.5	6.6	5.3	4.1
Sole parent	3.5	3.9	7.5	9.4
Other family	8.5	7.0	6.4	5.1
Non-family	6.0	5.4	4.5	4.7
All	100	100	100	100

Source: Department of Statistics (derived from HEIS)

Households containing single people and couples without children aged under 40, as well as couples of all ages with children, have increased their share of market income between 1985/86 and 1987/88 relative to their share of households. Decreases in share of market income relative to share of households have occurred for households containing single people aged 60 plus, couples aged 40-59 without children and sole parents, but most significantly for non-family households (predominantly flats) — possibly a result of youth unemployment. There has been little relative change for households of single people aged 40-59, couples aged 60 plus, couples aged 45-49 with children and the other family group.

Non-cash sources of market income

Not all market income flows are received in cash. This section looks at some that are not. Employment-related *fringe benefits* are goods and services provided by the employer that reduce an employee's need to meet private outgoings. Goods produced and work performed by household members for their own use or

benefit can be imputed as income, in the sense that *unpaid household work* saves the payment that would be required to have someone else perform those tasks. Homeownership saves on rental expenditure. It is possible, after taking into account maintenance expenditures, to calculate an *imputed income from homeownership*. *Capital gains* are an appreciation in the value of assets over a period of time, which can be realised upon sale of the asset. Apart from unpaid household work, non-cash sources of market income are usually positively related to cash market incomes.

Fringe benefits

In New Zealand, the main categories of fringe benefit are cars, low interest loans, employer contributions to superannuation and subsidised goods and services. The benefits which have the largest monetary value are usually confined to those on salaries. Wage earners are more likely to receive benefits such as free or discounted goods, subsidised meals, and use of the firm's tools.

The introduction of the fringe benefit tax (FBT) in 1985, and the subsequent changes to its coverage, have increased the information available about the extent of fringe benefits as well as altering their distribution. Since the tax change there appears to have been a substantial reduction in the use of fringe benefits (Scott 1988). The total value of fringe benefits can be calculated as being somewhat more than three times FBT revenue. In the December quarter of 1988 FBT revenue was \$124 million, so that the value of fringe benefits was of the order of \$400 million, or \$1.6 billion for a full year.

About half of the December quarter total took the form of employer contributions to superannuation schemes (now taxed differently), and life and health insurance. One-fifth comprised retirement and redundancy payments, and another fifth covered motor vehicles. Seven percent represented low interest loans, leaving a remainder of 3 percent for all other taxable benefits (Inland Revenue statistics).

Household consumption of goods and services produced by household members

The goods and services produced by household members for the direct consumption of household members include household work (cooking, cleaning, washing and ironing clothes, gardening, home renovations, car maintenance, shopping, producing goods not for sale, household management) and caring work (care and education of children, sick, elderly, disabled or other household members). There are at present no data on these items.

Valuing unpaid work

The Department of Statistics is currently developing a time-use survey which aims to measure unpaid work in the home, on the marae, and in the community. This could be a first step towards including the productive value of unpaid work within, or attached to, the New Zealand System of National Accounts. (These are based on an internationally agreed system of national accounts.) When the results are put alongside information on paid work, our ability to assess the relative contributions of all sectors of the economy will be improved. The community and household sectors of the economy currently feature in national accounts only insofar as they use goods and services from the public and private sectors or involve paid work. The production that is achieved by unpaid work in the home and the community goes unmeasured. Therefore it remains invisible when the state of the economy is assessed.

Valuing household productive activity

An Australian study by Evelyn Richardson (1989) attempts to measure and impute value to household production using surveyed adult time-use and household expenditure data.

Household work has been valued using an opportunity-cost approach, whereby the hourly wage rate for women who work in the market has been applied to all the work done by women in the household. Similarly, the hourly market wage rates for men have been applied to men's household work.

For 1975/76 the total value of the output of household productive activities in Australia was estimated as \$46.9 billion, of which the value of the time input was 70 percent of this figure. The remaining 30 percent being, for example, food purchased for meal preparation, and other inputs such as power and the use of household appliances. Of these unpaid working hours 75 percent were contributed by women.

In 1984/85 terms, to the total recorded figures for Australian GDP of \$183.4 billion, can be added an extra contribution of \$90 billion from household production. This constitutes an extra 50 percent of GDP. Collectively the household is a much larger industry than any other sector of the market economy.

The 'value added' in household production is income. This income is earned by those who do the household production, and is shared amongst the household members who consume the goods and services produced. Conventional income statistics which purport to show the distribution of income among individuals do not take account of this income generated within the household.

Imputed income from homeownership

A person or family owning their house does not pay rent but does, of course, have to spend on maintenance, rates, insurance, etc. Also if the house is not mortgage-free, the mortgage has to be paid (interest and principal repayments).

The expenditure 'saved' by not having to pay rent can be thought of as extra 'imputed' income for the household. This is how it is treated in the National Accounts of New Zealand and other countries (one reason being that, otherwise, changes in the proportion of owner-occupation over time would affect estimates of GDP and its growth). A transaction is presumed to take place where the occupiers, as 'tenants', pay the equivalent of market rent to themselves as 'landlords'. Imputed income does not appear in the usual sources of statistics on individual and household income (census, HEIS, etc.). However, the Department of Statistics does estimate imputed income from homeownership for the nation as a whole. It does this by assuming that the average (unfurnished) rent of rented dwellings would apply also to owner-occupied dwellings.

Those estimates are drawn on for the figures in Infogram 2.7. The aggregates for New Zealand as a whole are estimated for 1987/88 as about \$4.5 billion on the 'gross' basis, and \$2.6 billion on the 'net' basis. (The net rental is gross rental, less maintenance expenditures, rates and insurance, but still inclusive of depreciation and interest payments.) In 1987/88 approximately 75 percent of inhabited permanent private dwellings were owner-occupied, or about 850,000 in total. This proportion has increased steadily. The proportion owned without mortgage has also increased, to 32 percent in 1986, compared with 42 percent owning with a mortgage.

Gross imputed rental per owner-occupied dwelling averaged \$5,300 in 1987/88. Net imputed rental averaged about \$3,100. (This was before deducting depreciation, about \$375 on average, and mortgage interest costs.) Taking into account the non-payment of tax on this return from homeownership, of which the approximate value would be \$600 to \$700 per annum on mortgage-free properties, the average mortgage-free dwelling produced in 1987/88 an annual imputed income for the owners of around \$3,750 in terms of pre-tax income. Obviously the situation is more complex for properties which are not mortgage-free. However, the general pattern resulting from homeownership is one initially of an imputed income loss, switching eventually to an imputed income gain as mortgage interest costs are reduced and eliminated.

Infogram 2.7

Average Imputed Annual Rental Income of Owner-Occupied Dwellings

	1981/82	1985/86	1987/88
Estimated number of owner-occupied dwellings (000)	723	786	849
Average gross imputed rental \$	2,140	4,190	5,300
Average net imputed rental ¹ \$	1,070	2,530	3,100

¹ Net rental is defined here as gross rental, less maintenance expenditures, rates, insurance (but still including depreciation and interest payments).

Source: NZPC calculations based on National Accounts, HEIS, and Census of Population and Dwellings

Infogram 2.8 shows the increase with age of householder in the proportion owning an unmortgaged dwelling, from around one-third in the 40s age group to over three-quarters for householders aged over 60. Clearly imputed income gains from homeownership will accrue mainly to the retired, and to older families. Imputed losses (from interest costs exceeding imputed rentals) are felt most by those in the younger age groups who have comparatively recently become homeowners, and by those who have recently recommenced building up homeownership equity because of marital breakup, etc. In terms of market income deciles, this means that imputed rental income will probably mainly be received in the lowest two market income deciles (national superannuitant households) and from about the fourth decile upwards (families whose householders are in the older age groups).

Infogram 2.8

Dwellings Owned Without Mortgage
by age of householder

Age	Percent of group	
	1985/86	1988/89
15-24	0.8	1.6
25-29	5.9	8.1
30-39	12.6	17.1
40-49	30.4	33.6
50-59	48.0	53.6
60-64	69.8	76.5
65 or over	75.9	81.3
Total (Actual number)		40.2 (439,100)

Source: Department of Statistics (derived from HEIS)

Capital gains

Capital gains are the increase in the value of assets over time. Until an asset is sold, any capital gains are unrealised, in that they are tied up in the asset so cannot be directly used for current expenditure. However, they can be used as security for a loan.

Many assets, such as consumer durables or vehicles, depreciate rather than appreciate with time. Those assets which do, in general, appreciate in value are farmland, residential and commercial property, company shares, works of art, as well as long-maturing crops and forests. It is necessary to distinguish between *nominal* capital gains, incorporating a general price inflation component, and *real* capital gains, which exclude the effects of general inflation. It is real capital gains which can be thought of as adding to the purchasing power, or real income, of the asset-owner.

Infogram 2.9 focuses on capital gains in the value of residential dwellings, and in the value of stocks and shares. (Estimates can also be constructed for farm values. Valuation New Zealand reports show clearly the large real gains in farm values up to the early 1980s, and the falls for most farmland types through the mid-1980s.)

Infogram 2.9

Period (beginning to end of year)	Owner-occupied private dwellings		Stocks and shares		
	Nominal	Capital gain (\$b)		Nominal	Real
		Real			
1981-82	9.0	4.1			
1985-86	7.9	-0.6	7.8	6.1	
1987-88	9.0	0.4	-14.5	-18.1	

Note: The real changes are calculated by removing the price inflation component, calculated from the CPI as 15.8, 13.0 and 9.0 percent for 1981-82, 1985-86, 1987-88 respectively. Gains on dwellings are on dwellings existing at start of year.

Source: NZPC calculations based on Valuation New Zealand reports and stockmarket capitalisation data (see also Chapter Nine)

The figures in Infogram 2.9 show that real capital gains can change erratically from year to year. This is obvious for stocks and shares, but is apparent also for residential property, with substantial real gains in 1981-82, losses in 1985-86, and only small gains in 1987-88 of about \$400 million in aggregate.

The distribution of such capital gains (and losses) amongst households cannot be estimated with accuracy. Obviously it relates closely to how homeownership is distributed and the ownership of financial assets. As is shown in the later chapters on wealth, and as would be expected, shareownership is concentrated in the hands of the wealthiest. Homeownership is more evenly distributed, so that capital gains (losses) on residential dwellings are widely distributed. They are also proportionally more significant for those with substantial mortgages (nominal capital gains as well as real are important in this context).

Imputed interest

An item in the Household Income and Outlay Account (Department of Statistics), which is not covered in the HEIS data, is that of imputed interest. It consists of the earnings of life insurance and pension funds, regarded as accruing to contributors. In 1987/88 this item amounted to \$2.2 billion.

A portion of this amount is being regularly distributed in the form of endowments, and lump sum or regular superannuation payouts. Regular pension payments are included as part of HEIS income. However, for those whose endowment or superannuation schemes have not yet matured, the fund earnings can be seen as an addition to their income which is not included in the analyses of income distribution in this chapter. The characteristics of those contributing to superannuation schemes are discussed in Chapter Ten.

Conclusion

The material in this chapter has shown the distribution of market income, and its principal components, among households. One important determinant of market income and its distribution has been shown to be the age or life cycle stage of income recipients — thus sole parent households and 'pensioner' households are concentrated at the lower end of the market income distribution.

The focus has been on cash income flows. But we have also tried to show that non-cash income flows are important, although it is much more difficult to decide how they should be allocated among households. It is important to bear in mind their relative magnitude.

In 1987/88 cash market income totalled about \$34 billion. The non-cash items which could be added to this include (the amounts given are approximate only):

Fringe benefits (including employer contributions to superannuation schemes)	\$1.5 billion
Imputed income from homeownership	\$2.6 billion
Imputed interest	\$2.2 billion

There is some overlap between these items, but they can be seen to add significantly to total income. Their influence on income distribution is also significant. Fringe benefits and imputed interest are received more by higher income households. The benefits of homeownership are more broadly spread, including to most retired people.

Further income flows which could be taken into account include capital gains and unpaid work. Our estimates show capital losses rather than gains in 1987/88, but real gains are the more normal outcome.

There are still, then, complexities to unravel in the distribution of overall market income. However, our analyses of the distribution of cash market income, unlikely to be reversed by any wider analyses, show that its distribution has become less equal during the 1980s. The prime cause was increased unemployment, and reduced full-time work-force participation.

Chapter Three

Government Redistribution of Income

Governments, by their actions, redistribute income and resources between households. This chapter focuses on the redistribution of income through central government.

In part, government's actions to redistribute income are deliberate, as in government spending on social welfare benefits, and in providing education and health services at less than cost. Redistribution is also a by-product of government's need to finance its activities through taxes, borrowing and other revenue, and of government's spending on general services such as justice, defence, and so on.

Government policies redistribute market income. But the total amount of market income is in turn influenced by the general system of taxes and benefits and government services. So an important consideration for government in its revenue and spending decisions, is to carry them out in ways which distort decisions by individuals and households in the market-place as little as possible, within the constraint of government's other objectives.

Government's impact on households' average income

The step by step transition from *market income* to *final income* (market income adjusted for budget) is complex (see p.5). Final income is market income *plus* social welfare cash payments, *less* taxes and other payments to the government, *plus* a money-value of government-provided services. This chapter looks at the distribution of these items in an attempt to examine the intended redistribution effect of government activities. We examine in detail the following components:

- social welfare cash payments (benefits and pensions)
- taxes (direct and indirect)
- government-provided social services (education, health, housing).

Less attention is given to 'general' government outlays and revenues, as there are considerable statistical and conceptual difficulties in allocating these government activities among households. (For more detail on the methods of allocation of government activity, see *The Fiscal Impact on Income Distribution, 1987-88*, Department of Statistics 1990.)

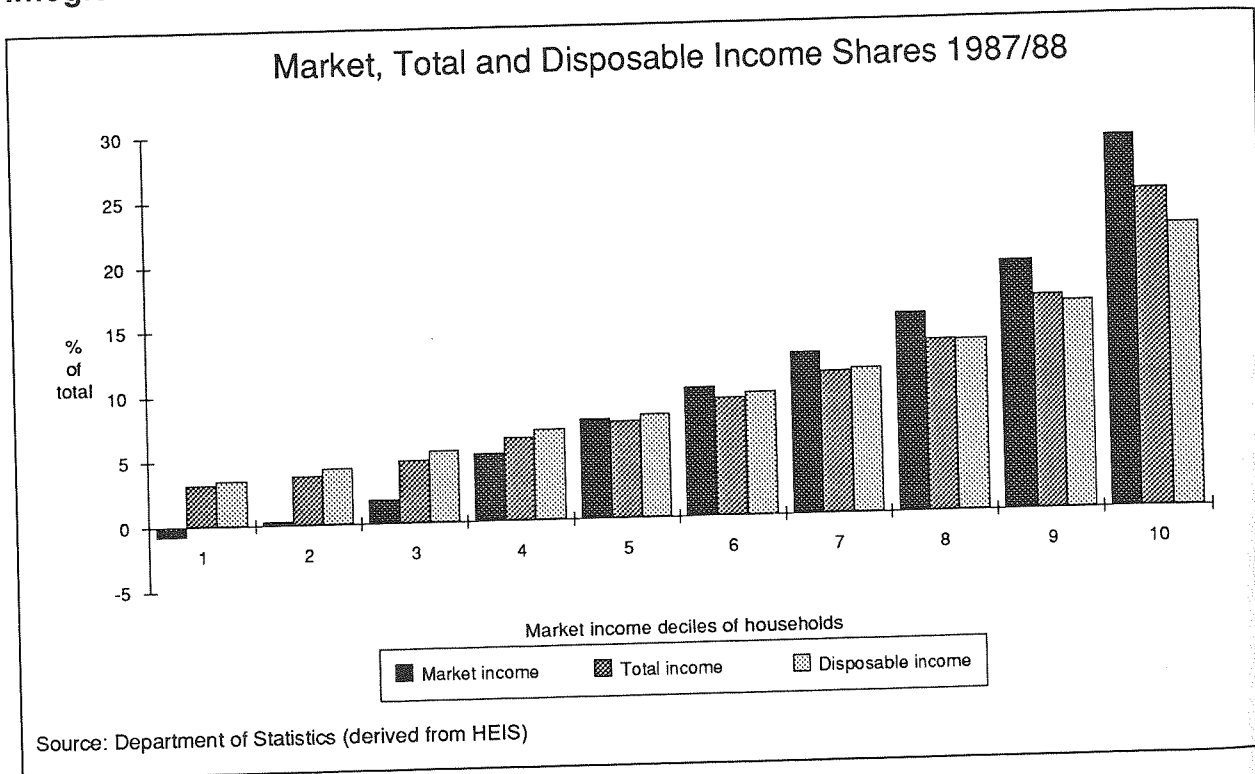
Many of our results are given as averages over all households. These should not be taken, however, as referring to the *typical* household. In a sense there is no such household, when we remember that households include people living alone, couples with children, multi-family households, young people flatting, etc. The concept of the *median* household is useful, however, and is closer to the idea of a typical household than an arithmetic average over all households. When households are ranked in increasing order of income, the median household is at the mid-point. Fifty percent of households have less income than the median household; 50 percent have more.

Typically, the income of the median household is around 10 to 15 percent less than average income over all households. This is because higher income households can have a disproportionate influence on the average (consider, for example, four households — three with an income of \$20,000, and one with an income of \$100,000). Therefore in 1987/88, the *average* of market income over all households was

\$30,050, but the income of the *median* household was \$26,300. For disposable income the average was \$25,300, but the median was \$22,600.

Infogram 3.1 shows the outcomes from the first stages of government redistribution of income, via social welfare cash payments and direct taxes, for 1987/88. (The details are given in the following sections.) Households are ranked by deciles in terms of *market income*. The first step in government redistribution is to add social welfare cash payments to market income, giving *total income*. We see that the lower deciles gain considerably in terms of their overall share, at the expense of the higher income deciles. The next step — deducting direct taxes to give *disposable income* — further increases the share of the bottom deciles and reduces that of the top.

Infogram 3.1



Government redistribution through social welfare cash payments

On average, income from social welfare payments (including National Superannuation, Unemployment Benefit, Domestic Purposes Benefit, Invalid's Benefit, etc.) added an extra \$5,790 on average to household incomes. This was on top of the \$30,050 received from market sources in 1987/88. For many households with low market income, however, benefit income is considerably larger than the average of \$5,790.

In setting benefit levels, and the rate of benefit abatement with other income, government tries to balance three objectives:

- Providing a basic income so that New Zealanders can exist with dignity.
- Encouraging return to the paid work-force where appropriate.

This is assisted by social welfare payments not being too high relative to the prospective earnings of those able to obtain paid employment, and by the rate of payment abatement not being so high as to discourage

beneficiaries taking up part-time employment.

- Controlling the fiscal cost.

Cost increases when social welfare payments are increased, or if the rate of benefit abatement with extra income is reduced.

The principal benefits available, the amounts payable from April 1990, and the rates of benefit abatement with other income, are shown in Appendix Three. A good summary of the history of New Zealand's social welfare system, and of the benefit system as it was in 1987, is given in Annexes I and II to *The Social Security System* (Royal Commission on Social Policy, Vol.III, Part 2, pp.493-532). Note also that major changes to the social welfare system were announced in the 1990 Government Budget and are not taken into account in this report.

Infogram 3.2 shows the numbers in various categories of benefit, and Infogram 3.3 shows how total spending has grown in recent years.

Infogram 3.2

The Number Receiving Social Welfare Cash Payments
end of March

Types of benefits	1980		1989	
	No.	%	No.	%
National Superannuation	405834	80.7	485962	64.8
Domestic Purposes	37040	7.4	85615	11.4
Unemployment	20850	4.1	123565	16.5
Sickness	7504	1.5	16021	2.1
Widow's	16120	3.2	13026	1.7
Invalid's	15647	3.1	26260	3.5
Total	502995	100.0	750449	100.0

Note: Certain benefits of lesser importance, such as Orphan's Benefit, are excluded from the total, as are the Family Benefit and other Family Support payments or tax concessions for families with a member in full-time paid employment.

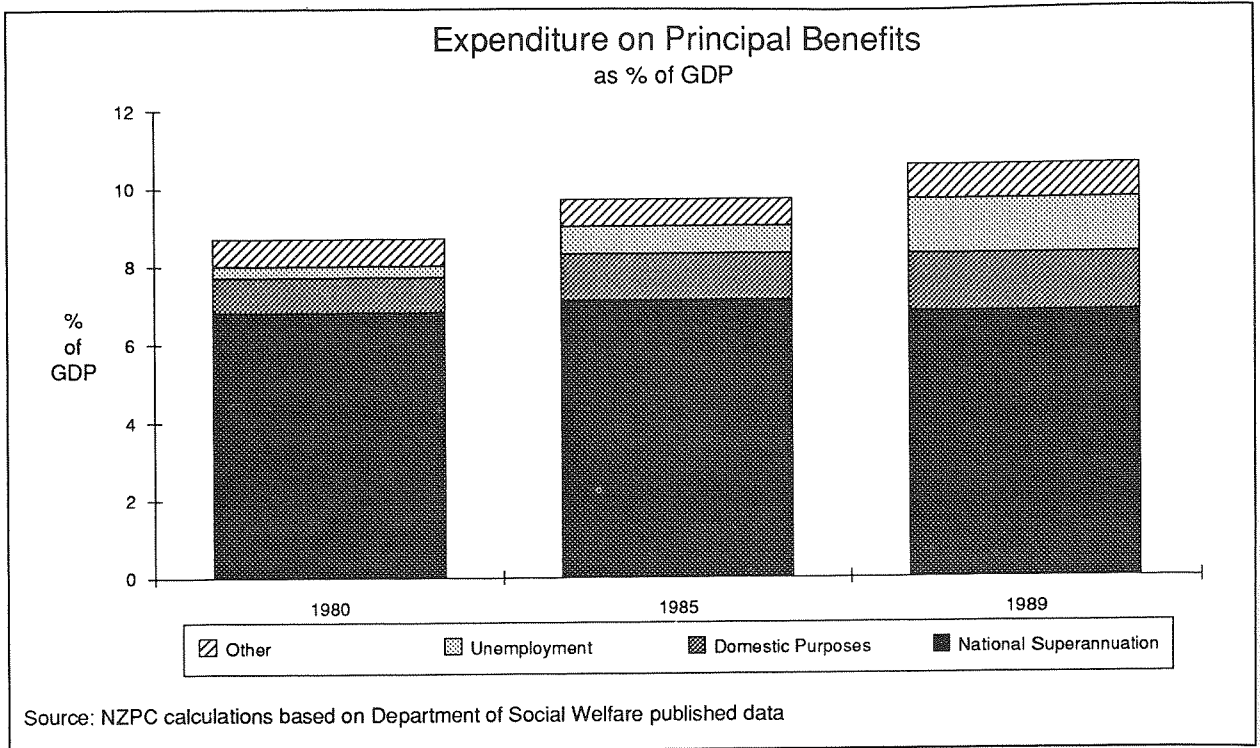
Source: Department of Social Welfare Annual Reports

The expenditure on the principal benefits (those listed in Infogram 3.2) increased from 8.6 percent of GDP in 1979/80, to 9.6 percent in 1984/85, and 10.5 percent in 1988/89. However, it should be noted that these percentages are from figures in the government's annual estimates, which present National Superannuation in pre-tax 'gross' terms, but the other benefits in 'net' after-tax terms. An approximate adjustment for the tax payable by national superannuitants gives the following net proportions of GDP: 7.2 percent in 1979/80, 8.2 percent in 1984/85, and 9.7 percent in 1988/89.

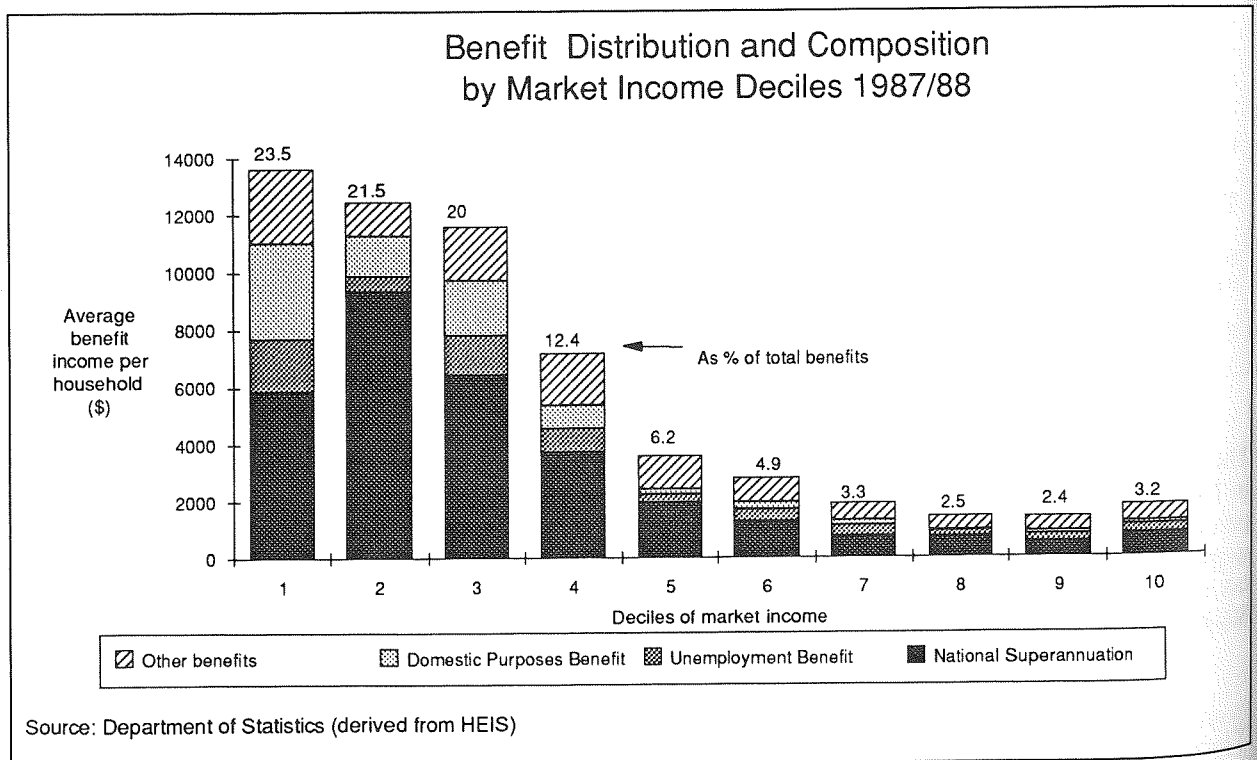
The distribution of social welfare cash payments

The distribution of social welfare payments over household market income deciles is shown in Infogram 3.4. (In this section the payments include Family Benefit, actual Family Care payments in 1985/86, and estimated Family Support receipts in 1987/88.) Almost two-thirds of such income transfers are paid to households in the bottom three deciles. The outcome is that the distribution of total income (market income plus benefits) is much more equal than that of market income alone (see Infogram 3.1).

Infogram 3.3



Infogram 3.4



Although the recipients are heavily concentrated in the lower income ranges, some benefit and pension income is received by households in every decile. There are several reasons for this. Family Benefit is not income-tested but is tied to the number of children. Therefore it is received by many households in the middle and upper income ranges. Many middle income households also receive Family Support in varying amounts. Secondly, many households with one or more people in the labour force will also have household

members entitled to some benefit — such as an older household member receiving National Superannuation, or a younger adult receiving Unemployment Benefit — or a higher income household may consist of a number of unrelated individuals, some in employment and some not. Finally, a given household may depend on benefit or pension income during a part of the year, and on employment income during the remainder of the year.

Infogram 3.4 also shows the composition of benefit receipts by market income decile. The importance of National Superannuation is evident, especially in the second decile. (Only \$200 of market income, from investment income or pensions for instance, is needed per year to lift a household from the bottom decile into the second decile.) Domestic purposes and unemployment beneficiaries are more concentrated in the first market income decile, but are also significantly represented in the third and fourth household deciles.

An examination of benefit receipt by life cycle stage of household shows, in general, the expected pattern. Above-average income transfers were received by couples where the woman was aged over 60 (\$14,500 on average), sole parent households (\$11,500), 'other' (\$10,500), single people aged over 60 (\$8,700), and couples and children with the woman aged over 50 (\$7,000). National Superannuation is the important income transfer for most of these household types, with the Domestic Purposes Benefit (DPB) important for sole parents. (Note that on average sole parent households received market income of \$12,600. This is an average over sole parents in employment and those not.)

Unemployment Benefit is more uniformly distributed over household types, with quite large proportions of the total being received by younger families with children. For example, 21 percent of total Unemployment Benefit payments are received by families with children where the woman is aged under 30, and another 12 percent where the woman is aged between 30 and 35.

Changes from 1985/86 to 1987/88

The data for 1985/86 (not shown here) show broadly the same picture as that already charted for 1987/88 — that is, a heavy concentration of recipient households in the lower income ranges, but with recipients distributed across all households. The main change in overall composition between the two years is that National Superannuation became relatively less important, and income-tested benefits more so. Of total average household benefit receipts of \$4,560 in 1985/86, National Superannuation accounted for \$2,980 — or 65 percent. In 1987/88, the corresponding figures were \$5,790 and \$3,140 — that is, National Superannuation fell to 54 percent of social welfare cash payments.

The changing position of families is of interest. In Chapter Four we examine the outcomes for family households relative to all households. Here it is possible to say that average household receipts of Family Benefit and of Family Care (in 1985/86), or Family Support plus Guaranteed Minimum Family Income (GMFI) (in 1987/88), increased from \$400 in the earlier year to \$625 in the later. Family Support accounted for the increase. (Note that Family Care estimates are based on HEIS data on actual receipts, whereas Family Support and GMFI are imputed from survey household characteristics, assuming 100 percent take-up.) Our estimates also show that transfers to families became relatively much more concentrated in the lower market income deciles. For example, the bottom three deciles received 14 percent of total payments of this type in 1985/86, but 35 percent in 1987/88.

Factors contributing to increased spending on social welfare benefits

As shown in Infogram 3.3, the total of government spending on National Superannuation, and on the main income-tested benefits, increased from 8.6 percent of GDP in 1979/80 to 10.5 percent of GDP, or \$6.7 billion by 1988/89.

The increases in spending follow from two main causes: increases in the number of people receiving benefits, and shifts in the average benefit level relative to GDP per capita.

Where the growth in social welfare recipients is occurring

The number of national superannuitants has increased gradually over the past decade from 406,000 in 1979/80 to 486,000 in 1988/89 — by 19.7 percent or 2 percent per annum. This is the increase to be expected over time as the population aged 60 and over increases. Other categories, apart from those receiving the Widow's Benefit, have increased much more, as shown in Infogram 3.2. Numbers receiving the Unemployment Benefit increased almost six-fold in the nine-year period, but with fluctuations during the decade and most of the increase occurring from 1987 onwards.

This increase has been caused by the long-term deterioration in New Zealand's economic performance and, in the last few years, by the implementation of restructuring policies aimed at reversing that trend (see Economic Monitoring Group 1989, pp.7-13). Less directly, these economic difficulties have also contributed to increases in the numbers of people receiving other benefits. The average duration for receiving the Domestic Purposes and Sickness Benefits has increased during the 1980s, as beneficiaries in these categories found it harder to obtain employment.

The average number of dependants per beneficiary also affects costs. For income-tested benefits — that is, leaving aside national superannuitants — the ratio of dependants to the number of principal benefit recipients has increased only marginally during the 1980s. The average number of dependants per domestic purposes beneficiary has fallen slightly. For unemployment beneficiaries, the ratio of dependants to principal benefit recipients appears to have increased significantly. It appears that increased unemployment since 1987 has affected more those in older age groups who are more likely to have a spouse and dependent children.

Movement in benefit levels relative to incomes

Until 1989, two different systems were used for indexing benefits, so as to maintain the living standards of beneficiaries over time. National Superannuation payments were adjusted in line with changes in average ordinary-time weekly earnings, on an after-tax basis. (There were, on occasion, departures from this procedure.) Thus national superannuitants maintained on the whole a stable *relative* position in the income scale. Income-tested benefits (Unemployment, Domestic Purposes, Sickness, Invalid's, etc.) on the other hand, were adjusted in line with changes in the Consumer Price Index (CPI). Thus the real purchasing power of such benefits was preserved, on average, but their relative position in the income scale could shift, if prices should rise slower or faster than wages.

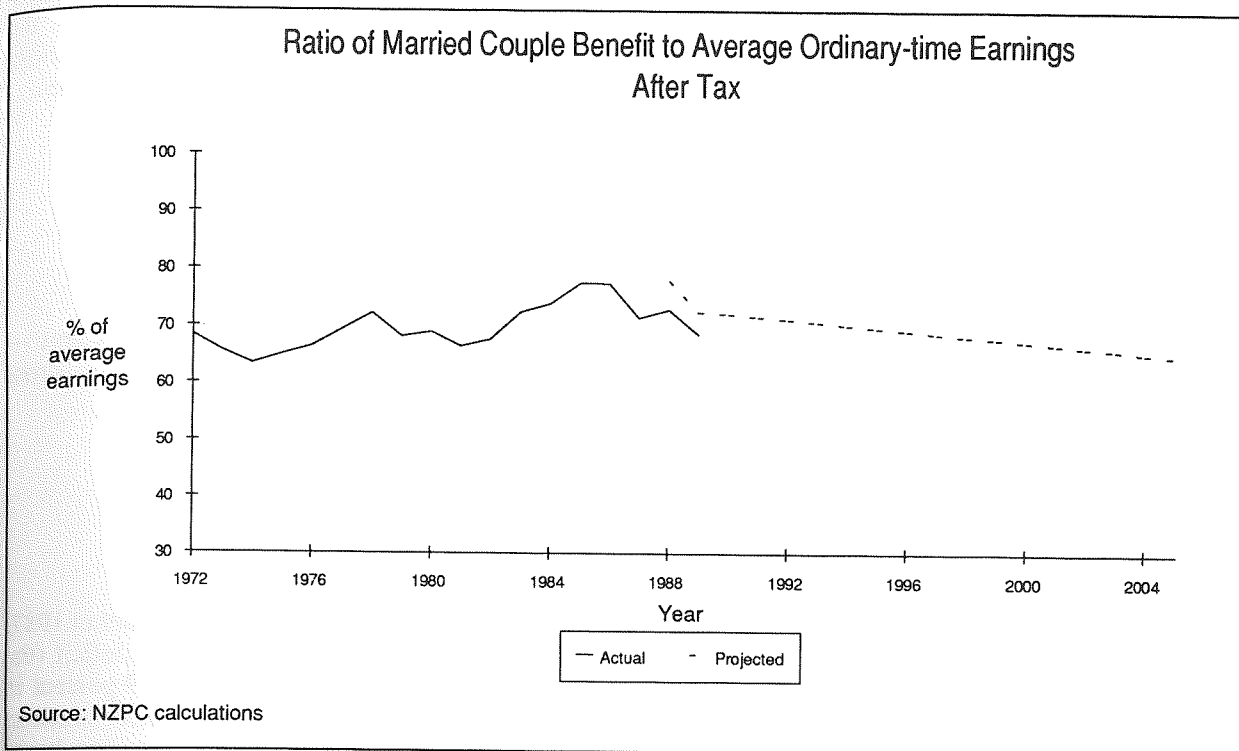
Over the past decade, average earnings rose less than prices for the decade as a whole — that is, real wages fell, as did the real purchasing power of National Superannuation. However, the level of income-tested benefits rose relative to average earnings.

These trends had two adverse consequences. The cost to government of the average benefit relative to average earnings (and so, ultimately, relative to GDP per head) rose. The gap between income-tested benefit payments and earnings in employment narrowed, with adverse effects (of unknown magnitude) on work incentive.

Infogram 3.5 tracks the ratio of the standard married-couple benefit to net average ordinary-time weekly wages over past years.¹ From a ratio of about two-thirds in 1982 before the price-wage freeze, the ratio had risen to over 75 percent by April 1988. From April 1989 this ratio was substantially cut, to between 72 and 72.5 percent. There was a similar reduction also for National Superannuation.

¹ The standard married-couple benefit can be defined as the amount payable to a sickness beneficiary, who is married but with no dependent children. Benefits for couples with children, single people, and unemployed married beneficiaries without children are then determined relative to this standard.

Infogram 3.5



Benefit levels henceforth

Changes to the benefit system were announced in April and July 1989 (see *Economic Strategy* 1989, pp.76-86). The most important of these were:

- The age of eligibility for National Superannuation — renamed Guaranteed Retirement Income (GRI) — is to be raised from 60 to 65 between 2006 and 2025, and the level of payments gradually brought into line with other benefit rates. This is to be achieved by increasing payments in line with the lesser of the annual movement of average earnings or the CPI.
- Likewise, income-tested benefit rates are to be contained within a wage band. In future, the standard (couple, no children) benefit rate is not to fall below 65 percent or rise above 72.5 percent of the average weekly wage (after tax).

Further changes were announced in the 1990 Budget. These included an additional 'living alone' supplement for people receiving GRI, and the replacement of the current 'single/married' categories for determining benefit levels, by the categories 'living alone' or 'living with others'. These changes are an attempt to distribute benefit payments more in accordance with need. They do not otherwise affect the objectives of the 1989 policy changes.

What the changes mean in effect is that when average earnings increase less than consumer prices, as in 1989/90, benefits will be indexed with earnings to prevent them exceeding the ceiling of 72.5 percent (married couple) of after-tax earnings. In the longer term, with earnings growth normally exceeding inflation, benefit rates will gradually move down to 65 percent (standard married-couple rate) of after-tax average earnings.

The speed with which this happens depends on the strength of future economic growth. If real earnings increase by around 1 percent per year, benefit rates should equal 65 percent of average earnings early next decade, and GRI payments will equal the standard benefit rate shortly thereafter. Infogram 3.5, as well as showing past trends, traces a possible future path for benefits relative to average earnings. Benefits are expected to fall relative to earnings. Nevertheless they could still retain their real purchasing power if real wages do not fall during this period.

What are the implications? First, fiscal costs are reduced — for a constant number of benefit recipients by almost 10 percent, or almost \$1 billion in present-day terms. Secondly, the incentive to seek employment will be stronger as the gap between benefits and income from paid employment widens. Thirdly, the relative standard of living of those relying solely on benefit income will fall, relative to the income of those in the paid labour force. This raises the issue of what level of benefit is 'adequate' (see Appendix One).

Government redistribution through taxation

The questions we address in this section are the changes in the composition of government revenues — from taxes and other sources — and in the tax base, and in how the overall tax burden is distributed across households.

Shifts in the composition of government's revenue

Total central government revenue increased from 35.3 percent of GDP in 1985/86 to 39.9 percent in 1987/88. In part, this increase has resulted from the efforts in recent years to reduce the fiscal deficit (the Financial Deficit fell from 6.3 percent of GDP in 1984/85 to 3.1 percent in 1985/86, and 1.9 percent in 1987/88, see Annex 1 to 1988 Budget). Some changes in the tax system have also contributed, such as government departments being charged GST, and former tax concessions, for instance to families, being converted to transfer payments such as Family Support.

Infogram 3.6 shows that the significant shift has been in the relative proportions of direct and indirect tax revenues. The shift occurred in October 1986 with the introduction of GST, and the simultaneous reductions in direct taxes. The share of direct taxes (mainly personal and company income tax) in total revenue fell from about two-thirds to about 60 percent. GST, currently applied at a level of 12.5 percent to the great majority of goods and services, now accounts for about two-thirds of total indirect tax revenues, whilst other indirect taxes have approximately halved in relative importance.

The tax base

The introduction of GST signified a major extension of the consumption tax base, previously mainly comprised of alcohol and tobacco products, imported goods, motor vehicles and motor fuels, and 'luxury' consumer durables.

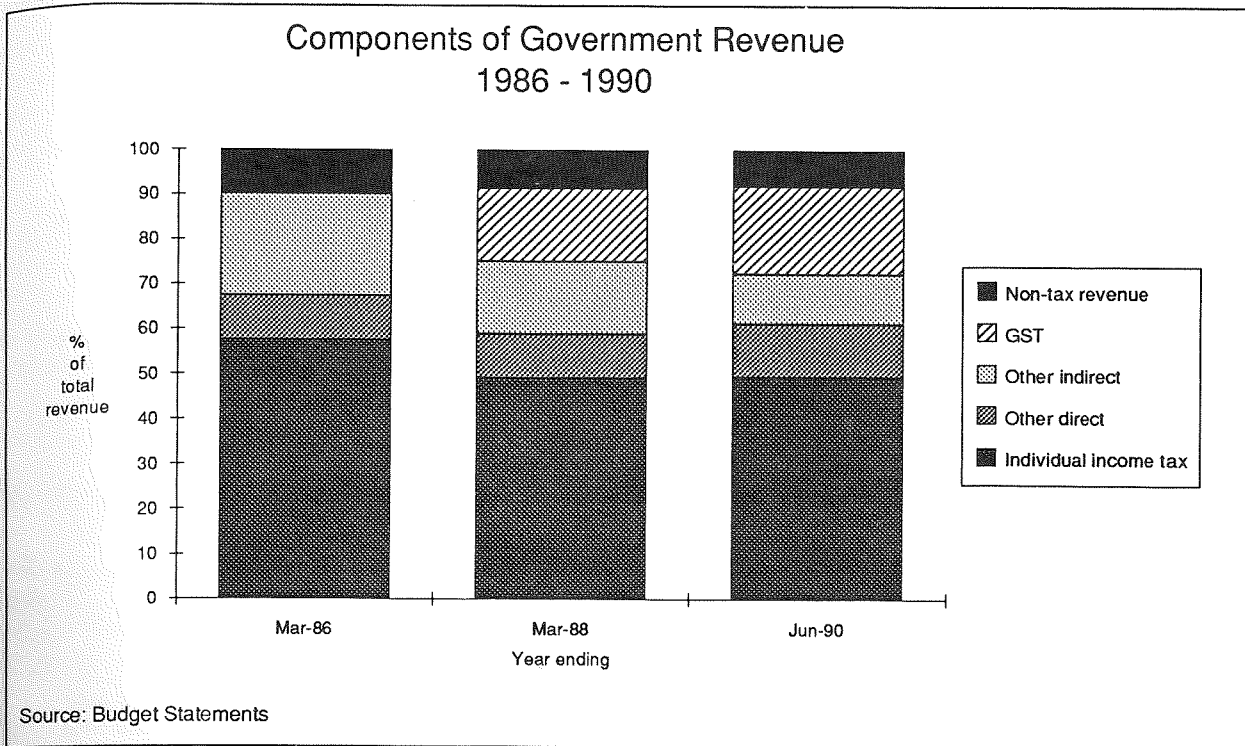
Changes to the income base for taxation have been less major, but still of significance. The aim has been dual, to ensure that income from different sources is treated as equally as possible for tax purposes, and to reduce the incentives for tax avoidance. (Most of the principal tax changes in the late 1980s are listed in *Economic Strategy* 1989.)

The largest remaining omissions from the income base, in terms of 'income' as defined by economists, are income from capital gains, and the imputed income from homeownership. A recent report (*The Taxation of Income from Capital*, 1989) discussed capital gains taxes as part of the more general issue of taxation of income from capital.

Income tax changes — how have people been affected?

Changes in the income tax scale from 1984 onwards are shown in Infogram 3.7. The notable features are the continuing move towards simplification of the scale (fewer steps) and the reduction in taxes on higher

Infogram 3.6



incomes. This process started in October 1982. The consequences, in terms of average tax rates at various points on the income scale following the tax changes in October of 1982, 1986 and 1988, are shown in Infograms 3.8 and 3.9 for 'no dependants' and 'two dependants' (Stephens 1989). The scales have been 'standardised' in terms of the ratio of an individual's income to average labour force earnings. The data include the effects of Guaranteed Minimum Family Income and Family Support, hence the negative average tax rates for low income households with dependants.

Average tax rates — the percent of total taxable income paid in income tax — have dropped. The reduction, however, is greater for higher income levels. In particular, people earning more than about twice average earnings have had much larger reductions in their average tax rates. These changes are, of course, in terms of personal income tax only, and do not allow for the overall effects of the tax-mix switch, as discussed later. (See also the discussion in Chapter One of trends in real disposable income of full-time earners.)

Infogram 3.7

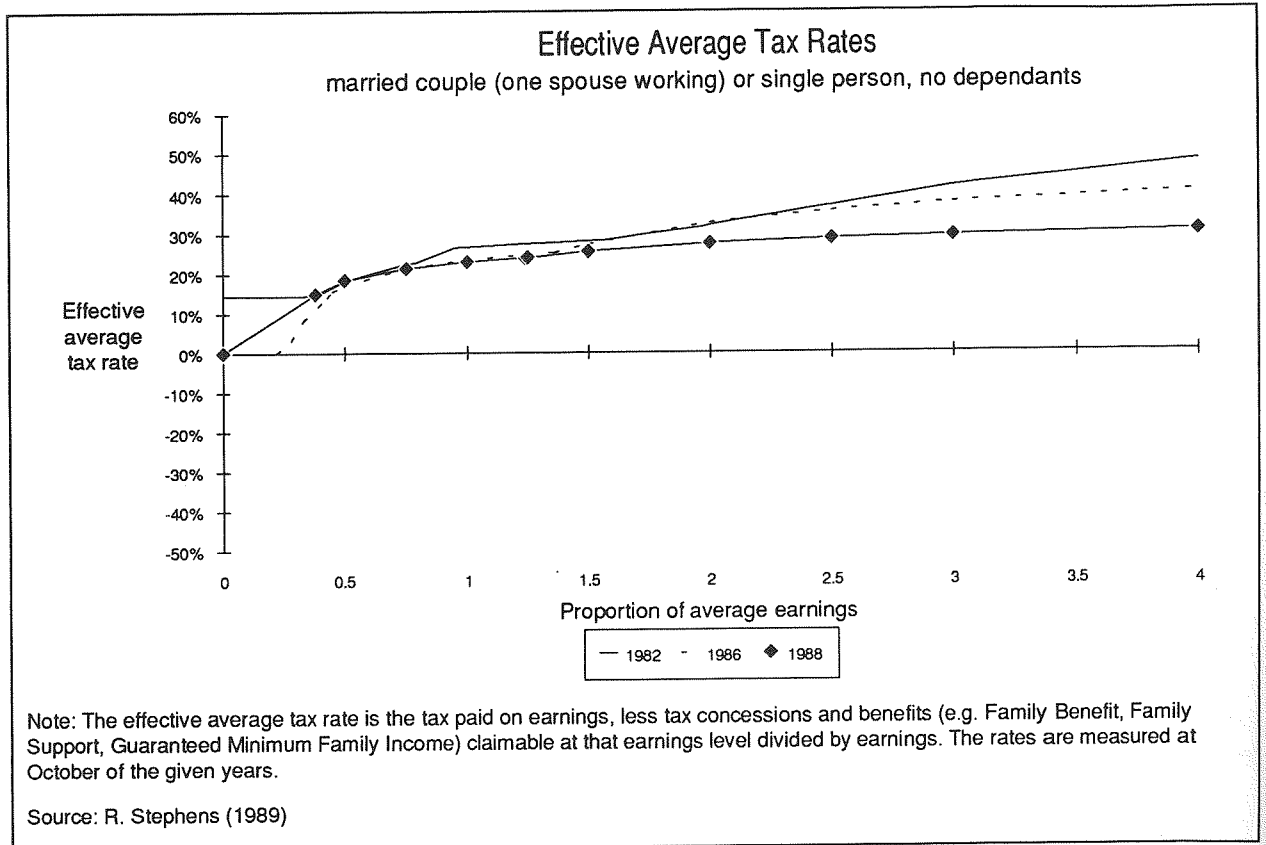
Marginal Tax Rates in Recent Years

December 1984 - October 1986		From October 1986		From October 1988 ¹	
Up to \$6,000	20%	Up to \$9,500	15%	Up to \$30,875	24%
\$6,000-\$25,000	33%	\$9,500-\$30,000	30%	Over \$30,875	33%
\$25,000-\$30,000	45.1%	Over \$30,000	48%		
\$30,000-\$38,000	56.1%				
Over \$38,000	66%				

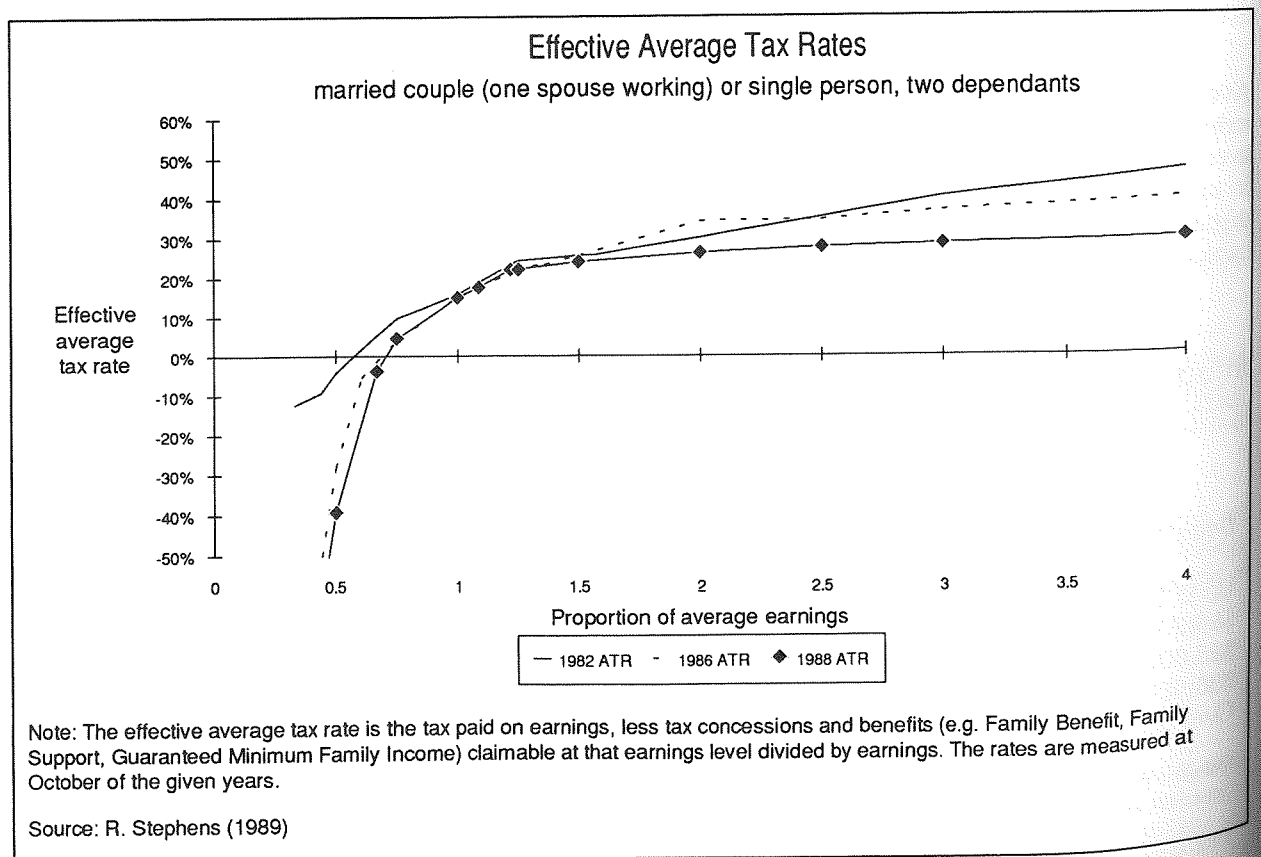
¹ While only two statutory tax rates exist, the low income earner rebate (LIER) creates an effective three-rate scale, with the effective marginal tax rate from 0 to \$9,500 being 15 percent, and from \$9,500 to \$30,875 being 28 percent.

Source: Budget Statements

Infogram 3.8



Infogram 3.9



Direct taxes borne by households at different income levels

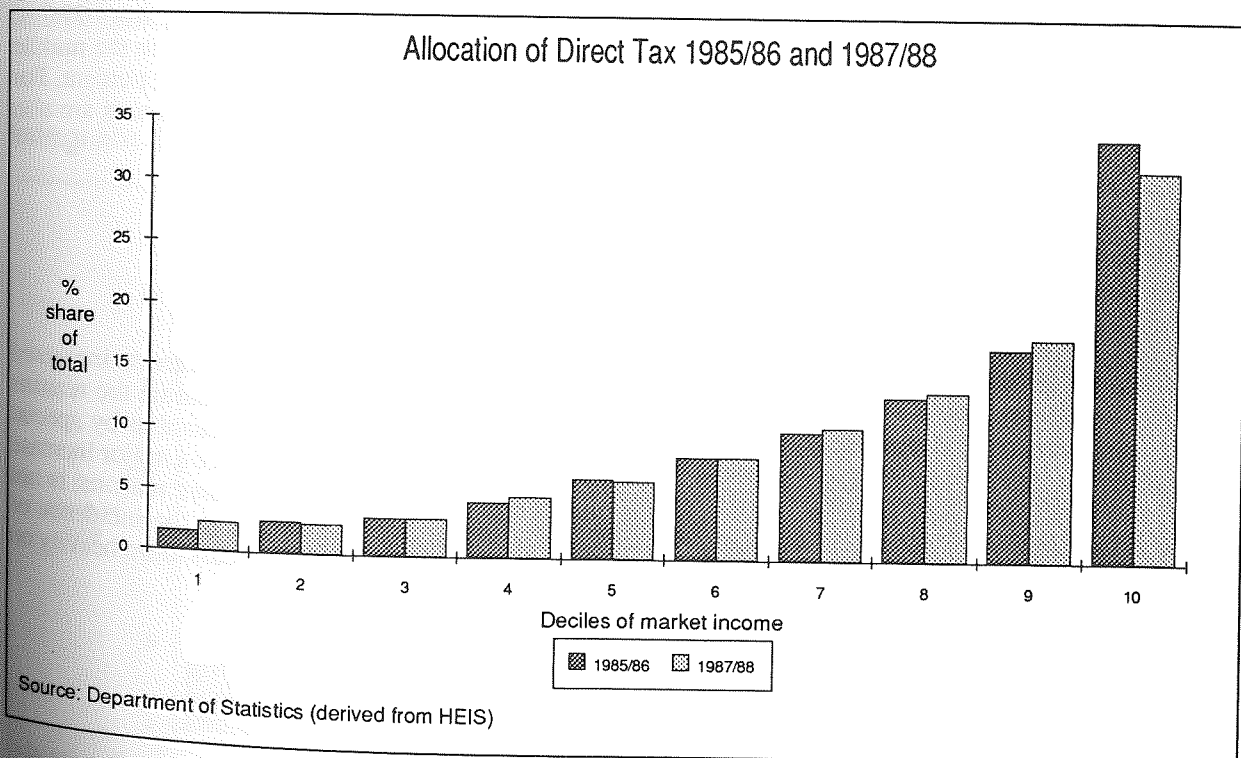
When analysed from lowest to highest income households, direct taxes are strongly progressive. In other words, the share of overall direct taxes borne by each market income decile increases sharply with income. For 1987/88, the lowest decile paid 2.4 percent of total direct tax (see Infogram 3.10). Shares of tax increase progressively with the top most decile paying 3.11 percent.

The picture changes somewhat when a household's direct tax payments are taken as a proportion of its total income (market income plus benefits). This ratio is the *incidence* of tax on households. It can be seen that direct tax is mildly progressive with household income (see Infogram 3.11). Tax as a proportion of income in 1987/88 falls from 22.3 percent of income in the lowest decile to 18.8 percent in the third decile, and then rises steadily to 37.2 percent of household income in the top decile. (Possible reasons for the high incidence in the lowest decile are discussed later.)

What changes have there been in direct tax allocation and incidence?

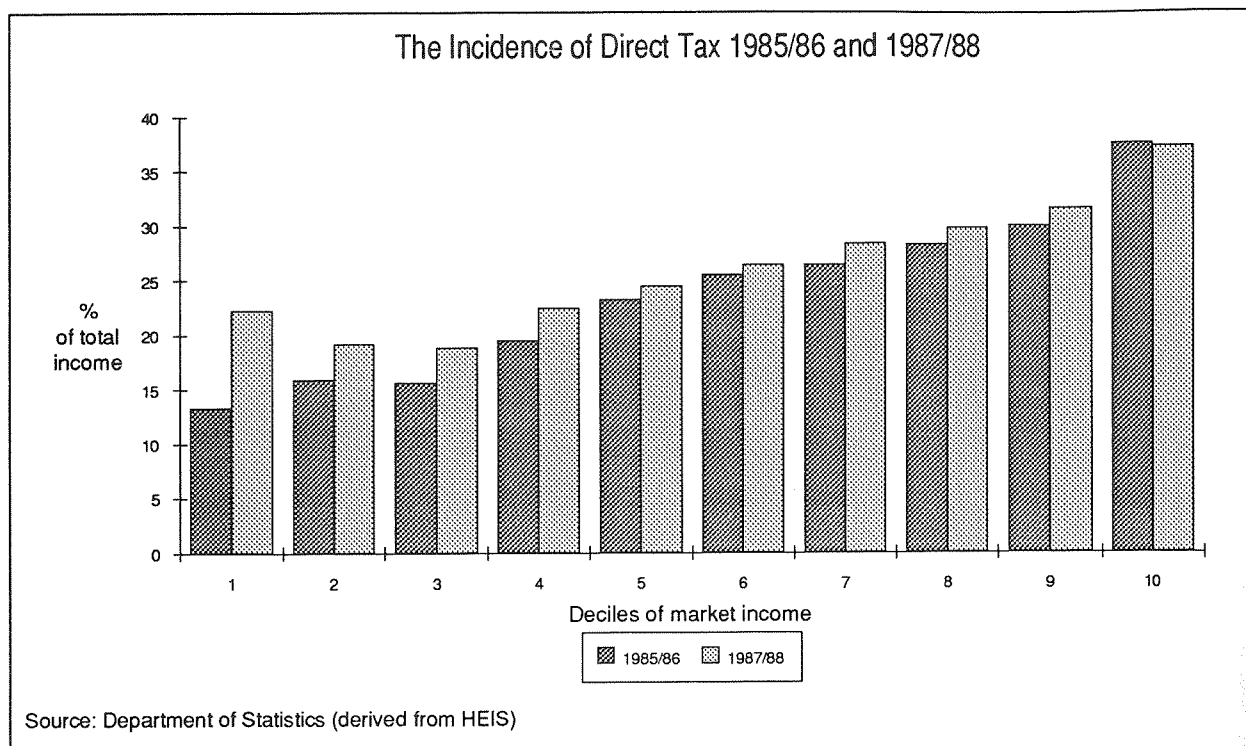
We examine changes over the period 1985/86 to 1987/88 when, as we have seen, there were major changes in the tax system. Infogram 3.10 shows how the total direct tax burden was allocated across market income deciles in both 1985/86 and 1987/88. Infogram 3.11 shows for both years the incidence of direct tax (taxes as a proportion of total income) in each decile.

Infogram 3.10



Examining first the allocation of direct taxes across deciles, the main point to make is that the changes over the two-year period are relatively small, apart from the top and bottom deciles. The share of the direct taxes total increased from 1.6 to 2.4 percent for the lowest income decile and, for the topmost decile, fell from 33.6 to 31.1 percent. The share of direct taxation allocated to the lower 50 percent of the market income distribution increased from 18 to 19 percent in the period.

Infogram 3.11



The change in tax burden as a proportion of total income (see Infogram 3.11) is more dramatic. A first point to make is that over all households the ratio increased between 1985/86 and 1987/88, from 27.7 to 29.4 percent. A general increase of this magnitude would therefore be expected, and is seen in the middle and higher deciles. However, incidence in the topmost decile fell slightly, from 37.5 to 37.2 percent. For the lowest income decile the increase is marked, from 13.4 to 22.3 percent. Significant increases are also apparent for other lower income deciles.

Some reasons for the increase in tax incidence on lower deciles

The proportion of income of the low income deciles paid as taxes, both direct and indirect, increased remarkably between 1985/86 and 1987/88 (see Infograms 3.11 and 3.13). When we examine the reasons for this, however, it turns out that the increase in direct tax incidence is largely explainable by special factors, and that most households in the lowest income groups did not actually experience a major increase in their direct tax liabilities. Also the real increase in the indirect tax burden, for the same reasons, is not quite as marked as shown in the infograms. However, there was an overall increase in the incidence of indirect tax, because the introduction of a broad-based consumption tax such as GST bears more heavily on low income groups whose spending is higher relative to income.

The special factors which affect comparisons between the two years are:

- Changes in the taxation of benefits.

From October 1986 all social welfare benefits have been reckoned in 'gross' pre-tax terms. Previously, most (apart from National Superannuation) were paid out tax-free. The effect was to increase apparent benefit income of beneficiaries, but also to increase calculated tax payments. As benefits are concentrated in the bottom deciles (see Infogram 3.4) this also is where tax incidence is most altered. The change in the benefit system would, for the bottom decile, have increase direct tax payments by about \$1,000, averaged over all households in the decile, or about 9 percent of total income. For the second-to-bottom decile the corresponding increase is about \$400, around 3 percent of total income.

- Self-employed losses in the lowest market income decile caused by economic recession.

As discussed in Chapter Two, households with self-employed members are not a large proportion of the bottom decile, but they can have a very significant effect on income averages for the decile. In 1985/86 self-employment losses averaged \$1,300 over all households in the bottom decile; in 1987/88 \$3,000.

The effect can be shown by supposing that the average 1987/88 loss had remained at the 1985/86 level, which would increase total average household income in the decile by \$1,700 above the actual outcome. In such case the direct tax incidence, instead of being 22.3 percent, would become 19.4 percent. The incidence of indirect tax, instead of 34.2 percent, would become 29.8 percent. The incidence of both combined drops by 7 percent.

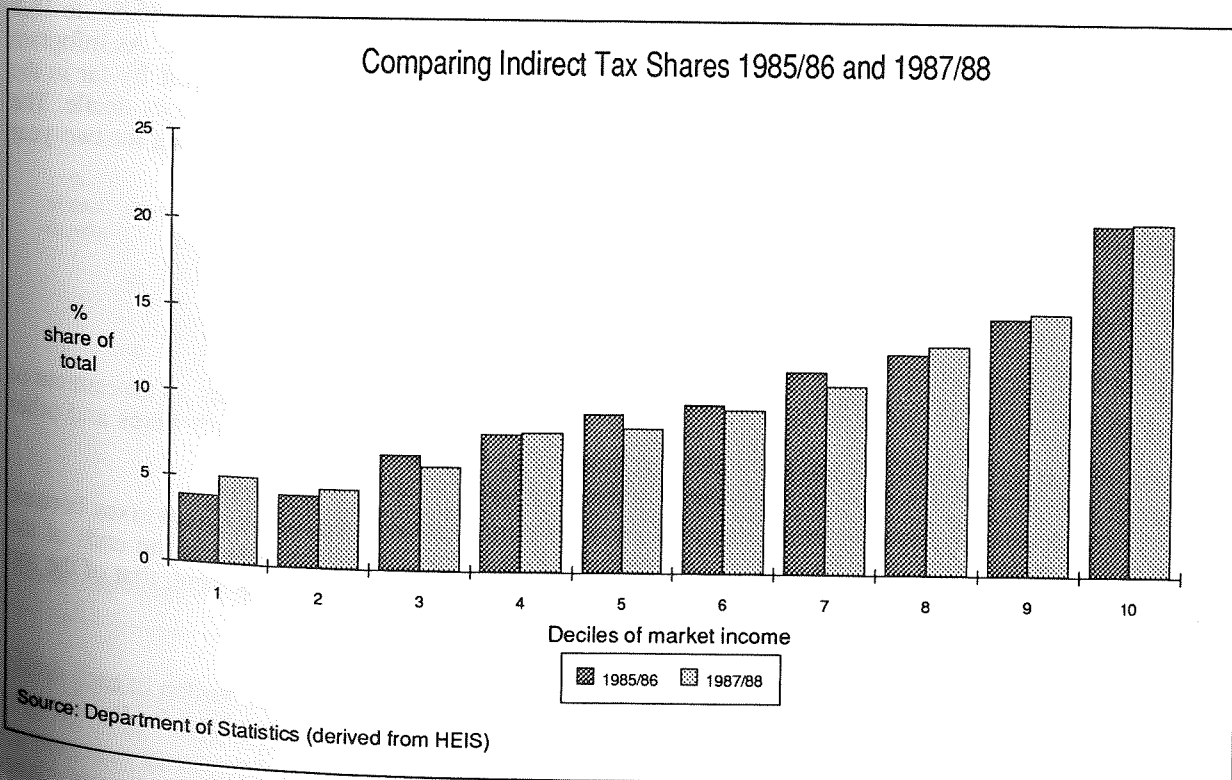
Indirect taxes

The base for indirect taxes comprises a variety of items, for the most part related to household expenditure. GST is the largest indirect tax, averaging \$3,225 per household in 1987/88. Other indirect taxes include those reasonably easily allocatable between households, such as sales taxes and excise duties of various types, and those whose allocation is more difficult, such as customs duties and fringe benefit tax. These averaged \$3,425 per household in 1987/88.

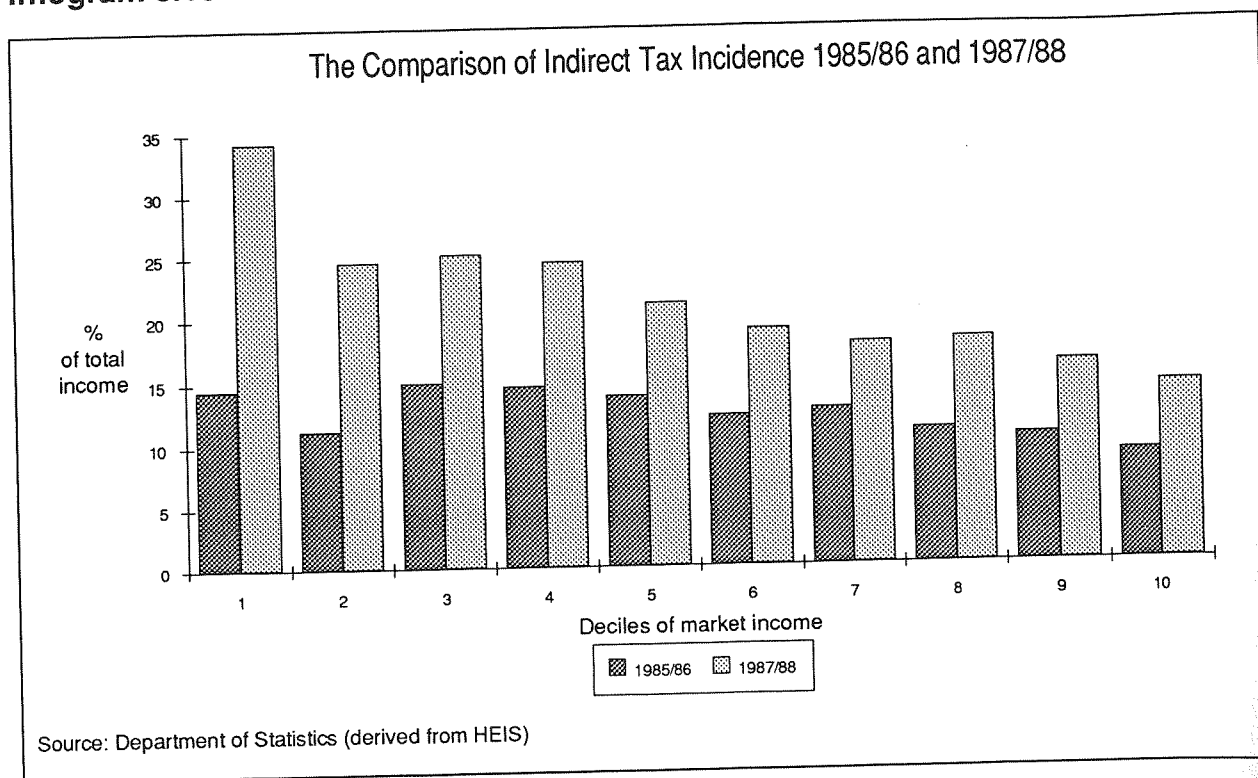
In addition to direct and indirect taxes, a further item of 'other government revenues' includes taxes on company profits and revenues from government trading operations. In 1987/88 this averaged \$3,825 per household.

Focusing on indirect taxes, Infograms 3.12 and 3.13 compare the share and incidence, respectively, of indirect taxation for 1985/86 and 1987/88.

Infogram 3.12



Infogram 3.13



In terms of allocation, the shares of total indirect taxes shown in Infogram 3.12 increase progressively with income, from 5.8 percent for the lowest decile to 18.9 percent for the top decile. In terms of their ratio to total income, however, indirect taxes are regressive. The incidence of indirect tax on total income was, in 1987/88, 34.2 percent for the bottom decile, falling to 14.3 percent for the top decile.

The overall rate of indirect tax increased markedly from 11.4 percent of total income in 1985/86, to 18.6 percent in 1987/88, with GST accounting for 9 percent — almost half — of the latter figure. As Infogram 3.13 shows, this increase is reflected across every decile. However, the increase is largest by far in the lowest income decile and proportionately larger than average also in the second-to-bottom decile. The burden of indirect taxation came to fall more heavily on the lowest income households during the two-year period (see the discussion in the preceding section for contributing factors).

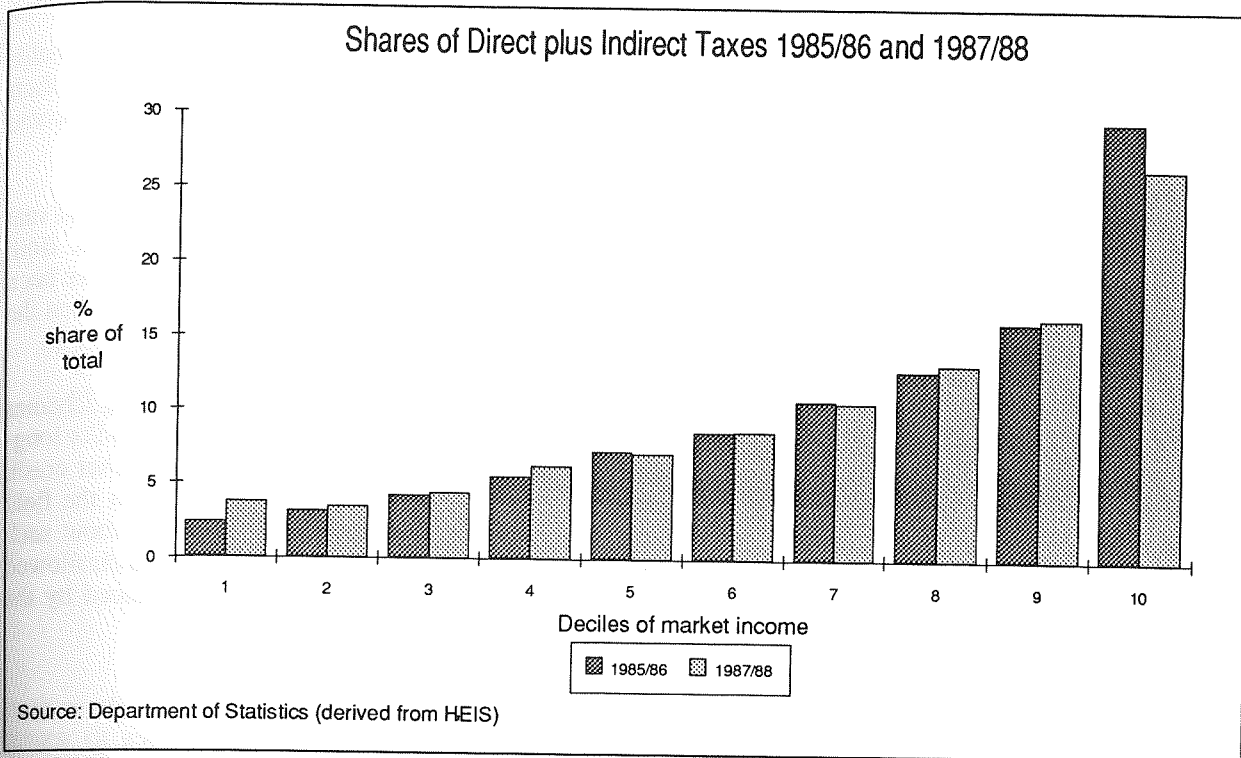
The effect of all taxes

In Infograms 3.14 and 3.15 the effects of direct and indirect taxes are combined, allowing an assessment of the overall impact of tax changes between 1985/86 and 1987/88 (except that company taxes and other government revenues are not included in the total).

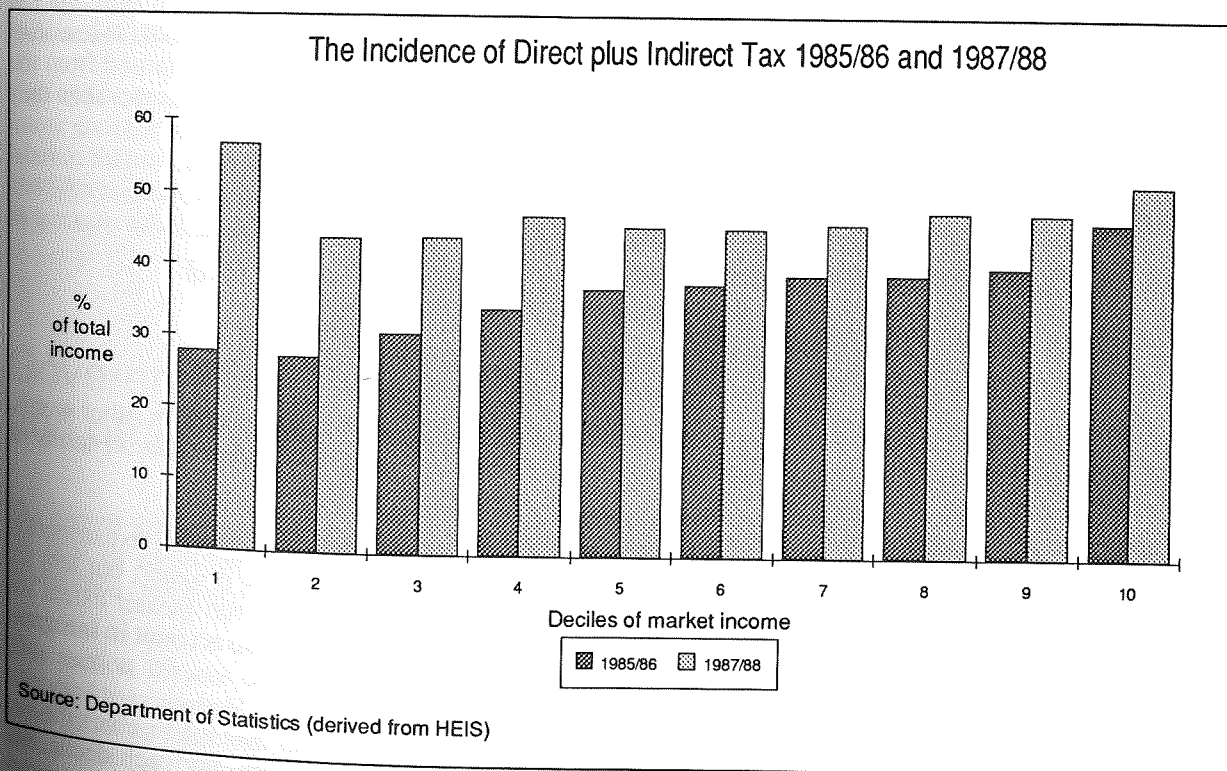
As would be expected from the earlier material, the allocation of total direct and indirect taxes became somewhat less progressive during this two-year period. Most of the change occurred at the ends of the income distribution, with the share of the bottom decile increasing from 2.4 to 3.7 percent, that of the top decile falling from 29.5 to 26.4 percent (see Infogram 3.14).

This regressive shift is much more clearly marked when we examine the overall tax burden in each decile (see Infogram 3.15). The ratio of taxes to total income increased for all deciles, but least for the topmost decile and much more for the lower deciles, especially the bottom one.

Infogram 3.14



Infogram 3.15



When direct and indirect taxes are combined, the progressiveness of direct taxes (see Infogram 3.11) tends to be balanced by the regressiveness of indirect taxes (see Infogram 3.13). As can be seen in Infogram 3.15 the net effect in 1985/86 was still progressive, although not strongly so. In 1987/88, apart from the lowest decile, total tax incidence is much more nearly a constant proportion of household income.

The effects of tax evasion and avoidance

From the preceding material, the topmost 10 percent of households gained relatively to other households between 1985/86 and 1987/88, in terms of tax incidence. They still paid a higher proportion of their income in tax in the latter year, but the increase was less than for other households lower down the income scale.

It should be noted that this conclusion assumes implicitly that there is no illegal tax evasion, and that (legal) tax avoidance opportunities are equally available to both low and high income people. Both assumptions are unrealistic. It has been argued that opportunities for tax evasion and avoidance have been much reduced, especially for higher income people, as a result of the recent tax changes. If so, then the apparent shift towards a less progressive tax system may be overstated.

The *perceived risk* has increased. As well as opportunity, the risks and rewards of tax avoidance schemes have also changed. Many avoidance arrangements were set up in the early 1980s for 'tax loss' and/or long-term capital gains reasons. In a number of cases, especially since the October 1987 sharemarket crash, these have led to very real financial difficulties for the participants. (As one professional in the field describes it, clients "saved the tax, lost the dollar".) Taxpayers have become more cautious about such arrangements, and so have their professional advisers. Some such schemes have also since been disallowed by the tax authorities. Finally the *reward* from tax avoidance or tax evasion has been reduced by the reduction in marginal tax rates on higher income levels.

We know that tax payments other than 'at source' — that is, income tax apart from PAYE — have risen relative to source deductions. The ratio of collections from other people and companies to source deductions increased from around 45 percent in 1983/84 to an estimated 71 percent in 1989/90 (*Economic Strategy* 1989, 1990). It is possible that this shift is due in part to the reduction in tax avoidance opportunities for the self-employed etc., as well as possibly to more people moving into self-employment.

It is likely then that the relative reduction in the share of taxes paid by high income households is less than shown in Infogram 3.15. While high income wage and salary earners may generally have gained from the changes, it could be that some other high income earners have lost more in tax avoidance avenues than they have gained in income tax scale reductions.

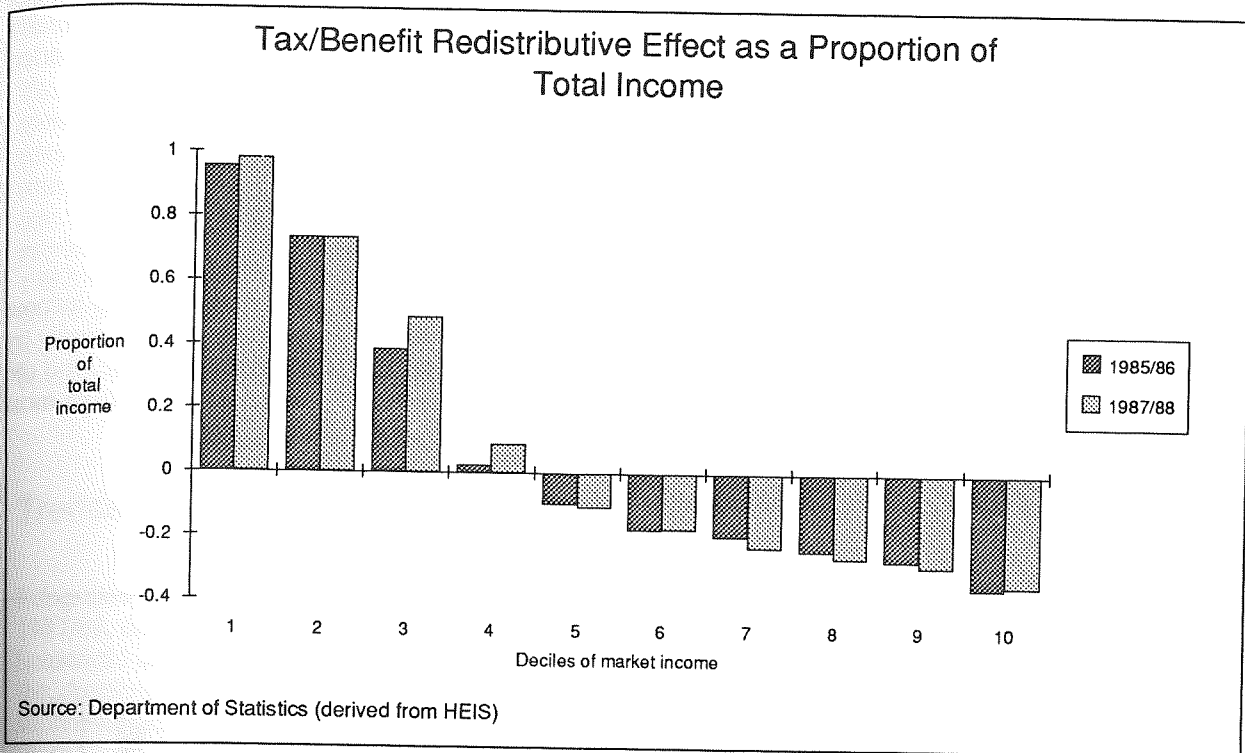
Government redistribution — from market income to disposable income

What is the combined outcome of the social welfare system and personal income taxes? In other words, starting from market income, what is the outcome of government's redistributive actions in terms of disposable income?

Briefly, in 1987/88, the major contribution to greater income equality made by government redistribution came from social welfare cash payments. Direct taxes also increased the degree of equality, but less so. Direct taxes have also become less progressive since 1985/86. (This is so to an even greater extent for indirect taxes. The impact of these, and of other government transactions, is taken into account in Infogram 3.24.)

An interesting way of picturing the redistributive impact of benefits and direct taxes is to chart the net proportionate impact on total income across the income range (see Infogram 3.16). For each decile, net change to total income, from benefits less direct taxes, is shown as a proportion of total income. The lowest four deciles gained in these terms between 1985/86 and 1987/88. The higher income deciles, in general, contributed proportionately more, through direct taxes less benefits, but with a slight reduction in the very top decile.

Infogram 3.16



The infogram shows absolute dollar amounts transferred in the two years. Somewhat surprisingly, in view of the preceding discussion, it does suggest a greater amount of redistribution in 1987/88 than in 1985/86. In particular the first, third and fourth (from bottom) deciles have gained in amounts redistributed, while greater net amounts are transferred away from households in the higher income deciles.

The apparent contradiction with the preceding infograms showing a shift in tax incidence towards the lower income deciles is explainable by shifts in the distribution of market income during the period. Market income in the bottom three deciles of market income was considerably lower in 1987/88 than in 1985/86 because of plunging incomes for a proportion of self-employed. The ratio of tax/income increases as a result, when tax liabilities do not fall in the same proportion.

Government redistribution through social services and other public spending

The central government provision of social services (such as health and education) for free, or at less than the cost of provision, is a further way in which the community resources are redistributed between households (remembering that such services must be funded in some way).

This section focuses on the three areas of health, education and housing. Current spending on these is allocated to households on the basis of information such as educational participation (from HEIS), hospital stays (from the National Health Statistics Centre) and landlords (from HEIS). (For details of the allocation procedures see Department of Statistics 1990, and Snively 1987.) Total government spending for these three areas in 1987/88 amounted to \$3.4 billion on health, \$3.1 billion on education, and \$0.4 billion on housing (including funds from the Loans Account).

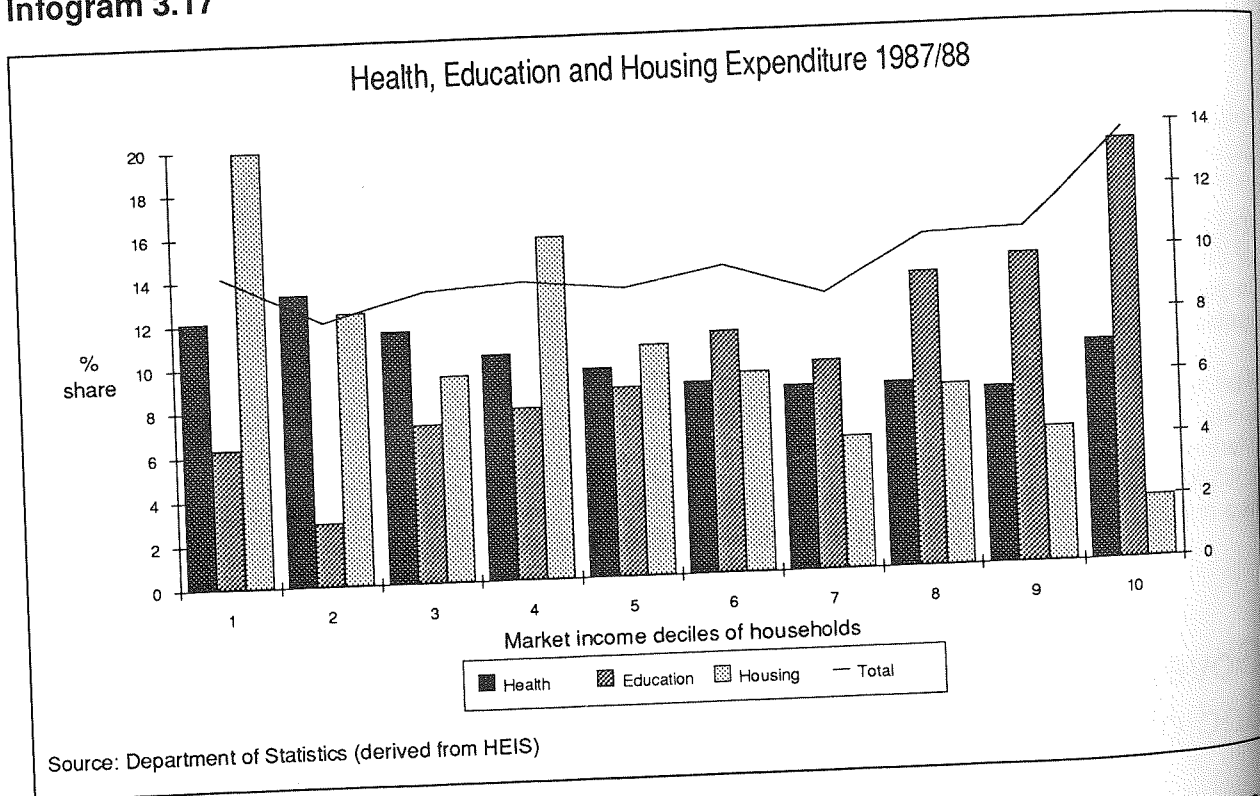
It should be noted that the assumptions made in allocating expenditures to household income groups do not incorporate all relevant factors. In particular, data on the use of health services are not available in HEIS and therefore cannot be matched with household income. Instead, the use of health services has been allocated to households on the basis of their age/sex characteristics. In fact, utilisation of health services

varies with income if age and sex are held constant. Reinken (1987, unpublished) found that the different age and sex compositions, and the rural/urban locations of households, are the crucial determinant of hospital usage (the largest component of health services expenditure). Distance from hospital, ethnicity and smoking patterns were also found to have substantial explanatory power in determining hospitalisation rates.

The distribution of health, education and housing expenditure

Infogram 3.17 shows the distribution of these three items (individually and in total) across market income deciles for the year ended March 1988. The shape of the combined distribution is determined primarily by the offset between health and education. The distribution also depends on the number of people, and the number of children, per household. These vary between deciles, with households in the bottom-most deciles being smaller in size on average, and having fewer children (see Appendix Three).

Infogram 3.17



The share of total health expenditure across all income groups is reasonably even, although expenditure per person is highest for low income deciles, with the bottom four deciles being estimated to consume a greater share of government-provided health expenditures than the share of people in these deciles. This is due mainly to the large proportion of elderly people concentrated in the lower income deciles, especially the second decile.

Education expenditures (which include pre-school, state primary, state secondary, subsidisation of private and tertiary institutions) are less equally distributed across household income groups. When the average number of children in each group is considered, however, the distribution becomes more equal, as the average number of children per household is greater in the higher income deciles. The higher share of expenditure going to upper income groups partly reflects the tendency for the average household's income, as well as the average cost of education, to increase as dependent children get older. But it also reflects the tendency for educational participation at post-compulsory levels to be higher in households with higher income, due to factors such as the occupation of parents and their aspirations for their children.

For the first time, we analyse government expenditure on housing. Most of the government assistance in housing is offered by the Housing Corporation, principally through mortgage assistance and subsidised rental accommodation.

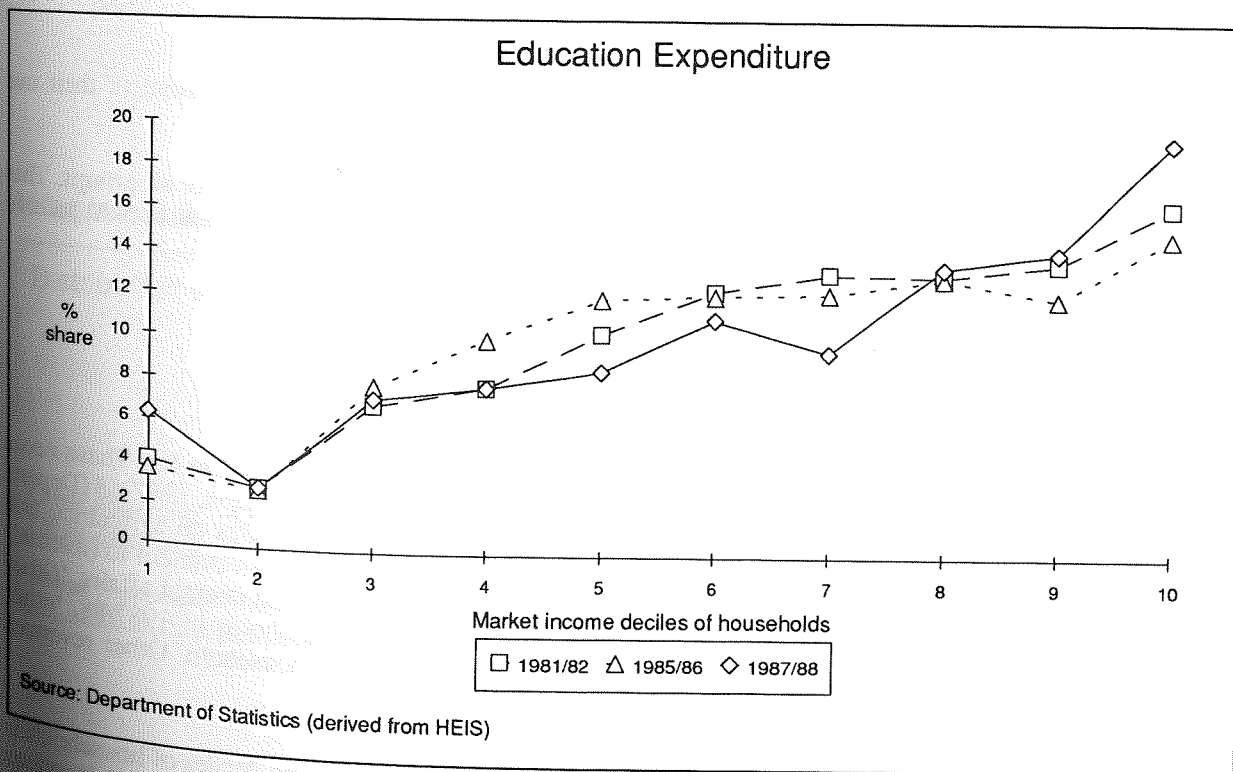
The distribution of rental assistance is markedly different from that of mortgage assistance. Infogram 3.17 shows the combination of both. Mortgage expenditure is concentrated in the upper to middle deciles, whereas rental expenditure is very much skewed towards the bottom four deciles. The distribution of mortgage assistance is partly explained by some mortgagors having taken out their mortgages many years ago. In the past, if a household's circumstances improved, the household kept its Housing Corporation mortgage subsidy. This policy has changed, but the new rules were only starting to be implemented in 1987/88. Also the lowest deciles contain many households, such as retired people in mortgage-free homes, not requiring housing assistance, or low income households simply unable to afford homeownership. On the other hand, the fourth, fifth and sixth deciles, which is where the mortgage subsidy is concentrated, contain a large proportion of families with young children.

Trends over time in the distribution of health and education expenditure

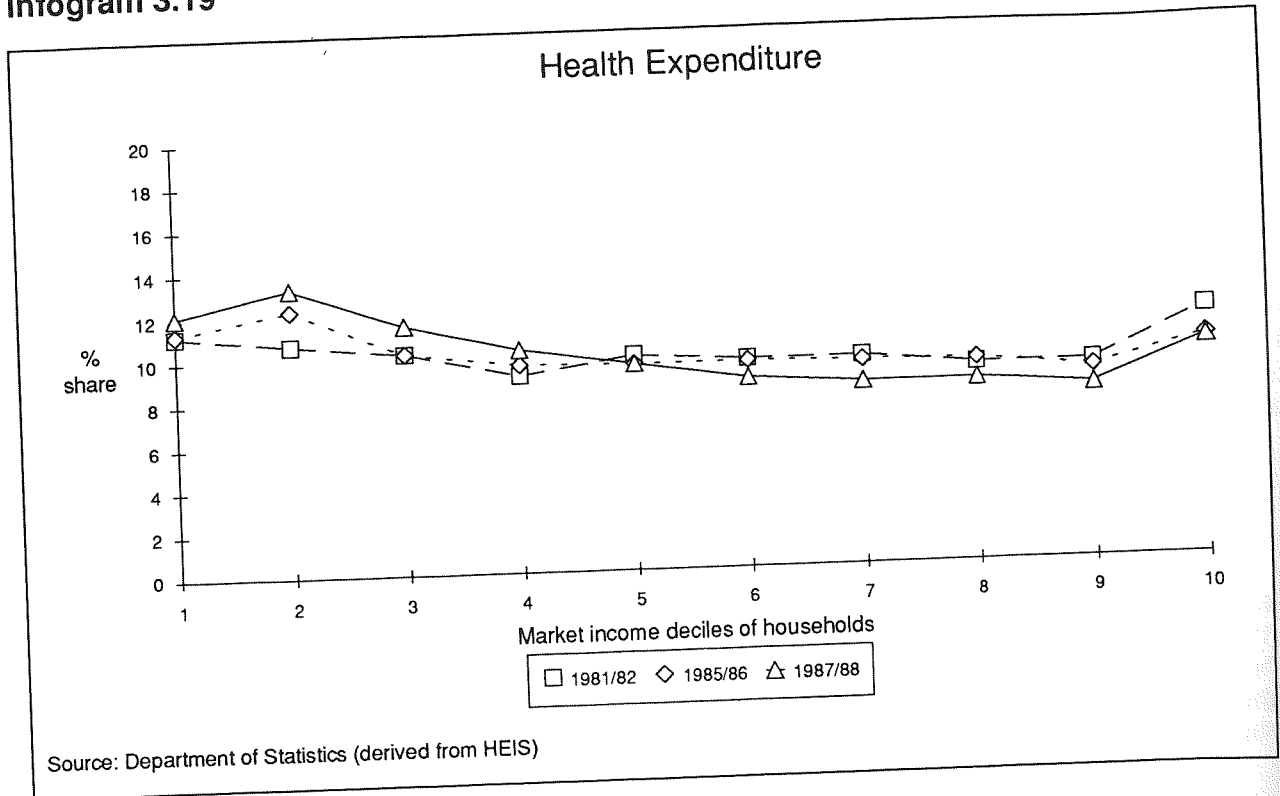
Infograms 3.18 and 3.19 show the allocation of education and health spending for 1981/82, 1985/86 and 1987/88, drawing on past studies. On each occasion the methodology for allocating these expenditures to household income groups has been further developed. Some of the changes could reflect this. The shift in the distribution of health towards the bottom deciles might also reflect the increasing proportion of superannuitants in the population over this period.

It is more difficult to establish a cause for the shifts in education spending. However an important recent trend in education has been an increase in participation rates in post-compulsory education.

Infogram 3.18



Infogram 3.19



Health, education and housing over the life cycle

Infogram 3.20 shows the average amount of government expenditure on health, education and housing allocated to each life cycle group in 1987/88. For those without children, total expenditures in the three areas increases with age. Couples with children receive much higher amounts and these peak in the middle-age groups. The reason is that couples with children receive most of the expenditure on education.

Those without children mainly utilise government-provided health services, and the extent of their use increases with age.

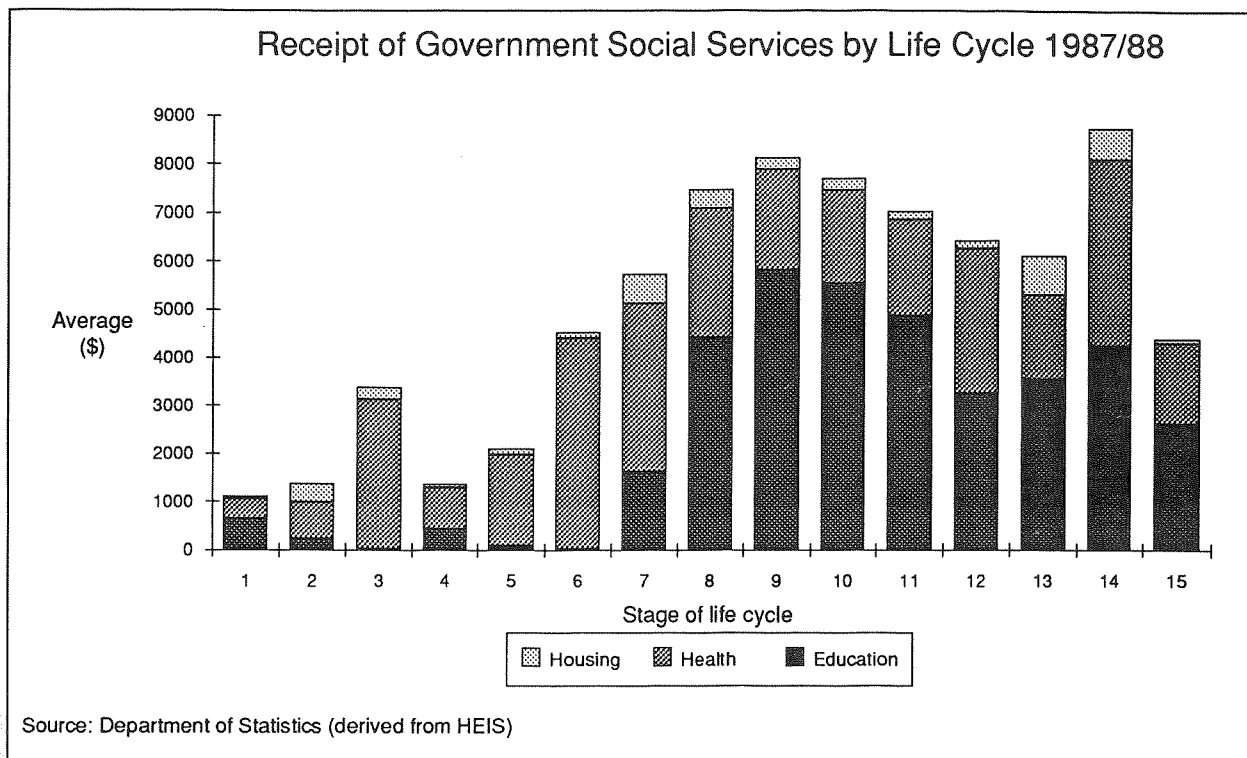
Housing assistance is only a small portion of government services utilised, on average, for all groups. This is true even at the family formation stage. Sole parents, who make up 9.4 percent of all households, receive the largest share (just under 25 percent) of all housing assistance.

Other government spending and revenues

This section examines government's spending activities and revenues not mentioned so far. These items were allocated on largely the same basis as in *The Fiscal Impact on Income Distribution, 1987-88* (Department of Statistics 1990). Those included, for example, are government expenditures on agriculture and fisheries, the Department of Maori Affairs, on subsidies and interest paid by the government to (internal) sources, and on functions of government such as justice, defence, conservation and internal affairs. 'Other revenues' include company income tax and non-tax revenues. Over all households in 1987/88, 'other spending' (excluding health, education and housing) averaged \$10,400 per household. Other revenues (excluding direct personal taxation and indirect taxes) averaged \$3,800.

The allocation of other government spending and revenues across market income deciles of households is tabled in Infogram 3.21 for 1987/88. On the methods which we have used, the allocation of both increases with income, but revenues more so than spending, so that the net effect of 'other government' is to further equalise the distribution of income.

Infogram 3.20



Key: Households' stage of life cycle

Single person	Couple	Couple with children	
	(age of female)	(age of female)	
1 15-39	4 15-39	7 <30	13 Sole parent
2 40-59	5 40-59	8 35-39	14 Other family
3 60+	6 60+	9 30-34	15 Non-family
		10 40-44	16 All households
		11 45-49	
		12 50+	

Infogram 3.21

Distribution of Other Government Spending and Revenues by Market Income Deciles
year ended March 1988

(%)

	1	2	3	4	5	6	7	8	9	10	All
Other spending	4.8	4.8	7.3	8.7	8.9	9.5	10.5	12.3	14.1	19.2	100
Other revenues	3.7	3.7	5.0	7.3	7.9	9.5	11.2	13.6	16.1	22.2	100

Source: Department of Statistics (derived from HEIS)

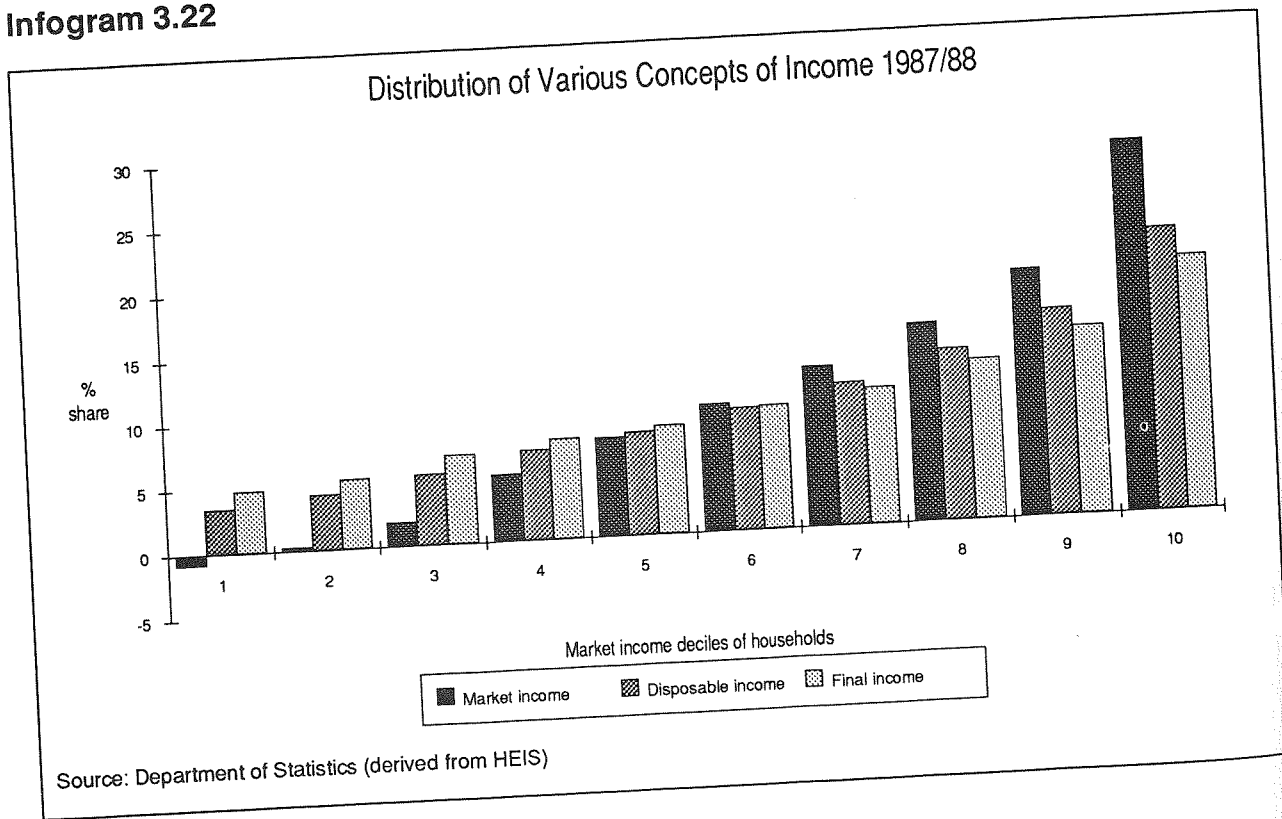
Final income

Final income, or market income adjusted for the budget, is the concept of income we have arrived at. It is a measure of the income accruing to households after their earnings in the market place have been adjusted for all flows to or from government. Infogram 3.22 compares the distribution, across market income deciles, of the various concepts of income we have examined thus far, for 1987/88.

At each stage, moving from market income to a measure adjusted for the effect of government activity, the distribution has become more equal. The receipt of cash benefits (taking us to total income) makes the biggest difference. The personal taxation system is slightly redistributive, most noticeably for the top decile. Indirect taxes, government-provided services and other spending can be seen to play their role in the redistributive process.

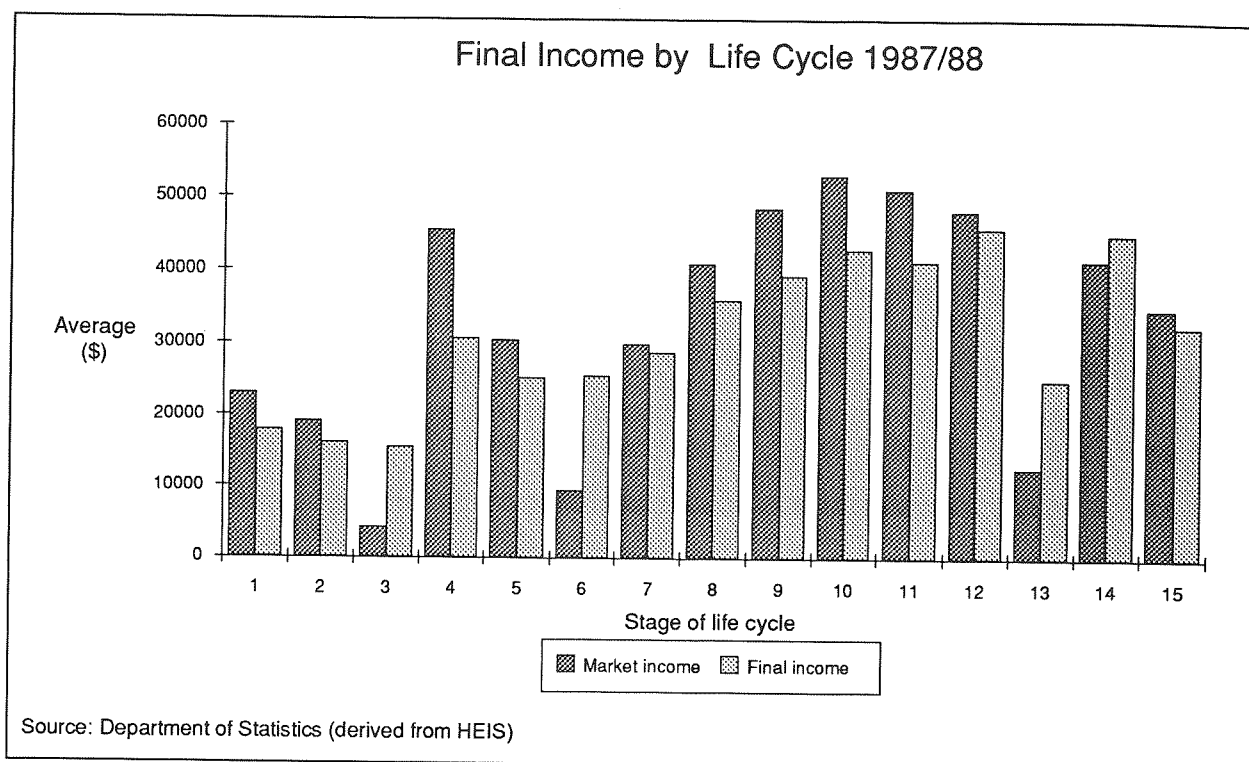
Infogram 3.23 compares average dollars received in market income by the various life cycle groups with average dollars of final income.

Infogram 3.22



Most life cycle groups appear to lose more than they gain in the redistributive process. Those who gain more than they lose are the elderly and sole parents. Families in the middle years of child-raising, at the peak of their earnings capacity, lose more in the redistributive process than those at either end. These families pay more in taxes because of their higher market incomes and, although receiving some family assistance and the benefits of education spending, receive little in the way of cash transfers. Overall redistribution takes place mainly from those of working-age to the old, who receive assistance in the form of health services and National Superannuation, but with a substantial transfer also to sole parents.

Infogram 3.23



Summary

In this chapter we have asked, and tried to answer, the question, what difference does government make?

In doing this, we have expanded on *For Richer or Poorer*, which in turn made extensive use of the SEBIRD model for government redistribution of income (Snively 1987). These earlier reports surveyed changes from the early 1980s onwards. Our focus has been especially on the years 1985/86 to 1987/88, a two-year period in which there were significant economic developments and major changes to New Zealand's tax and benefit system. Another recent report (Department of Statistics 1990) has also examined in detail the impact of government's fiscal operations on income distribution in this period. We adopt a more broadly interpretative perspective, but our methods are closely based on those used by the Department of Statistics (with one relatively minor difference in the allocation of other government spending). That report should be consulted for details of the ways in which we have allocated the various components of expenditure and revenue.

Much of the emphasis in this chapter has been on social welfare cash payments (benefits and National Superannuation) and on taxes. Both have shown an upward trend in real terms in recent years. The increase in social welfare cash payments has been because of difficult economic circumstances for many households, and also because of a tendency for average employment income to fall relative to average income-tested social welfare benefits. It is clear that benefits play an important redistributive role, and that the importance of this increased in the period surveyed.

Taxes, including indirect as well as direct taxes, have become heavier — and less progressive. In other words, lower income households are bearing a larger share than earlier of total tax payments. Partly this is because social welfare benefits included a tax component in 1987/88 but not in 1985/86, and partly because increased losses by self-employed people push up the apparent tax rates in the lower income range. But after allowing for these factors, the general conclusion still remains valid. In particular, the shift in the tax base towards a system relying more on indirect taxes has had a major effect in making the tax system less progressive overall. More than before, the main instrument of government for redistributing income has become social welfare cash payments.

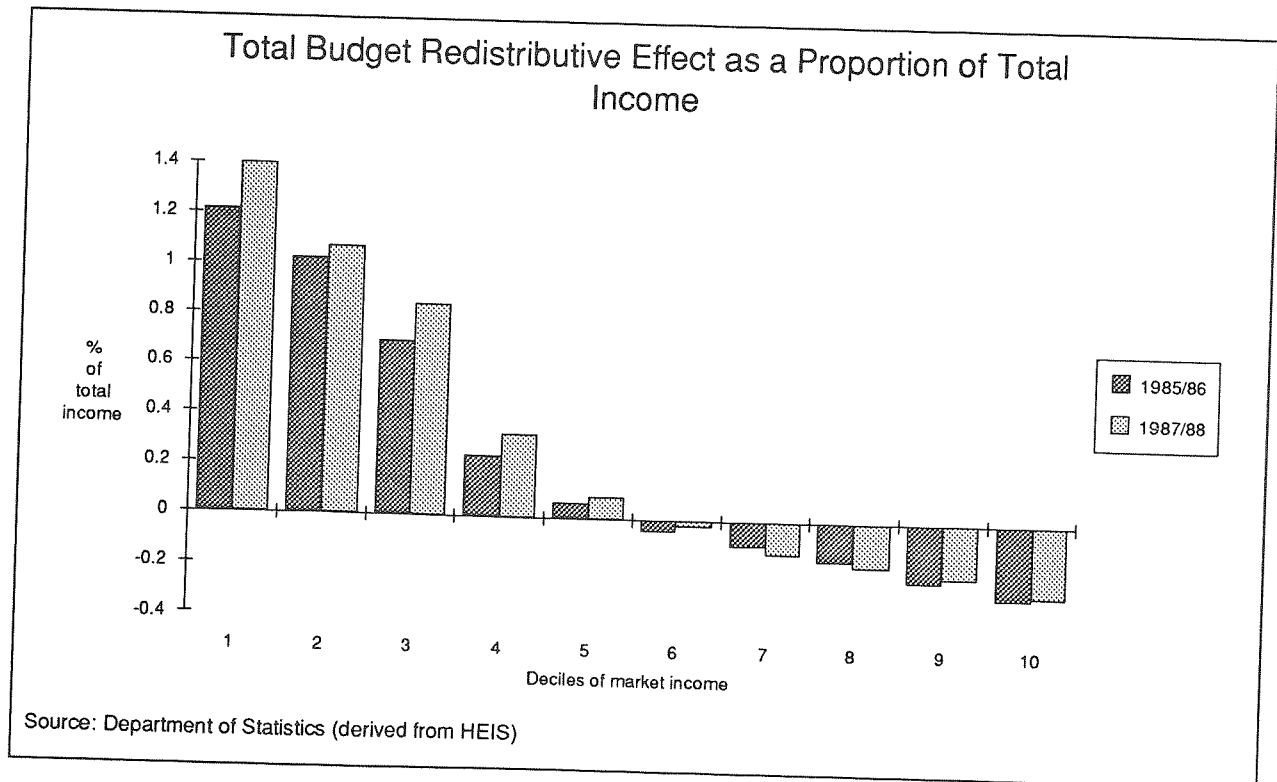
Although the tax system has become less progressive, the extent to which cash purchasing power was transferred from higher income deciles to lower income deciles, through the net effect of benefits less direct taxes, was actually higher in 1987/88 than in 1985/86. This happened because slowing economic growth led to a reduction in employment income (and self-employment income for a proportion of the self-employed), which affected low income households the most. Social welfare cash transfers increase automatically in such circumstances.

Taxes and benefits are not the only ways in which government redistributes household incomes. Government spending on education, health and housing constitutes another large shift of economic resources within the community. When this is allocated over households it is found that those in lower income households benefit most from government spending on health because, in essence, most such spending is on the elderly who no longer receive employment income. Education spending is distributed more towards higher income households, partly because families with children tend to have the greatest degree of paid work-force participation on average, and to be in the middle and higher levels of the household income distribution. Government spending on housing assistance is much smaller in overall scale and has only a small impact on the income distribution, but has tended recently to become more targeted to lower income households. There have been some shifts in the overall distribution of social services spending during the 1980s, but not major ones.

Finally there is the impact of other government spending and revenues. It is sometimes difficult to decide how to allocate such items between households. Overall, however, they tend to have a further net redistributive effect, shifting resources from higher to lower income households. The redistributive effect at this stage was more powerful in 1987/88 than in 1985/86.

The total redistributive effect of the budget is shown in Infogram 3.24, in terms of market income deciles and comparing 1985/86 and 1987/88. The amounts shown for each decile are the difference between final income after all budget transactions, less market income, expressed as a proportion of total income.

Infogram 3.24



It can be seen that government brings about a major redistribution of resources from households in the higher income deciles to those in the lower deciles. Also that in these terms the total income of the lower deciles was increased proportionately more in 1987/88. The distributive outcomes are discussed further in Chapter Four, including an analysis by life cycle stage.

Chapter Four

Outcomes From Government Redistribution of Income

It would be interesting to compare New Zealand's income distribution with that of other countries. Unfortunately the most recent and comprehensive study available — that of Saunders, Stott and Hobbes (1990) — is able to make comparisons only for the period around 1980. Of eight countries compared, New Zealand had one of the more equal income distributions in terms of total income (market income plus benefits, before tax) of families. In after-tax — or disposable income — terms, however, the distribution in New Zealand was less equal than in the Scandinavian countries, Germany and the United Kingdom. The methods used were different to those in this report, and it is not possible to say whether the situation a decade ago would still hold today.

How disposable income changes with life cycle stage

Average disposable incomes and equivalent disposable incomes for households during 1987/88 in each of the 15 life cycle categories, and for all households, are shown in Infogram 4.1. Disposable income is lowest on average for 'over 60' single people, couples and sole parent households. Average income is generally highest for young childless couples, for couples with children, and for 'other family' households. For couples with children, average disposable income increases with the age of the female partner. ('Children' in this typology includes all children whether adult or dependent — thus earnings of grown-up children contribute to household income.)

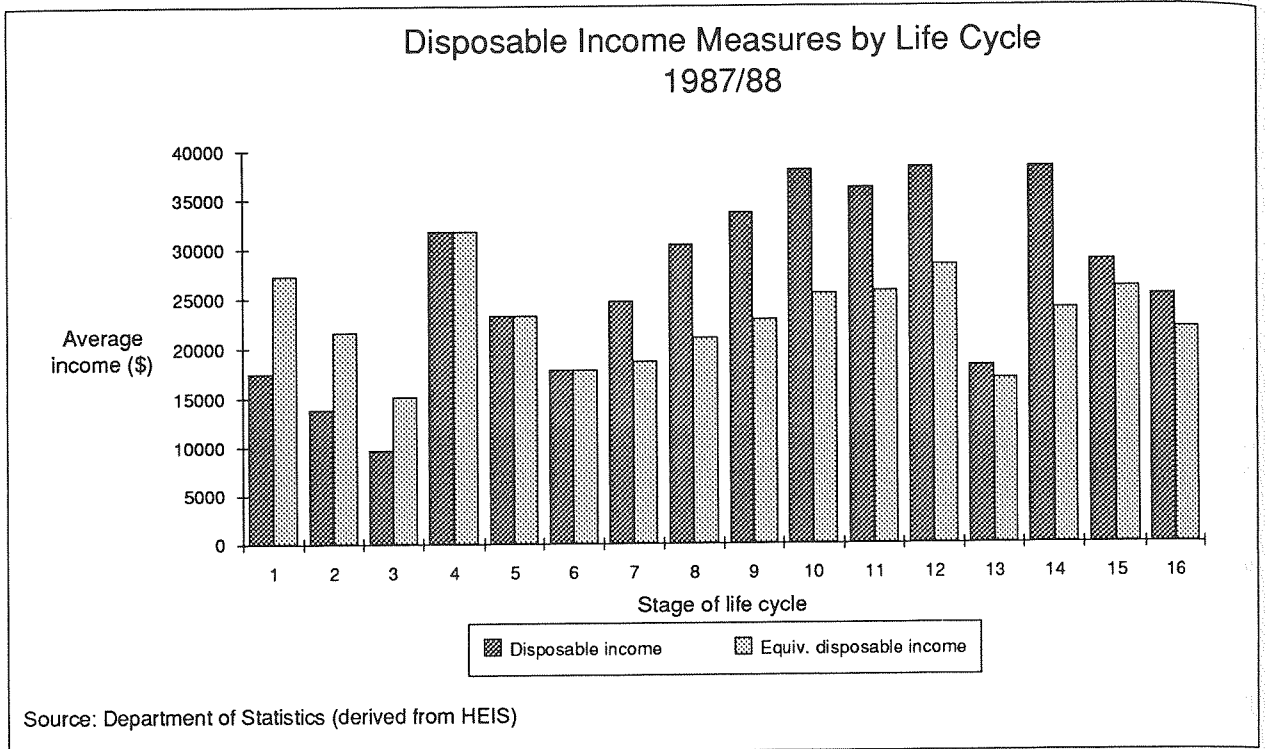
In terms of equivalent disposable income rather than actual disposable income, the differences between averages for households of different types are reduced. The highest income household types, in terms of equivalent disposable income, are young couples (woman under 40) without children, and young single people. For couples with children, equivalent income is reduced relative to actual income, reflecting the increased spending needs of such households relative to those of childless couple households. However, the equivalent incomes for such households are still above the average over the whole population for those households in which the woman is older than 35. This is a result of the combined effects of rising 'career' incomes for principal income-earners, and re-entry of spouses into the paid work-force as children grow up (and, if still residing with their parents, add their income to the household total).

The lowest average equivalent disposable incomes are received by single people over 60 (\$15,160), sole parents (\$16,900, of which \$6,450 on average is from the Domestic Purposes Benefit), and couples where the woman is aged over 60 (\$17,800). These are the groups receiving the largest amounts in direct cash benefits from the state.

Such figures are affected by the equivalence scale used. For example, our scale uses a factor of 0.64 for single people — that is, a single person on average needs 64 percent of a couple's income to have an equivalent living standard (see Appendix Two). If instead a figure of 0.60 is used (and this was the figure used up until 1990 in setting 'single' National Superannuation and other benefits in terms of the 'couple' benefit), the estimated equivalent income of single people over 60 would be \$16,170. However, this group would still have the lowest equivalent incomes on average. (There is, in fact, some evidence for the 0.60 figure being too low in terms of the extra cost of living alone.)

The equivalent income figures also do not take account of the differing housing circumstances of different households. Ideally these income measures would include the benefits of homeownership in terms of savings on rent (net of homeownership costs). For retired people in general, most living in their own

Infogram 4.1



Key: Households' stage of life cycle

Single person	Couple (age of female)	Couple with children (age of female)	
1 15-39	4 15-39	7 <30	13 Sole parent
2 40-59	5 40-59	8 35-39	14 Other family
3 60+	6 60+	9 30-34	15 Non-family
		10 40-44	16 All households
		11 45-49	
		12 50+	

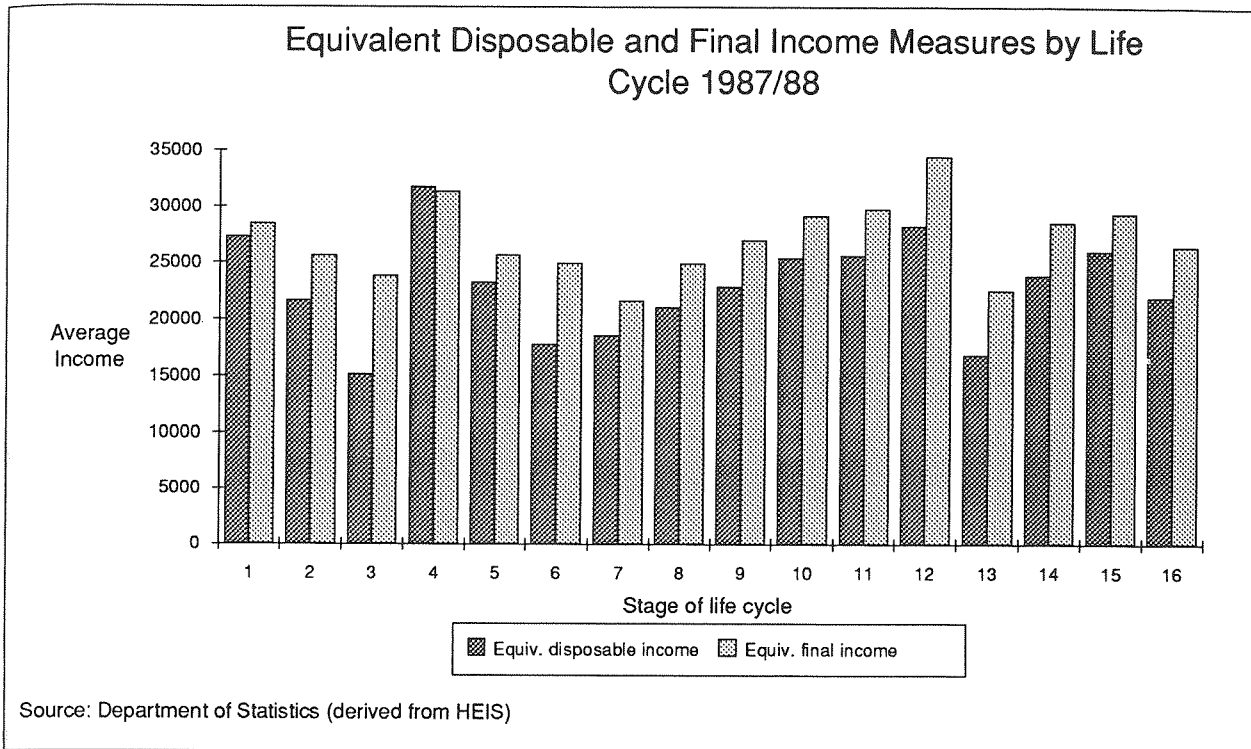
mortgage-free houses, such an adjustment would increase equivalent income significantly. This would not apply, however, to the subgroup of elderly people not owning their own homes.

Further adjustments for government spending and revenue

Benefits and direct taxes are only part of the impact that government has on household well-being. Infogram 4.2 shows equivalent final income and equivalent disposable income. To obtain final income, an initial step is to add to disposable income spending on education, health and welfare, and deduct indirect taxes. Retired people, families with children, and sole parents benefit relative to other households from health and education spending in particular. Next, general government spending is added, and general revenues (company taxes, trading revenues, etc.) deducted. There are a number of ways in which these might be allocated. The largest gains, relatively, appear to go to the more 'elderly' households at this stage. (The details of these allocations appear in *The Fiscal Impact on Income Distribution 1987-88*, Department of Statistics 1990.)

In terms of equivalent final income, the lowest income is received on average by young couples (woman under 30) with children (\$21,650), and the next lowest by sole parents (\$22,550). The only groups

Infogram 4.2



receiving more than \$30,000 on average are couples without children where the woman is aged under 40 (\$31,400), and couples with children where the woman is aged over 50 (\$34,500).

All of these figures are averages, with wide variations occurring about the average in any household category.

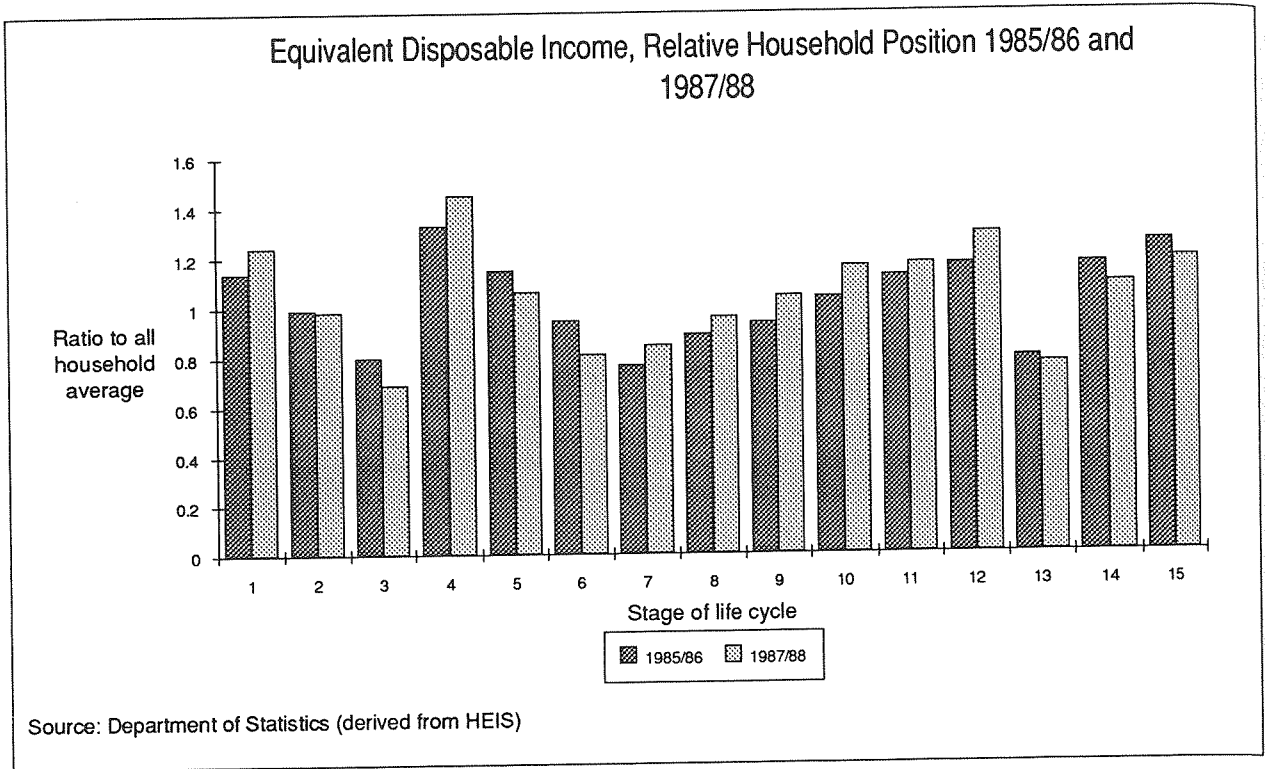
Changes in relative position of household types from 1985/86 to 1987/88

Infograms 4.3 and 4.4 compare the relative positions of the different household types in 1985/86 and 1987/88, first in terms of equivalent disposable income and then equivalent final income after all budget adjustments. For each year, average incomes in each life cycle stage are expressed as a ratio to the all households average. (See also Infograms 4.1 and 4.2.)

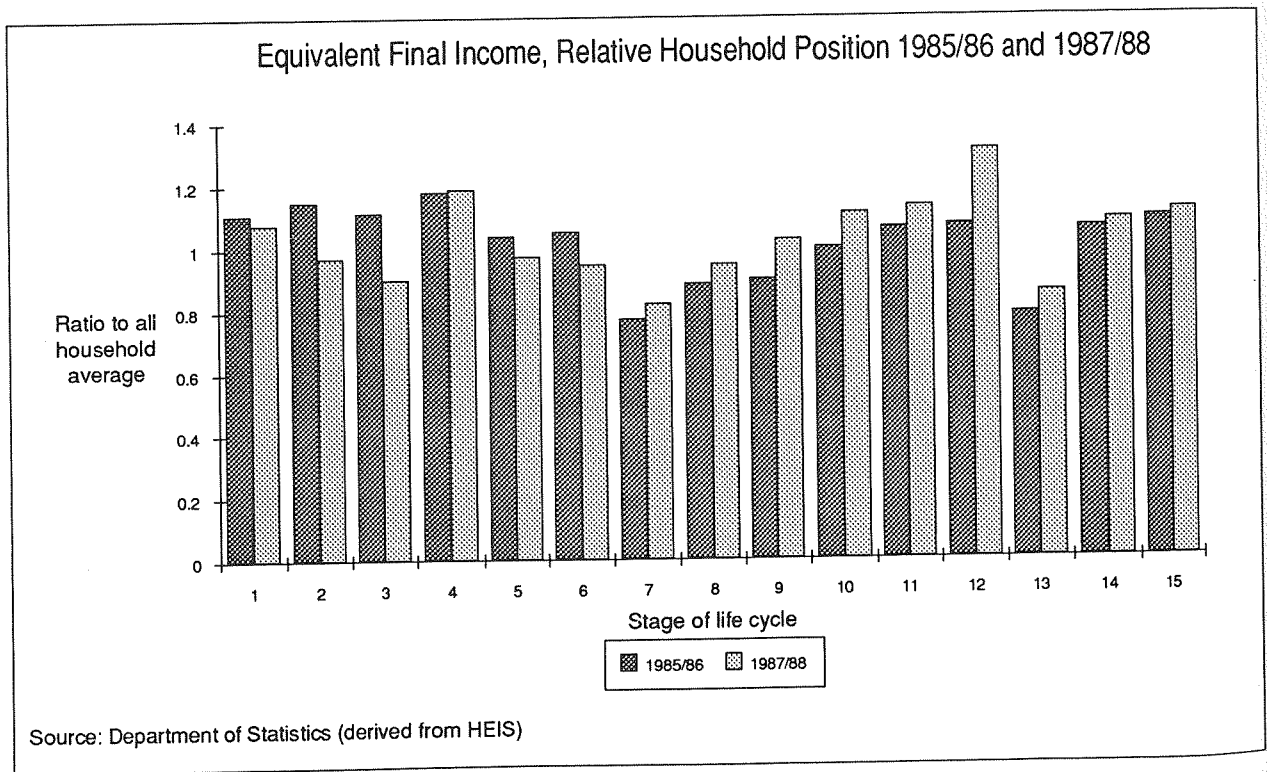
The shifts between the two years are interesting. In terms of equivalent disposable income, it is noteworthy that families with children have gained relatively to the general average. So have young single people and young couples without children. Those losing ground, relatively, were sole parents, 'other family' and 'non-family' households, and older single people and couples. One reason for the latter shift would be the outcome of indexing procedures for benefits and pensions as discussed in Chapter Three. The relative gain for families is probably largely due to the introduction of Family Support between the two years, covering a wider range of low and middle income families than the previous Family Care programme, plus the reductions in direct tax rates. (It should be noted that the Family Care allocations are based on actual HEIS data whereas figures for Family Support and Guaranteed Minimum Family Income are, like direct taxes, imputed from HEIS information, assuming 100 percent 'takeup'.)

For equivalent final income, the same broad picture is apparent. Families with children gained relatively in the period, but after taking account of all budget measures, so did the sole parent and other family categories. Single people and couples without children, on the other hand, generally fell relative to the all households average.

Infogram 4.3



Infogram 4.4



Changes in the distribution of household well-being

Infograms 4.5 and 4.6 examine the changes between 1985/86 and 1987/88 in distribution of equivalent income across all households. The previous sections have described average outcomes by household type, but have not described the distribution of rich and poor households about these averages. Our ideal would be to measure the distribution within each household type. This is not possible because the sample size of the HEIS survey is too small to provide sufficiently reliable estimates. (An enlarged household survey, although expensive, would provide valuable further data for social policy analysis.)

In this and the following section, however, we do analyse the distribution of equivalent disposable income and equivalent final income for all households. Households are classified into deciles ranked in order of increasing equivalent disposable income. It must be remembered that the life cycle stage of a household is important in determining its place in the distribution, even after adjusting by an equivalence scale for household size and number of children. In particular, 'retired' households by and large are in the lower deciles, and families — because of their greater paid work-force participation — tend to be in the middle and upper deciles. One consequence is that although households are distributed 10 percent to each decile, people and children are not. There are more individuals, and more children, in the middle household income deciles in particular (see Appendix Three), although with some concentration also in the bottom decile.

Infogram 4.5 shows the distribution of equivalent disposable income and Infogram 4.6 the distribution of equivalent final income.

Very clearly the distribution of equivalent disposable income became less equal over the two-year period. The share of the lower income deciles fell, that of the top five deciles all increased. As families with children tend to be in the middle and upper part of the income distribution, and elderly and sole parent households in the lower part, the shift in Infogram 4.5 is partly connected with the shifts in relative incomes of the different household types just previously discussed.

The shifts in final income are similar, but less clearcut. Most lower income deciles lost ground and most upper income deciles gained ground, but not all. The second-lowest decile appears to have gained while the top two deciles lost ground over the two years. These changes are difficult to explain, and it must be reiterated that the allocation of 'general' items of government spending and revenues is more problematic than for items such as benefits and direct taxes.

Measuring changes in inequality with Gini coefficients

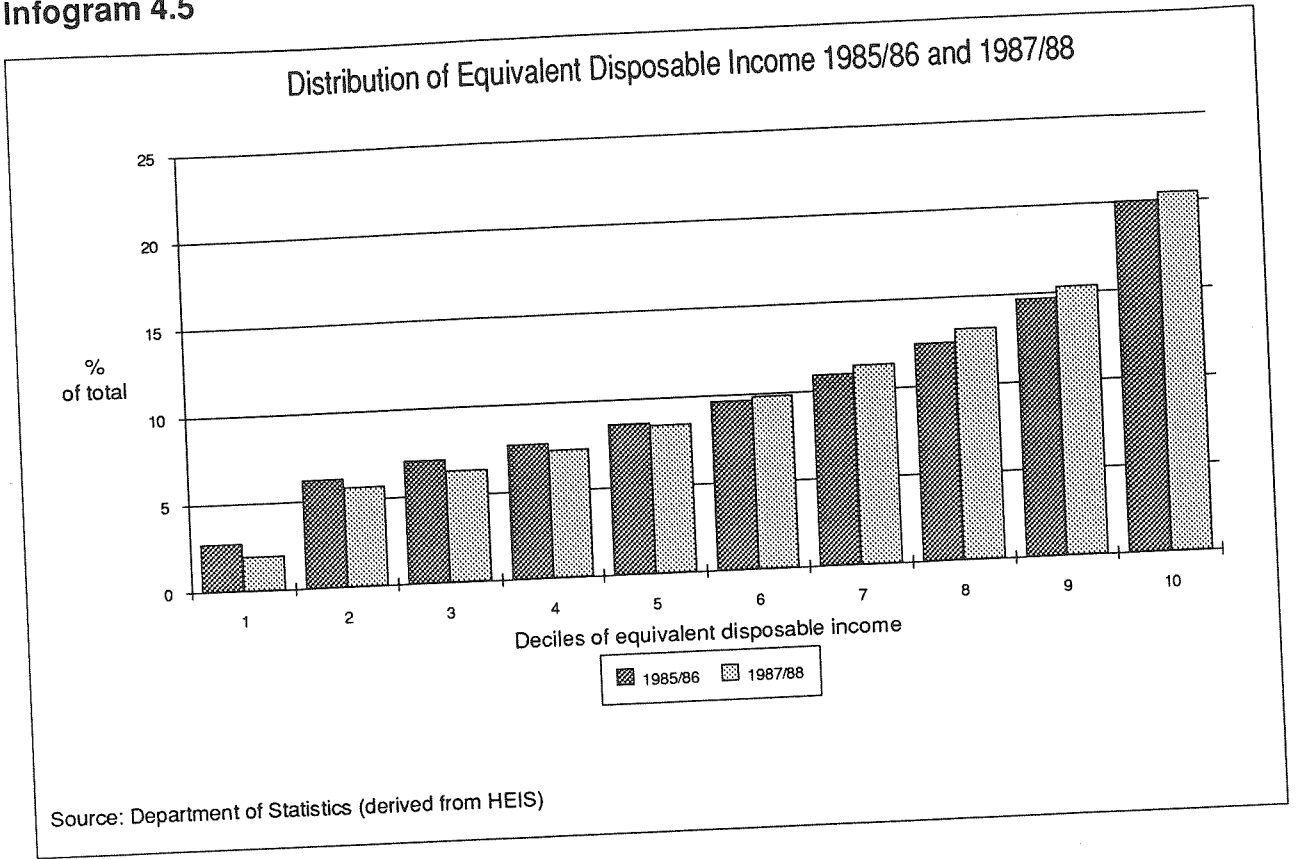
In addition to the infograms showing the changes in income distribution, it is also useful to have a summary statistical measure for reporting the results. One generally used such statistic for measuring the degree of inequality is the Gini coefficient. If income is distributed very unequally the coefficient is high; if distributed more equally it is lower (see Appendix Two for details). Infogram 4.7 presents coefficients for 1985/86 and 1987/88. For this particular set of calculations, households are ranked in deciles of disposable income where the coefficient is measured in terms of actual dollars, and in deciles of equivalent disposable income where the measures are in equivalent dollars. A summary figure such as the Gini coefficient loses some of the detail apparent in Infograms 4.5 and 4.6, but it also brings out major trends more clearly.

The results are striking. A general point is that when equivalence scales are applied, the outcome is a more equal distribution than that in terms of actual dollars. Also at each step, as more of the government budget is brought into the analysis, the coefficient becomes smaller — that is, income becomes more equally distributed. (One exception to this will be discussed shortly.)

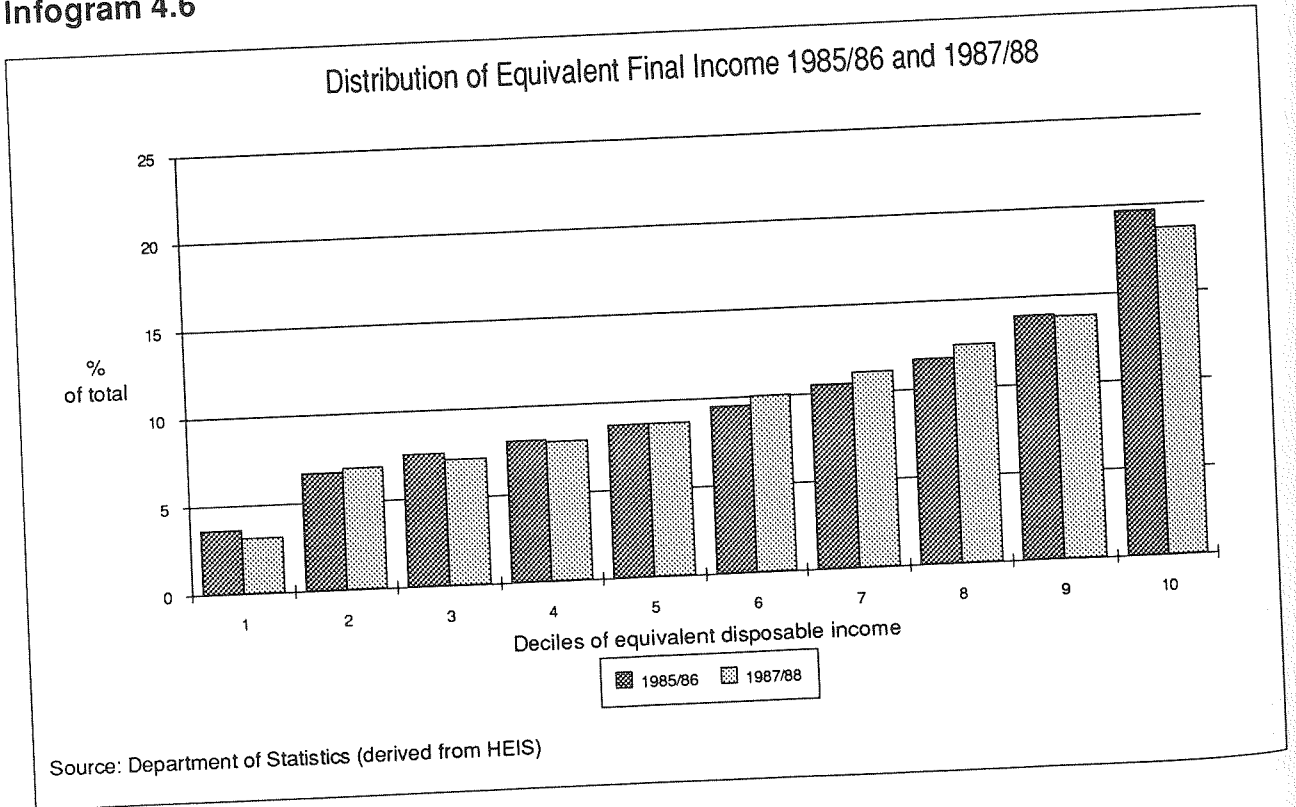
But most interest lies in the changes between 1985/86 and 1987/88. The highlights are:

- Market income became significantly less equally distributed over the two-year period. We believe this to result largely from a worsening in opportunities for paid employment.

Infogram 4.5



Infogram 4.6



- Partly in automatic compensatory response, benefit expenditure increased. The reduction in inequality in the step from market to direct income was greater in 1987/88. It was more so in equivalent income terms, consistent with a larger share of benefit expenditure going to families.
- Conversely the impact of direct taxes in reducing inequality was less in 1987/88 than in 1985/86. Tax scale changes are undoubtedly relevant.
- The greater inequality in 1987/88, arising in the first place from the increased inequality of market incomes, carries right through to final income when measuring outcomes in actual dollars. In equivalent dollars, however, the final step — the allocation of 'general government' — closes the gap. It must be said that there are conceptual questions about how best to allocate general government spending and revenue, so that we have some doubts about the robustness of this result.

Infogram 4.7

Household Income Inequality for Different Measures of Income (Actual and Equivalent) 1985/86 and 1987/88				
	Gini coefficients			
	Actual income (by disposable income deciles)		Equivalent income (by equivalent income deciles)	
	1985/86	1987/88	1985/86	1987/88
Total market income	.42	.45	.38	.42
Total direct income	.34	.36	.30	.31
Disposable income	.30	.33	.25	.28
Income adjusted for direct government ¹	.28	.32	.21	.24
Final income	.26	.29	.22	.22

Note: The Gini coefficient decreases as the distribution of income becomes more equal (see Appendix Two).

¹ This is an intermediate step between disposable and final income, obtained by deducting indirect taxes from disposable income, but adding back government social expenditure on health, education and housing. The next step, to final income, brings in general government spending and revenues.

Source: NZPC calculations based on HEIS data

How has spending power been affected by inflation?

Disposable income measures the dollars available for household spending. The *real* standard of living, however, is measured by the goods and services those dollars can purchase, and this alters with inflation. The rate of consumer price inflation is affected by changes in indirect taxation, as already discussed, and subsidies. The period since 1980 has seen a major reduction in subsidies from 6 percent of government expenditure in 1981/82 to 1.9 percent in 1985/86, and it has continued to fall.

Taking out the effects of inflation (as measured by the CPI) from changes in Real Disposable Income (Department of Statistics) over time, gives measures of shifts in real disposable income. (Changes in real disposable income for individuals are discussed in Chapter One.) Corresponding calculations for households show that real disposable income, averaged over all households, fell by 8 percent between 1985/86 and 1987/88 from \$27,550 to \$25,300 in 1987/88 dollars. In equivalent dollar terms the fall was 7 percent (from \$23,550 to \$21,900 in 1987/88 dollars).

By comparison, the material in Chapter One showed a small increase for individual full-time earners in the same period. Part of the explanation for the difference is that full-time employment fell, by 1.3 percent, between March 1986 and March 1988. A part of the difference, however, is probably attributable to sampling error in HEIS, as well as to a fall in average household size during the period.

Comparing averages of equivalent disposable income by quintiles for the two years does, however, suggest that real income fell considerably more, by 20 percent for the lowest quintile, at the lower end of the income distribution than in the middle and top quintiles. Detailed analysis of the figures shows that the fall for the bottom quintile is more than accounted for by lower market income, because of reduced full-time employment and increased self-employment losses. In real terms, transfers from benefits, net of taxes, to these lower income households increased substantially on average, but not enough to offset the fall in market income.

One further question about such comparisons is the use of the CPI at all income levels. A reasonable question to ask is whether, because of changes towards a user-pays policy for a number of government services for example, those on lower incomes have been faced with higher price increases, and therefore have suffered a worse fall in their spending power, than the charted indexes show.

The answer appears to be no. As an exercise, the main components of the CPI were reweighted in proportion to their importance in total spending at different income levels in 1985/86 (for example, food purchases received a greater weight for lower income households). The result was that prices over the period 1984 to 1988 appear to have increased marginally less for the lowest income group than for others.

The reason is that the expenditure categories for which prices have increased most rapidly, especially housing, have generally been more important in the 'shopping basket' of higher income households. Life cycle considerations are important here — for instance, low income households spend proportionately less on housing, partly because they include many pensioner households owning their homes mortgage-free. Housing costs for those either renting or mortgaged have undoubtedly increased significantly more than for those with mortgage-free homes (see Economic Monitoring Group, p.164).

There has been some change in the distribution of *real* purchasing power as a result of different rates of inflation for different commodities. These have had more impact on specific household types, rather than on particular parts of the overall income distribution.

Summary

In this chapter we have reviewed the outcomes from central government's redistribution of market income. We have measured them in terms of equivalent disposable and equivalent final income. Two approaches have been followed. The first categorises households by life cycle stage, and the second ranks them in order of income. Neither on their own gives a complete picture but are the best possible with available data. For the two-year period 1985/86 to 1987/88 we observed the following:

- families with children gained relative to other households
- 'elderly' households lost, again relative to other households
- the overall distribution of equivalent disposable income became less equal.

The last observation partly follows from the first two. Families are generally concentrated in the upper part of the income distribution and '60 plus' households in the lower part. A relative improvement in the position of the first, and relative deterioration in that of the second, will widen the income spread.

In part these shifts are due to some redirection of the tax and benefit system — more family assistance, lower taxes on high incomes, a pension indexation system linked to falling real wages. This is not the whole story, however. As discussed in earlier chapters, the distribution of market income became less

equal over the period because of a deterioration in employment conditions. Government redistribution through taxes and benefits has partly compensated for this, but not totally.

The analysis is then taken further, to include the redistributive impact of all of government's activities, not just direct taxes and benefits. This gives final income, adjusted for the budget. In equivalent dollar terms the distribution of final income is found to be approximately equal (measured by Gini coefficients) in the two years — that is, when the effect of 'general government' is allowed for, it seems to make up for the greater inequality of market income.

Finally, shifts in real income and its distribution — that is, the effect of inflation on household spending power — were examined. An analysis was made to check whether inflation has affected some income groups worse than others. The conclusion was that some household types, mainly those renting or paying off a mortgage, have faced more rapid price increases in recent years. It did not appear that those on low incomes have, in general, been worse affected by inflation than others.

Real disposable income fell significantly for households between 1985/86 and 1987/88, especially for lower income households. Again, detailed analysis confirms that this was because of a fall in market income, only partly offset by increased benefits payments (net of direct taxes).

Chapter Five

A Maori Perspective on Concepts of Income and Wealth

The analysis in this report is based on the assumption that individual or household well-being can be equated to the amount of income received, and value of assets held. Even in 'individualistic' Pakeha society this is only approximately the case. For Maori, it is even less so. Vapi Kupenga, a member of the Income Distribution Group, presents in this chapter a Maori perspective on income and wealth.

Introduction

In modern society Maori face choices determined by their economic circumstances, their cultural values, and by the incentives of the mainstream economic and political system. This chapter has a three-fold purpose. Firstly, it describes some Maori concepts of income and wealth in order to show how they differ from those defined in strict western economic terminology. Secondly, it attempts to show ways in which Maori economic decisions are influenced by traditional cultural values. Finally it seeks to establish a validity for these values in New Zealand society under the Treaty of Waitangi. The chapter examines principles, philosophies, traditional practices, institutions and distributional methods, and can be used to interpret the information in Chapters Six and Eleven on Maori income and wealth distribution.

What constitutes income and wealth?

Wealth can be defined as resources which are held or can be drawn upon to enhance well-being. Income can be defined as the benefits which flow from utilisation of the resources, which contribute to well-being. Wealth and income can refer to both the tangible and intangible. Taonga (treasures) include the language, Mana Maori, aroha, the value system — principles and philosophies, land, fish, produce and forests. In the traditional culture, wealth in itself was not valued unless it could be made use of currently or in the future by the whanau. Social resources, such as people prepared to provide financial, emotional and other forms of assistance and support, can also be described as wealth.

Distributional philosophy

"The whanau (extended family) is an organism sharing a common life. The welfare of every member is important to the whole. In other words the welfare of the whanau is held in public trust. The prime values are sharing, caring and fulfilling one's social obligations" (Kupenga, Nepe and Rata 1988).

This philosophy is the basis upon which are distributed the returns from the resources of the whanau, including its members' productive activity. Manuka Henare (1988) captures the fundamental principle of Maori conduct regarding income and wealth, in his explanation of Mana Maori.

"Maori values, behaviour and social organisation are the basis of sound social order and the common good. In this sense, common good is concerned with people's long-term develop-

ment and is not necessarily confined to one distinct or isolated action. It implies the well-being of all, especially the weak, who benefit continually from the common good, via social, economic and political procedures."

The principle extends to the whole ecosystem. Maori consider themselves trustees, looking after the land and natural resources for future generations, as well as holding on to it in respect for past generations (Asher and Naulls 1987). This is reflected in the concept of kaitiaki. According to Nganeko Minhinnick (1989),

"The kaitiaki (who can be spiritual or physical) is a role or roles within the tribal system, whose specific responsibilities are to be custodian, guardian, and protector of tribal taonga such as waterways, fisheries and marine areas. The kaitiaki system can be taonga specific, e.g. for fisheries, or burial grounds and caves. The physical kaitiaki system is based on whakapapa and inherited, nurtured responsibility, or by election, instruction, and direction of tribal elders. The kaitiaki system is holistic in its approach to environmental management. Its purpose, in the broadest sense, is to attempt to ensure the harmonious relationship of all taonga (land, fisheries, forests, water, air, animals, plants, people)."

The caretakers of the whanau and iwi (tribe) resources were those with tangata whenua and ahi kaa status. This dual status applied to those who were born on the land, and remained there "to keep the fires burning and the land warm" (Poananga 1986). Wealth generates income, but in order to do so, wealth must be nurtured. Today, with many Maori living away from their turangawaewae (land of their birth), the land and its resources are not sufficiently nurtured. Wise caretaking is a resource to the land, and the land in return nurtures its people.

To acknowledge and maintain the value of the resource and its provider, the practice existed of returning the first yield. For instance, mata ika (the first fish caught) was returned to Tangaroa (god of the sea). Whatever was returned was of premium quality. The source of the yield (whether it be the earth, sea, or a woman's body), was nurtured and healed until it was ready to replenish.

Distribution, investment and wealth accumulation

The notion of the individual accumulating wealth for their own personal benefit was disfavoured and regarded as corrupt in the traditional Maori lifestyle. When it occurred it was dealt with severely. This can be illustrated by the renowned story of Poroumata, a paramount chief of Ngati Porou.

Poroumata's sons, together with other members, went fishing for the tribe. Upon returning to the shore, the catch was divided up and distributed amongst the whanau. The other members observed that the sons would take the choice part of the fish. Thinking that the chief Poroumata was part of this misdemeanour they laid a trap and killed him and his sons. The punishment accorded was not in relation to the value of the fish taken, but in recognition of the violation of the underlying principle of the equitable sharing of resources. The Chief was not immune to the principles and laws of the whanau or iwi.

These attitudes are reflected in the hesitancy observed on the part of present day Maori to engage in an obvious accumulation of wealth, reflected in the use of terms such as hakere (greedy, selfish, an individual).

The accumulation of wealth for the whanau, hapu and iwi, however, was part of the socio-economic system, and therefore widely practised. Accumulation referred to future whanau needs. The principles underlying the accumulation of wealth were:

1. To provide for immediate and current needs with any surplus being stored for future needs. A surplus exists only when all current needs are met. Wastage was avoided as a precaution against shortage. To take in excess of one's need was regarded as an insult against nature and whanau. This can be illustrated by:

- The preservation of food — for instance the large reserve of kumara to provide for the non-productive seasons.
 - The distribution or sharing of surplus with others in need is demonstrated by the poukai, a feature of Waikato social organisation. This was an elaborate institution whereby the various Waikato tribes travelled to different marae in turn to give their surplus wealth to the hapu leaders, who would then redistribute these goods to the widows, the indigent, and others in need. Today the practice persists, with 27 poukai hui each year (Henare 1988).
2. Planned long-term investment. That is, to plan from conception, and to cultivate ensuring the set goals are achieved throughout the life of the investment in order that it yield a valuable return at maturity. This principle is demonstrated by:
- The Totara tree denotes values of strength, wisdom, intergenerational stability, and continuity. Its final use on reaching maturity was planned from the outset. It was continually observed and maintained during its life, as it was regarded as an investment for the future, when it would be felled to build a waka (canoe) or marae.
 - The following proverb of the Te Kohanga Reo movement encapsulates the principle of long-term investment. Children are perceived as valuable assets to the whanau right from conception, so every endeavour is made to ensure that the child is saturated with all the appropriate resources.

“Atawhaitia ko nga kohungahunga, ko ratou hoki te iwi Maori o apopo.” (Nurture the young, for they are the Maori of the future.) (Mahuika 1990)

To achieve inspired leadership at the highest level it is important to ensure that the learning, nurturing, launching and support of the kohungahunga (the next generation) is carefully provided for. The mana of the tribe depends on the development of sovereign minds to achieve tino rangatiratanga (sovereignty), and the influence and example of the rangatira (chiefs) is vital in the involvement of the whole whanau.

A Maori practice which encapsulates attitudes towards distribution and investment is koha (gifts in exchange). A koha is a treasured gift offered by one party to another. It is an investment in goodwill through giving generously, not a payment for services and goods received or expected. The koha is part of, and promotes, the well-being of the interaction of the people involved, and it fulfils a social obligation. The value of the return is not equated with the gift, and again the principle of premium quality is a precondition. Manatu is a system of koha whereby tribes koha taonga to create links and associated obligations. Another example is the tohunga (healers), who did not place any material rewards on their services. They used their gift (healing) to koha to the iwi. Implicit in this is the notion that it was a gift that was bestowed upon the tohunga from beyond for the whanau. It did not come from the tohunga personally.

Accumulation through commercial activity has long been part of Maori economic practice. With the arrival of Pakeha settlers, Maori people not only participated in the commercial arena, but demonstrated entrepreneurial excellence. Simpson (1986, p.111) provides an illustration.

“As early as 1842 a bank manager in Wellington estimated that the Maoris in the area possessed upwards of 150,000 pounds. They invested much of this capital in farm equipment, particularly ploughs and carts. They also built mills. By 1853 eighteen of these were at work in the Waikato alone. They also bought or had ships built to convey their produce to market. By 1858 there were 53 Maori vessels of more than fourteen tons registered in Auckland.”

Simpson notes also (pp.111-112) that Maori people

“... as good citizens paid their taxes ... It would not be unfair to say that the Maori population of New Zealand both fed the settlers and paid many of their public bills.”

They achieved these goals successfully without jeopardising their cultural integrity. The principle of accumulation of wealth for the whanau, hapu and iwi was retained as the base of all negotiations and interaction.

Life cycle patterns

A member of a tribe is born into the rights and privileges of, and the corresponding responsibilities and commitments to, the whanau, hapu and iwi. The level of rights and privileges together with the responsibilities and commitments, however, are dependent on the status of the member. The whanau provides support to enable members to fulfil their responsibilities.

A tribal member holding an influential position in the public or commercial environment has a consequent level of responsibility to continue working to an agenda which responds to the needs of the whanau and iwi, and to the needs of Maoridom. Only by 'taking the whanau with them' do they gain the status associated with the post. The responsibilities and commitments increase with the seniority of the position. A further responsibility is in the use of the associated higher earnings. As income increases, opportunities to serve the whanau increase, such as funding the attendance of a junior member of the whanau at boarding school.

As a result of the practice of sharing resources to meet current need, as well as the fact that needs are greater amongst Maori due to larger families and lower income levels, inequality in the distribution of wealth amongst Maori is less a function of age than is the case amongst Pakeha.

To the extent that social resources can be relied upon, in the sense that every whanau member carries out their responsibilities, the assurance and insurance of every member is provided continuously through the generations. It can be said, then, that Maori invest their current income and time resources in a form of social security, namely a social support system which can be similar in effect to a contractual saving scheme.

Whanau members gain succession to taonga through their forebears. As a result of larger family sizes on average, as well as the maintenance of close links with the extended family, assets that get passed on are likely to be distributed more widely than is the case with Pakeha. The resulting spread of resources, such as land, often becomes uneconomic. However, turangawaewae status supercedes the value of material wealth.

Conflicts between whanau responsibilities and the pressures of western society

For many individuals it is a difficult exercise to meet their social obligations as they face a clash of expectations. On the one hand there is a need for the individual to meet his or her responsibilities to the whanau and, on the other, is the need to carry out his or her role in, and meet the daily demands of, the wider economic system. The requirements of playing a role in the wider economic system are imposed and reinforced by legal and political means. As a result the time and energy resources available for Maori development are marginalised.

As Henare (1988) states,

"Value conflicts exist within Maori society and between Maori and Pakeha ... These conflicts include on the one hand individualism and personalist values such as private ownership, personal wealth and the domination of the environment by people; and on the other hand, communalism, a sense of group benefit, joint ownership, hapu and iwi wealth and well-being and the interaction of the environment with people."

Some Maori people who are gaining benefits for Maori through mainstream institutions would also be valued by the Maori community for their contribution at a more direct level. A positive example of the resolution of this conflict through partnership has been demonstrated by the Department of Social Welfare in recent years, with the secondment of Maori employees to work with these organisations for their tribe.

Chapter Six

Maori Incomes

The preceding chapter by Vapi Kupenga shows how Maori culture has a different perspective on income and wealth and their uses. Her discussion was at a broad conceptual level. In this chapter our purpose is more specific. It is to present the statistics available on actual income, from the market and from government transfers and services. These are used to compare the distribution of the income of Maori with that of the total population, before and after the redistribution of income by means of the government's budget.¹

The main findings

In terms of market income, the gap between Maori and Pakeha, which had previously been closing, widened during the 1980s. This was largely due to the disproportionate impact of joblessness on Maori.

Secondly, redistribution of income through the government budget went a considerable way to closing the gap. However, this is a much less satisfactory route to redressing inequality than that of equalising market income-earning opportunities. These would include measures to address long-term causes of inequality.

Two questions naturally follow from the first main finding: Why is there a gap, and what should be done? In answer to the first we discuss the contribution of different factors, such as the greater youthfulness of the Maori population. But these explain only part of the difference. There are more fundamental causes, historical and social in nature, as referred to in Chapters One and Eleven. Detailed policy proposals in answer to the second question lie beyond the scope of this report, although their objective should be clear enough: to enable Maori from their own resources and skills, aided by redress for past injustices, to put themselves in a position of social and economic equality with non-Maori New Zealanders.

Our procedures

The procedure is the same as in Chapters Two through Five for the total population. We start with market income — from employment, investment, rents, dividends, etc. The data come mainly from the Household Expenditure and Income Survey (HEIS). They provide an initial picture of the distribution of market income between individuals and between households. From this base we start adding the impact of the government budget. *Market income* plus social welfare cash payments — benefits and National Superannuation — gives *total income*. Deducting direct income taxes then gives *disposable income* — that is, 'cash in the hand'. This is our most important income concept for measuring 'outcomes', though as discussed later it needs to be adjusted (using 'equivalence scales') to account for different household sizes and make-up. Next, the rest of government spending — including social service expenditures such as health and education — and government revenues are allocated between households, to give *final income*. The processes summarised here are discussed further in Appendix Two, and in more detail in *The Fiscal Impact on Income Distribution 1987-88* (Department of Statistics 1990).

¹ Our comparisons are, in general, between Maori and the total population, rather than Maori and non-Maori. The results on either measure are very similar. This is because Maori are approximately a tenth of the total population, so the effect of including or excluding Maori on the general average is small, usually less than 2 percent. However, at appropriate places Maori/non-Maori comparisons are given as well as Maori/total.

An important point to note is that when government spending — such as on health or education — is allocated to individual households, the value to the household is assumed to be equal to the cost to government. This may well not be true in the eyes of recipient households, for instance many Maori consider the education system does not serve them well.

Data sources and defects

The main data source is HEIS. It should be realised that the estimates based on HEIS data are derived from quite small sample numbers. In 1987/88 there were 340 respondent Maori households out of a total of 4,400 respondent households, and in 1981/82 and 1985/86 fewer still. For some categories of the Maori population sampling errors will be large. Also the response rate to the HEIS survey overall is about 70 percent. Survey data are adjusted to try and correct for potential non-response biases (see Appendix Two), but it is not possible to ascertain how successful this is.

Some check is provided, at least for 1985/86 HEIS data, by 1986 Census data. However, the census data also have limitations. The income figures are in terms of total income (market income plus social welfare cash payments) only, and for quite a substantial proportion of households, both Maori and non-Maori, not every adult member of the household reported their income, so that total income for the household is not available. However, within these constraints, the gap between Maori and total population average household incomes and the distribution across income quintiles seems reasonably consistent between the two sources.

Demographic influences on income comparisons

In the HEIS survey respondents self-select their ethnic category. On this basis Maori adults were an estimated 7.4 percent of the total adult population in the 1987/88 survey, and Maori households (those in which the occupier is Maori) were 7.1 percent, or 80,100 households of the estimated total of 1,125,000 households in permanent private dwellings. (Maori dwellings in the 1986 Census are those in which the occupier is of solely New Zealand Maori origin. These numbered 69,480, or 6.5 percent of the total of 1,069,446 households in permanent private dwellings.)

There are significant demographic differences between the Maori and non-Maori populations. These, as will be seen repeatedly, strongly affect comparisons of average incomes between the Maori and total populations. They affect also the analyses of how the government's spending and taxes influence Maori income. Briefly, the Maori population is much more concentrated in the younger age groups. This is one of the reasons work-force incomes tend to be lower, and unemployment and sole parenthood rates higher. Average household size is larger, as is the number of children per household, so household income must meet the needs of a larger number on average.

There is another source of difference partly related to demographic differences. Our discussion is largely in terms of 'cash' receipts, from the market and from government transfers. If 'non-cash' income items such as fringe benefits or the benefits of homeownership were included, the gap between Maori and non-Maori incomes would widen, as these tend to be received more by older, higher income people. These kinds of income are discussed in Chapter Three, but not enough is yet known about their distribution across households to include them in comparing Maori with other incomes.

It should be mentioned also that much of our analysis is in terms of all adults, and all households. This has the effect of reducing the apparent size of the gap between Maori and non-Maori average incomes. This is because of the larger proportion in the general population of older people and households no longer receiving income from paid employment.

Income from the market

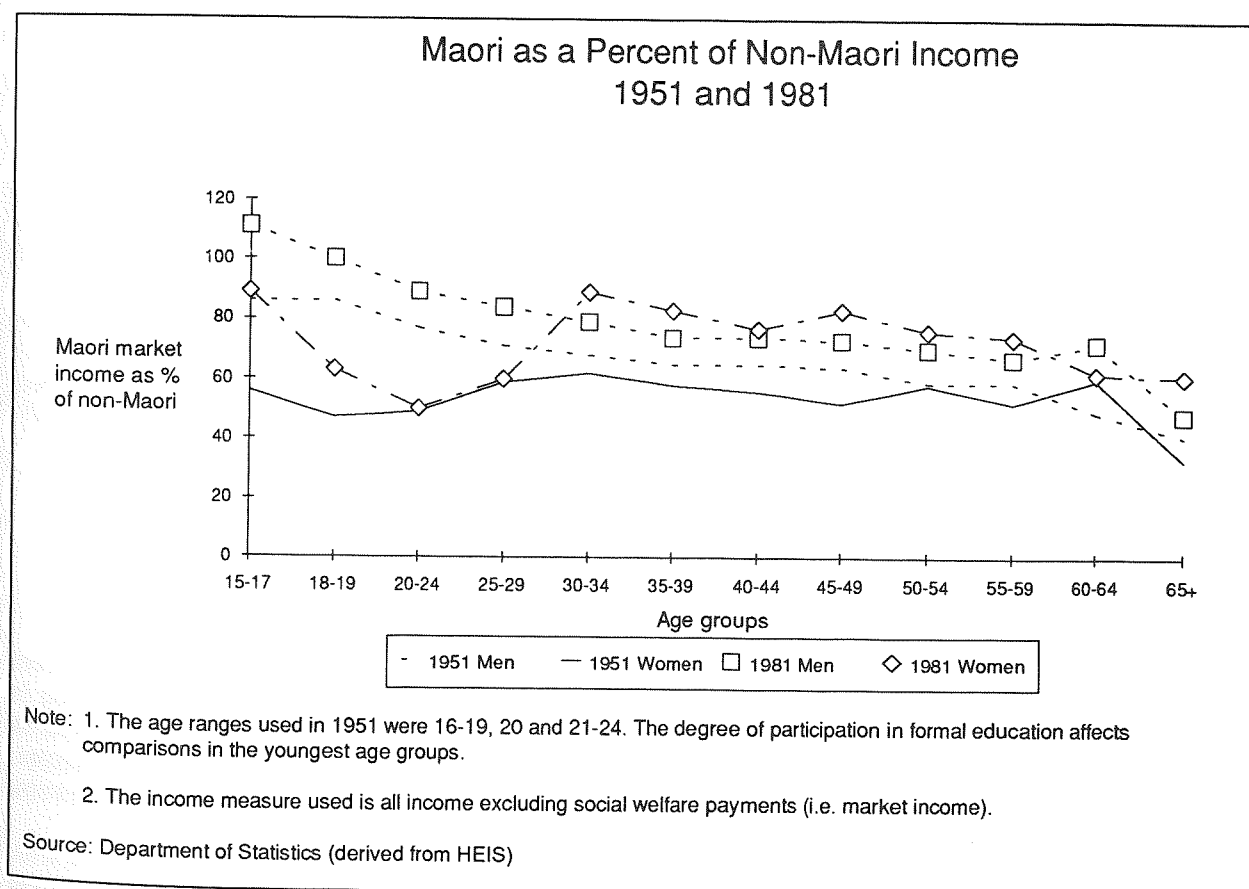
A. Individual market incomes

Long-term trends in Maori and non-Maori market incomes

Maori market incomes have been lower than those of non-Maori at every census since 1951, when Maori income data were first collected. A considerable narrowing in the size of the differential has taken place. Maori men and women in every age group had higher market incomes in 1981 relative to their non-Maori counterparts compared with 30 years earlier (see Infogram 6.1). A major factor underlying this improvement in the relative income position of Maori was the increased participation of Maori in full-time paid employment during the post-war period, linked with their shift from a predominantly rural lifestyle to one where most Maori live in towns and cities.

It is important to note, however, that the improvement is in terms of market income. Non-market income, from growing one's own produce for example, and from the benefits of a traditional life-style, will have been greater in the earlier period. In other words, the increase in market income will not necessarily have brought an equivalent improvement in well-being. Most improvement in the market incomes of Maori occurred in the period between 1951 and 1971. Despite this narrowing a considerable gap between Maori and non-Maori remains, however. In the 1980s this gap has widened again.

Infogram 6.1

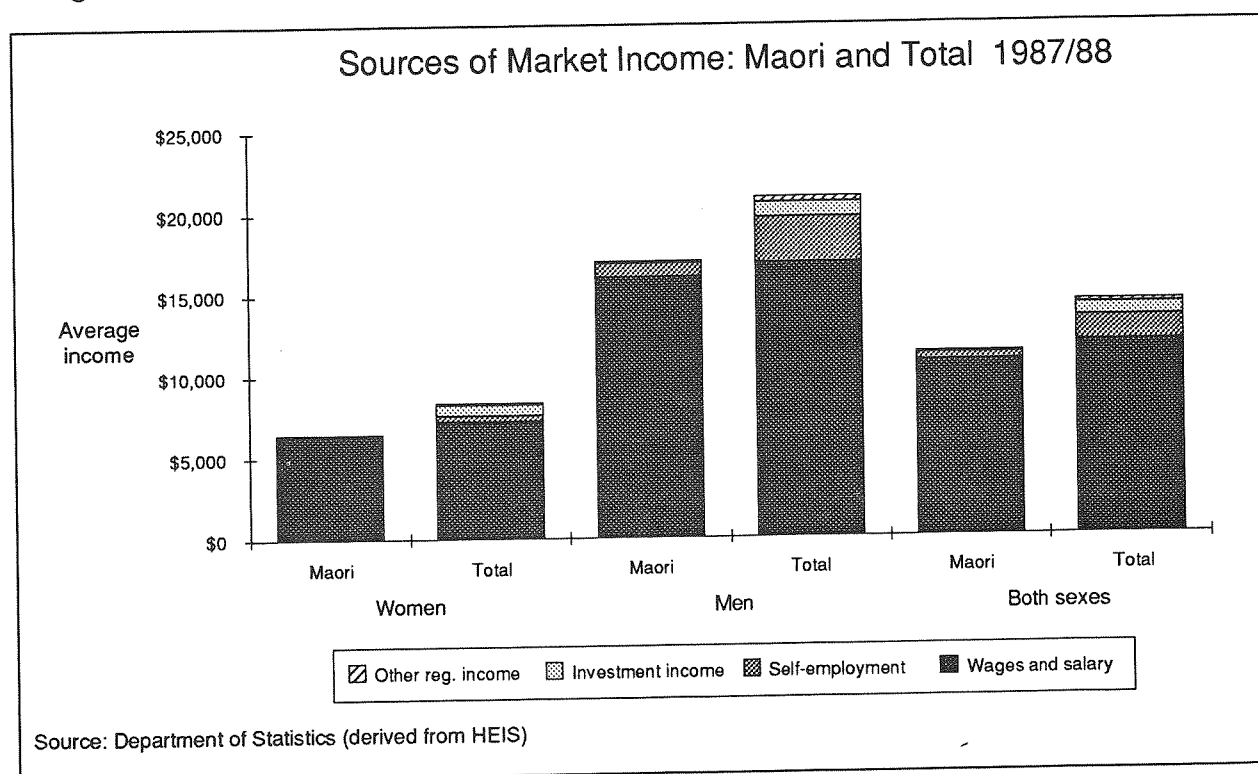


Sources of market income

In 1987/88 adult Maori received on average \$11,300 from the market, compared with \$14,400 on average for adults in the total population. Ninety-eight percent of this came from employment earnings. The younger age structure of the Maori population explains in part the lower level of market income, and also explains in part the lower receipts from investment income. Cultural factors also indicate that current income is often shared among the whanau to meet current needs rather than being invested (see Chapter Five). Income from communally-owned assets, such as Maori land leased for forestry, is not included in individuals' investment income, but we understand that currently this amounts to little.

In 1987/88 adult Maori women received on average \$6,340 in employment earnings (from wages, salaries and self-employment) — 84 percent of the \$7,550 received by all women on average. Maori men received on average \$16,910 — 85 percent of the \$19,900 on average for all men.

Infogram 6.2



Work-force participation

The 1981 Census showed that 55 percent of Maori adults were employed, and this increased to 59 percent by the time of the 1986 Census. This was mainly due to an increase in Maori women's participation in employment, from 36 to 45 percent, whereas for all adult women participation increased from 45 to 48 percent. Maori men aged 15 and over suffered a decreased level of employment, from 75 to 72 percent, compared with 76 to 74 percent for all men. This would be mainly due to the rising level of unemployment over this period, which has had a disproportionate impact on Maori.

In the 1986 Census, rates of unemployment were 12 percent for Maori men compared with 4.3 percent for non-Maori men, and 17.1 percent for Maori women compared with 6.2 percent for non-Maori women. By March 1990, Maori unemployment in the Household Labour Force Survey was 20.6 percent compared with 7.3 percent for the whole population, and 5.8 percent for those of 'European' ethnic origin.

Wage and salary earnings

Infogram 6.3 compares the average earnings of Maori full-year full-time wage and salary earners with those of full-year full-time earners in the total population. Differentials are influenced by hours worked. For instance, Maori women working full-year full-time worked on average two hours more per week in 1987/88 than all women, whereas Maori men worked on average two hours less than all men.

The gap between Maori and the total population widened considerably between 1985/86 and 1987/88. Both Maori men and women appear to be worse off relative to the total population than they were in 1981/82, especially Maori men.

The data in the infogram compare Maori with the whole population, rather than with non-Maori. If the comparison is made with non-Maori rather than with the total population, the ratios change only slightly to 92, 92 and 82 percent respectively for the years shown. This is because Maori are only 8 percent of all full-time full-year wage and salary earners, and so only marginally affect the overall average.

Infogram 6.3

Average Earnings of Full-year Full-time Wage and Salary Earners (by sex for Maori and compared with total adult population) years ended March 1982, 1986 and 1988						
	Women			Men		
	Maori \$	All \$	Maori/All %	Maori \$	All \$	Maori/All %
1981/82	11,300	11,800	96	14,900	16,300	91
1985/86	14,700	16,200	90	21,000	22,400	94
1987/88	20,700	22,000	94	24,100	30,300	80
Average full-time hours worked per week						
1987/88	41.9	40.0		42.4	44.3	
Total population Average full-year full-time wages and salaries						
		Maori \$	All \$	Maori/All %		
1981/82		14,000	15,100	92		
1985/86		19,200	20,700	93		
1987/88		23,000	27,800	83		
Average full-time hours worked per week						
1987/88		42.2	42.8			

Source: Department of Statistics (derived from HEIS)

Why is there a gap in earnings?

Maori workers, on average, are younger and have fewer educational qualifications than the average worker. In 1986 over half (55 percent) of the Maori-descent working-age population (15-64 years) was aged between 15-29 years, compared with 40 percent of the total working-age population.

Planning Council analyses of 1986 Census data on total incomes (that is, market incomes plus social welfare payments) have attributed 19 percent of the difference between the total incomes of Maori and non-Maori men in the full-time work-force to the younger age of Maori men. A further 34 percent of the difference was attributed to their lower educational qualifications. In the case of women in the full-time work-force, 13 percent of the difference between Maori and non-Maori total income was attributed to age and 43 percent to educational qualifications. Much of the remaining difference is attributable to differing patterns of employment by occupation (which in themselves are related at least in part to educational qualifications and age) and to variation in hours worked. In 1986 the five occupations with the highest Maori full-time representation were general labourers, food processors, material and freight handlers, transport operators and agricultural workers (Callister 1989). The Maori work-force is more concentrated in sectors where employment has currently been falling, such as manufacturing and forestry. These data, and the relative trends in earnings, have been confirmed in studies by Brosnan (1985, 1987, 1988).

Higher wage and salary earnings for Maori should result eventually from their increased participation in education and training and greater entry into high earning occupations. Although average qualifications remain lower, more Maori students are leaving school with recognised qualifications. In 1988, 30 percent left with Sixth Form Certificate or a higher qualification compared with 16 percent 10 years earlier. The success of Te Kohanga Reo suggests that faster progress could be achieved in post-compulsory education by encouraging programmes that are more responsive to Maori educational requirements and cultural values.

Earnings from self-employment and investment income

A lower proportion of Maori adults are self-employed, again partly because of age and occupational differences. At the 1986 Census, 4 percent of employed Maori women were self-employed, compared with 10 percent of all employed women. The corresponding figures for men were 9 percent and 22 percent. Thirty-four percent of self-employed men of Maori descent in the Census received over \$20,000 in total income. The comparable figure for all adult self-employed men is 42 percent. Fifteen percent of self-employed Maori women received over \$20,000 in total income compared with 19 percent of all self-employed women.

From HEIS data, in 1987/88 all adults received on average \$800 in income from investments compared with \$53 for Maori adults.

The distribution of individuals' market income

Infogram 6.4 shows the distribution of Maori adults by market income quintile for three recent years. Between 1981/82 and 1985/86, although the proportion of Maori in the top two quintiles fell, there was also a significant and larger shift out of the bottom quintile into the middle income range. In the subsequent two years this was reversed. By 1987/88 Maori were in a worse relative position than in 1981/82. This can be largely explained by the disproportionate impact of unemployment on Maori men.

Infogram 6.4

Proportion of Maori in each Quintile of Market Income for the years ended March 1982, 1986 and 1988						
Market income quintiles of adult individuals (%)						
	Low 1	2	3	4	High 5	All
Maori both sexes						
1981/82	31	16	17	21	16	100
1985/86	26	17	22	20	15	100
1987/88	30	17	18	22	13	100
All adults	20	20	20	20	20	100

Source: Department of Statistics (derived from HEIS)

B. Household market incomes

In 1987/88 the average Maori household received \$23,750 from the market, of which 95 percent was from wages and salaries, 3 percent earnings from self-employment, 1 percent investment income and 1 percent other regular income. This figure is 79 percent of the \$30,050 received by the average household, of which 82 percent is wages and salaries, 11 percent self-employment earnings, 5 percent investment income and 2 percent other regular income.

Even more clearly than for individual incomes, there was a deterioration during the 1980s of the relative income position of Maori households. From being about equal on average in 1981/82, they fell to 21 percent below the all household average in 1987/88. Much of this decline, however, is caused by a fall in the average size of Maori households, leading to there being fewer income-earners on average per household. This fall in average Maori household size is discussed below. It means that trends in Maori average household income are better discussed in terms of 'equivalent' income (see the following section) rather than actual income.

These figures are in terms of all households. If we restrict ourselves to comparing families — that is, excluding one-person households, and 'non-family' households such as young people flatting together — the gap becomes wider and increased proportions of Maori households are found in the lower quintiles. This is because the much greater proportion and number of non-Maori one-person households (mainly pensioners) on relatively low market incomes pulls down the overall average. When Maori are compared with all households this makes the average for Maori households appear relatively higher (see Infogram 6.5).

Infogram 6.5

Distribution of Maori Households Across Market Income Quintiles of All Households for the years ended March 1982, 1986 and 1988

	Market income quintiles of all households (%)					Total	Average income of Maori households as % of average over all households
	Low 1	2	3	4	High 5		
Maori households							
1981/82	17	20	25	21	17	100	101
1985/86	20	21	24	18	17	100	91
1987/88	27	22	21	18	12	100	79
All households	20	20	20	20	20	100	

Source: Department of Statistics (derived from HEIS)

Market income adjusted for household size and composition

The average expenditure requirements of Maori, compared with all households, are higher due to their average larger household size. In 1987/88 the average Maori household contained 3.4 occupants, of which 1.5 were children. Comparable figures for the average household were 2.9 occupants, of which 0.9 were children (see Appendix Three).

So-called 'equivalence scales' have been developed which adjust incomes to allow for the different spending requirements of different kinds of households (see Appendix Two). For example, the scale leaves unchanged the income of a couple with no children, but the income of a couple with three children is scaled down by 37 percent in 'equivalent dollar' terms. This reflects the greater spending pressures on such a household, compared with a couple-only household.

Using the equivalence scale to give household incomes in equivalent dollars increases the average differential between Maori and all households. This is shown in Infogram 6.6. The ratio of average household income for Maori to all households was 85 percent in 1981/82 in equivalent dollar terms. This compares with 101 percent in actual dollars (see Infogram 6.5). In 1987/88 the ratio was 77 percent, the average Maori household receiving \$19,400 equivalent income from the market, compared with \$25,250 equivalent income averaged over all households.

Infogram 6.6 also shows the sharp fall in the estimated average size of Maori households since 1981/82. It is this which largely causes the trend in average Maori household incomes, relative to the all population average, to be significantly different from the trend in actual dollar terms (compare the final columns of Infograms 6.5 and 6.6). The ratio in terms of equivalent dollars is the better measure of relative trends.

Market incomes by life cycle stage

Infogram 6.7 compares, for 1987/88, the average household's market income for Maori and all households in each life cycle category. It is important to remember that Maori sample numbers are small in many categories, and attention should focus on the general profile rather than giving too much weight to comparisons in individual categories.

Infogram 6.6

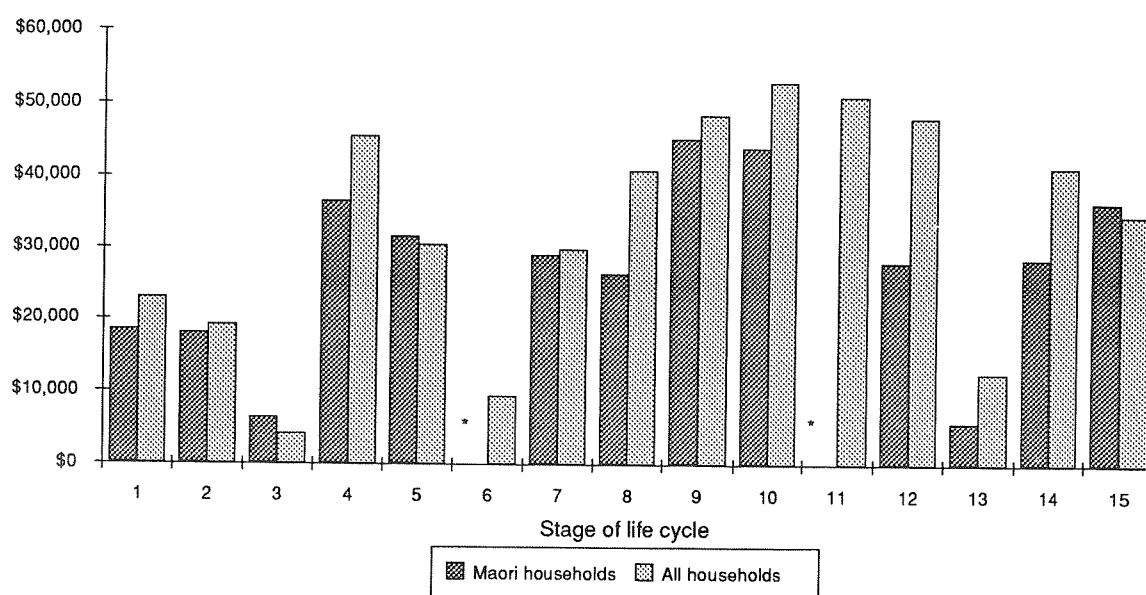
Average Household Size, Maori and All Households,
and Ratio of Equivalent Average Household Incomes

	Average no. of people per household		Average equivalent income of Maori households as % of average equivalent income over all households
	Maori	All	
1981/82	4.5	3.0	85
1985/86	4.1	3.1	78
1987/88	3.4	2.9	77

Source: Department of Statistics (derived from HEIS)

Infogram 6.7

Market Income by Life Cycle: Maori/All 1987/88



* Not enough observations in HEIS for reliable estimates

Source: Department of Statistics (derived from HEIS)

Key: Households' stage of life cycle

Single person	Couple (age of female)	Couple with children (age of female)	
1 15-39	4 15-39	7 <30	13 Sole parent
2 40-59	5 40-59	8 35-39	14 Other family
3 60+	6 60+	9 30-34	15 Non-family
		10 40-44	16 All households
		11 45-49	
		12 50+	

A higher proportion of Maori households fall into the categories of sole parent (23 percent compared with 9 percent) and other family (13 percent compared with 5 percent) than for all households. These are two of the groups for which Maori average household market incomes appear significantly lower. (Other family households are those with more than one family, or consisting of a family plus others not related or not closely related.) Unfortunately comparison of the income of elderly people cannot be made because of limits on sample accuracy. Only 6 percent of Maori households fall into this category compared to 21 percent for all households.

The impact of the government budget on Maori households

Infogram 6.8 shows the impact of social welfare cash payments and direct taxes on Maori compared with all households. Comparisons are made first on the basis of equivalent dollars and, second, on dollars per head. These are alternative ways of adjusting for differences in household size. (Equivalence scales are more complicated than a simple 'per head' computation because they allow for the economies of scale from people living together, and also the lower average expenditure needs of children.)

In the case of social welfare payments, Maori households receive more of their income on average from this source than do other households. The reasons for this have been touched on: the higher incidence of joblessness amongst Maori, combined with larger households including more children than for non-Maori. As would be expected from the younger age structure and lower incomes of the Maori population, Family Support payments, for example, are considerably higher whereas income tax and National Superannuation in particular, are lower. (For our analyses Family Support payments, like direct taxes, have been estimated from nominal schedules applied to reported incomes. Actual amounts received could differ because of less than 100 percent take-up, etc.)

Infogram 6.8

	Equivalent dollars			Actual dollars per head ¹		
	Maori	All	Maori as % of all	Maori	All	Maori as % of all
Market income plus social welfare cash payments	19,400	25,250	77	7,000	10,400	67
	8,000	5,750	139	2,950	2,000	148
Total income less direct tax	27,450	31,000	88	9,950	12,350	81
	-6,750	-9,050	74	-2,400	-3,650	66
Disposable income	20,700	21,950	94	7,550	8,700	87

¹ On the basis of an average 3.4 people per Maori household in 1987/88, and 2.9 people per household for the total population. The figures are actual dollars, not equivalent dollars.

Source: Department of Statistics (derived from HEIS)

The outcome is that, in 1987/88, equivalent disposable income, averaged over Maori households, was 94 percent of the average over all households. This is a significant increase from the ratio of 77 percent for equivalent market income. (If Maori are compared to non-Maori households only, the respective ratios are 94 percent for equivalent disposable income, and 75 percent for equivalent market income.)

Our analysis also extends to the allocation of other items of government spending and revenues across households. One important component of government spending is that on social services such as health, education and housing. On average Maori households were, in terms of our model, allocated in equivalent dollar terms \$4,700, compared with \$4,250 for all households. (In per head terms, the respective amounts were \$1,850 and \$1,750). The difference is accounted for by a larger amount of spending on education being allocated to Maori households on average, offset by a lesser allocation of health spending.

Education spending per Maori household was 42 percent higher than per general household. This comes directly from there being more children per Maori household, 1.5 on average as against 0.9 for the whole population. Thus education spending could be expected to be about two-thirds as much again per Maori household as for the general household, rather than just 42 percent higher. Put another way, education spending per Maori child was \$2,250, but for all children was \$2,600 per child. This reflects the lower level of participation of Maori in post-compulsory education and training. Maori households receive less of the expenditure on health services, as Maori make up far fewer of the elderly who are the largest consumers of health services. The average Maori household receives, however, more from Housing Corporation expenditure (\$650 on average) than does the average household (\$305 on average), though this is a comparatively minor element in the total.

On our figures the gap in average market income between Maori and all households is partly closed by government transfers (higher benefits and lower taxes) and from the allocation of other government spending, such as on education. Differences in family composition and in the age structure account, as seen above, for much of the variation in the effect of the government budget. Further differences arise from social circumstances, such as unemployment or sole parenthood, which affect young Maori more than others. Government expenditures in those circumstances are termed as 'benefits' but are seen by many Maori as nothing more than 'compensation' for the dislocation of Maori society and institutions. In fact, many see it as ineffective and negative in its impact, reinforcing dependency on a Pakeha system which does not work well for Maori and which caused the dislocation in the first place. Hence the argument in a report of the Maori Economic Development Commission, that funds spent on these dependency benefits could be used in a more effective 'remedial' way by iwi and other Maori authorities to strengthen Maori cultural, societal and family bonds.

Changes over time in the budgetary impact

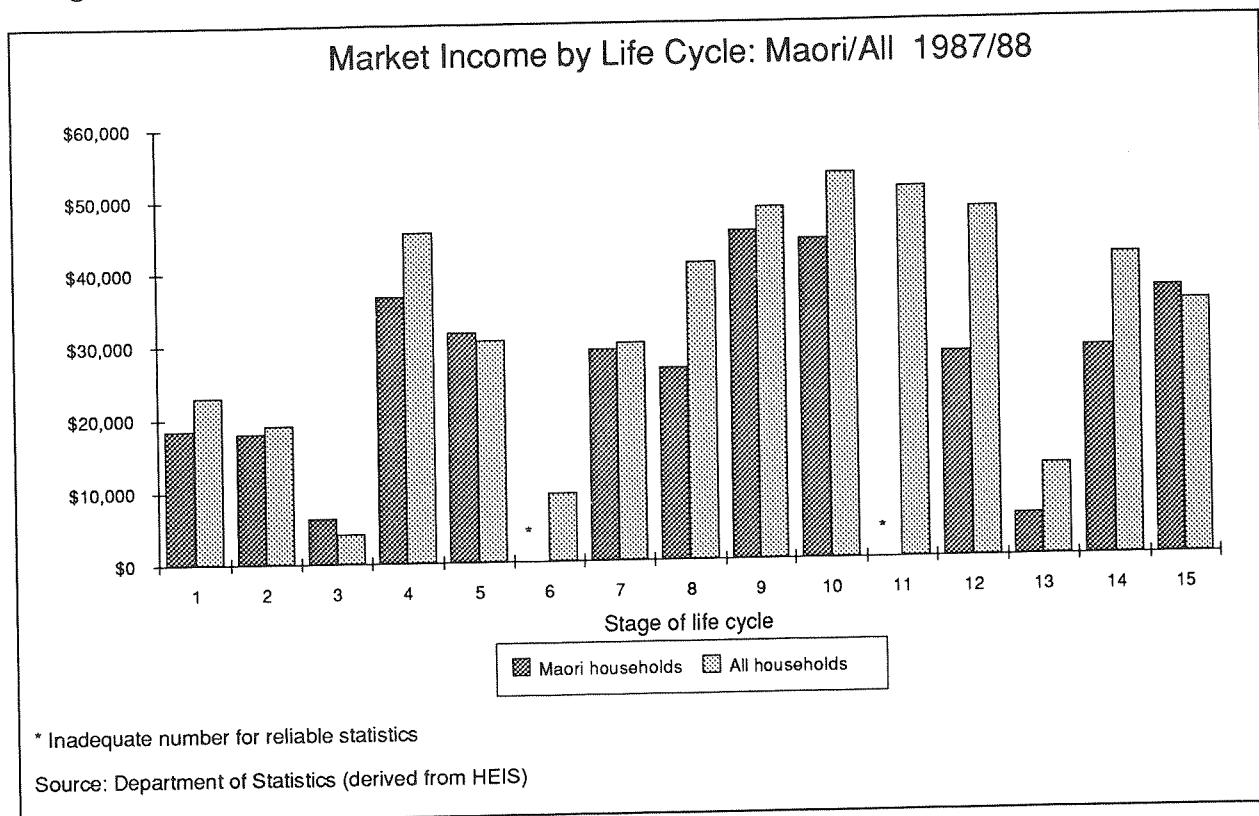
An examination of the detailed figures (not given here) shows a broadly similar picture for government transfers to Maori households in 1985/86 and 1987/88. However, because the average market income of Maori households fell between 1985/86 and 1987/88, benefit transfers to Maori households increased relative to those to all households.

The outcomes for Maori

Maori and total population average market incomes by household life cycle stage are compared in Infogram 6.7. Infogram 6.9 compares the two populations in terms of average household equivalent disposable income in each category, for 1987/88. While equivalent market income is about 23 percent lower on average for Maori than total households, the gap in terms of equivalent disposable income closes to about 6 percent.

Our comparisons are in terms largely of 'cash' income from the market and government transfers, plus government services. Maori, in part because of age and occupational differences, would receive less 'non-cash' income such as fringe benefits, capital gains, imputed interest earnings of occupational superannuation schemes, and imputed income from homeownership.

Infogram 6.9



Conclusion

Maori in full-time employment earn on average around 20 percent less than the average for the work-force as a whole. Differences in age, educational qualifications, and the occupational and industrial structure of Maori employment account for a considerable part of this difference. Maori unemployment rates are considerably higher, however, and work-force participation lower, especially for men, increasing the gap in average incomes between Maori and all New Zealanders. When we compare households rather than individuals, we find a similar gap in average market income of over 20 percent in 1987/88 (but smaller in 1985/86). However, this understates the gap because non-Maori households on average receive a much larger share of non-cash income, in particular from the benefits of mortgage-free homeownership. Finally, Maori households have on average more children to support.

The long-term trend has been towards closing this gap, associated with the rural-urban post-war migration of Maori and, particularly recently, with more young Maori seeking higher educational qualifications. More recently, however, the income gap has widened because increased unemployment and economic restructuring have hurt Maori more.

When we turn to the impact of the government budget we find that Maori households receive more on average than non-Maori households, although after allowing for larger family sizes, Maori average household income is still lower. There is also Maori dissatisfaction with the outcomes from some of that government spending, for instance on education.

It will be seen that in a number of areas we would like to have more and better quantitative information, in

particular on non-cash income flows, and on the benefits received from education at different levels. These should be important objectives for future research.

Concerning the policy implications of our results, it is not a satisfactory outcome that budget transfers should be the mechanism for redressing inequality. (It is, of course, appropriate that Maori receive a greater share of family support and of education spending because of the larger average size of Maori families.) Maori have made considerable progress in the post-war period in closing the gap in economic well-being. These efforts, in particular iwi development initiatives and the increase in post-compulsory educational achievement by young Maori, continue. But, more than most of the population, Maori have been set back by the economic difficulties of recent years.

Chapter Seven

Gender Differences in Incomes

The participation of women in the work-force has increased dramatically in recent decades (see Haines 1989, and *Women in New Zealand* 1990). However, there is still a sizeable 'gender gap' in income from paid employment, and from the market in general. Following the Equal Pay Act of 1972, women's average ordinary-time earnings rose from 72 percent of men's in October 1973 to nearly 79 percent in 1979. This has increased only slowly since, to 81 percent in May 1990. To confirm this, an important finding in this chapter is that the ratio of women's full-time full-year wages and salaries to that of men changed only marginally between 1981/82 and 1987/88. Later in the chapter we discuss the reasons for the gap, and why it persists.

A major determinant of the differences between incomes received by women and men is women's pattern of work-force participation over the life cycle. The average woman spends a period of time out of the paid work-force, commencing with the birth of her first child, and then resumes part-time work as her children age. Labour force participation rates by gender are most similar for those in the 15-19 age group. Between ages 20 and 49 there are about three men in the paid work-force for every two women. During these years about one in three women in the work-force are working part-time, compared with about one in 30 men (Haines 1989). Earnings of women in full-time paid employment are, on average, lower than those of men. As a result, women are less likely than men to be able to accumulate wealth in their own right and so receive the income and other benefits that can be derived from wealth-holdings.

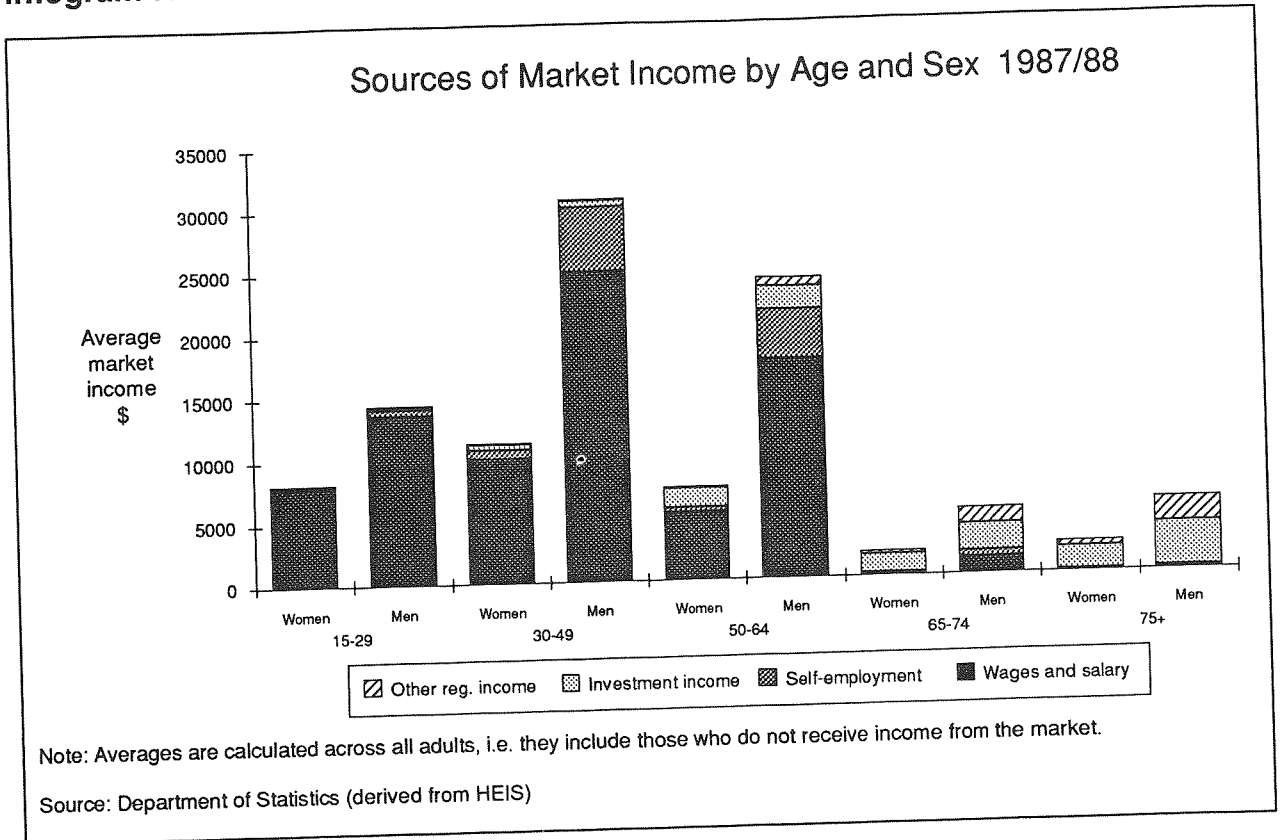
Sources of market income over the life cycle

Infogram 7.1 shows that market incomes are most equal for women and men in the 15-29 age group. Wages and salaries make up 97 percent of the market income of both women and men in this age group. The average market incomes of both women and men increase through to middle age and then fall off as retirement approaches. In the case of women there is less diversity in income sources. Women's average earnings do not rise to the same extent as men's, mainly because many women stop working or work part-time due to child-rearing responsibilities.

Self-employment becomes more important over the age of 30. But for women in the 30-64 age group, only 5 percent of income comes from this source, compared to over 15 percent for men. From the age of 50 the importance of investment income as a source of market income increases rapidly, to over 75 percent for women aged over 75, and over 60 percent for men. Other regular income (predominantly private pensions) also becomes more important for the older age groups, contributing 17 percent of market income received by women aged 65 and over, and 27 percent to that of men.

At age 60-64, the female/male differential in average incomes received from the market is greater than for any other adult age-grouping, due to the high proportion of women in this group not participating in paid employment. The differential between the sexes in terms of income received from the market continues into old age, due mainly to men's greater tendency to be in paid employment and their receipt of private superannuation, the entitlement to which, was built up during their working lives.

Infogram 7.1



Employment earnings

The rapid increase in the labour force participation of women over the last 20 years has been particularly noticeable in the 35-50 age group. Between 1981 and 1986 the proportion of adult women who were employed rose from 45 to 48 percent, and to 51 percent in 1988. In contrast, the proportion of men employed decreased from 76 to 74 percent in 1986 and 72 percent in 1988. At the 1986 Census, 11 percent of employed women were self-employed compared with 22 percent of employed men.

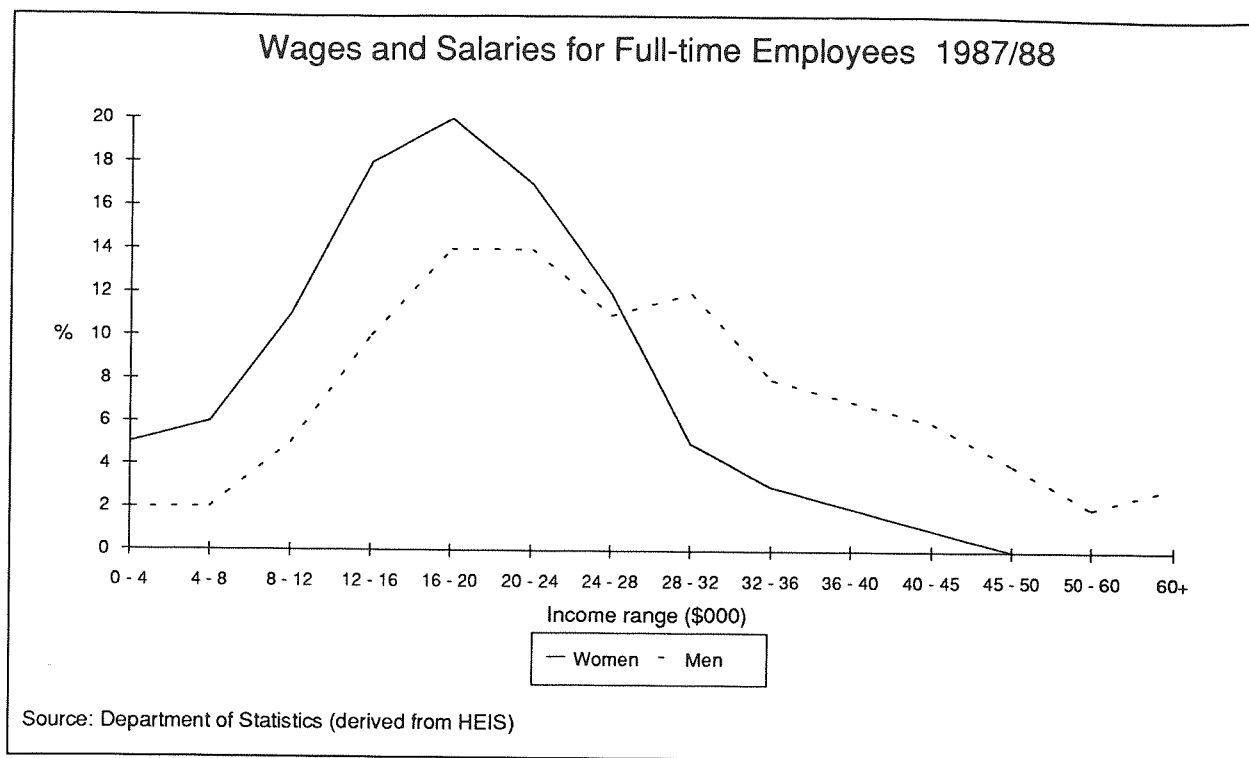
Wages and salaries earned as an employee

In 1987/88, wage and salary income was received by 74 percent of men and 63 percent of women. Women made up 48 percent of all wage/salary earners but earned only 32 percent of all wage/salary income. A major reason for this is the higher proportion of women who work part-time. In 1987/88, 36 percent of women wage and salary earners working at the time of the HEIS interview were part-time (less than 30 hours a week) compared with 7 percent of men, so that 80 percent of part-time employees were women.¹ Women part-time workers averaged \$6,800 in earnings, and men \$5,800. Men working part-time only worked on average 12 hours a week, compared to 15 for women.

Infogram 7.2 shows that while modal earnings (the point where earnings are most concentrated) are roughly similar for men and women full-time employees, there are far more highly paid men. Many of those with low incomes will be those who did not work full-time for the whole year. Average earnings for wage and salary earners working full-time at the time of the 1987/88 HEIS interview were \$18,500 for women and \$27,450 for men (see Infogram 7.2). Average earnings for full-year full-time employees in 1987/88 were \$21,960 for women and \$30,270 for men, a ratio of 72.6 percent. This differential has changed little since 1981/82 when the ratio was 72.2 percent. In 1987/88 men working full-time worked four hours a week longer on average than full-time women.

¹ According to the 1986 Census, 30 percent of women in the work-force were employed part-time.

Infogram 7.2



Earnings from self-employment and investment

Women workers are about half as likely to be self-employed as men. This is partly explained by self-employment being common in the agricultural and building and construction sectors. During 1987/88 women earned \$10,500 on average from self-employment, 47 percent of the male average of \$22,300. Forty-two percent of the women engaged in self-employment were part-time, compared with only 10 percent of the men.

Investment income is more evenly distributed between the sexes. In 1987/88 women made up 52 percent of the adult population and received 44 percent of the investment income, representing an average of \$680 for women and \$930 for men.

Why the gender pay gap?

Apart from women's greater level of participation in part-time work and their lesser tendency or opportunity to do overtime than men, there are two reasons put forward to explain the existence of the pay gap. One is the differences in rates paid for work of 'equal value' or 'comparable worth' performed in predominantly male and predominantly female occupations. The other is the differences in rates paid because of differences in education, training, work experience and seniority. Haines (1989, p.10) points out that young women working full-time are still less likely to have an undergraduate tertiary qualification than their young male counterparts. Current hiring policies and seniority structures do not reflect the value of experience gained whilst working unpaid within the community and home.

Haines has analysed the earnings gap. Women's mean full-time income from all sources in the 1986 Census was 69 percent of men's. However, women in the work-force are younger than men on average. When this was taken into account, women's average income rose to 71 percent of the male average. Taking into account the difference in hours worked per week, the average income of women rose to 76 percent of

the male average. The ratio rises to 80 percent when allowance is made for women's greater tendency to be part-year workers.

Gundersen (1989) concluded that differences in the occupational distribution of men and women account for a substantial portion of the overall earnings gap. Research by van Mourik, Poot and Siegers (1989) concluded that occupational segregation in New Zealand is not disappearing rapidly. However, some encouraging trends can be identified. Seventy percent of the increase in women's full-time employment from 1971 to 1986 was in occupations where men were initially over-represented. Nearly 24 percent of medical practitioners in 1986 were women compared with 13.2 percent in 1971, while the percentage of women lawyers grew from 4.9 in 1971 to 31.5 in 1986.

The Employment Equity Act came into force in October 1990. The legislation is designed to enable any union or employer's organisation, or group of 20 or more women, to request a pay equity assessment of a defined occupation to determine whether gender bias in remuneration exists and, if so, to what extent. As the New Zealand Institute of Economic Research (NZIER) (1989) points out, the key factor determining the impact of the legislation in New Zealand is its restrictions on the scope of claims. The Act requires that the assessment be made with reference to at least two male-dominated occupations requiring broadly similar levels of skill, effort and responsibility. At least one of these should, where practicable, be represented in the same or similar work-places as those of the women. Since much of the difference in female/male rates of pay arises from the concentration of women in relatively few occupations, this restriction greatly limits the potential impact of the legislation. The NZIER envisages that the concurrently operating Equal Employment Opportunity (EEO) policy will tend to offset any negative employment impacts for women.

The distribution of market income

Infogram 7.3 shows the heavier concentration of women who had little or no market income compared to men. At the upper end of the distribution, only 3 percent of women in 1987/88 had market incomes of \$30,000 or over, compared with 27 percent of adult men. Overall, 83 percent of women and 93 percent of men received (or lost) income from the market.

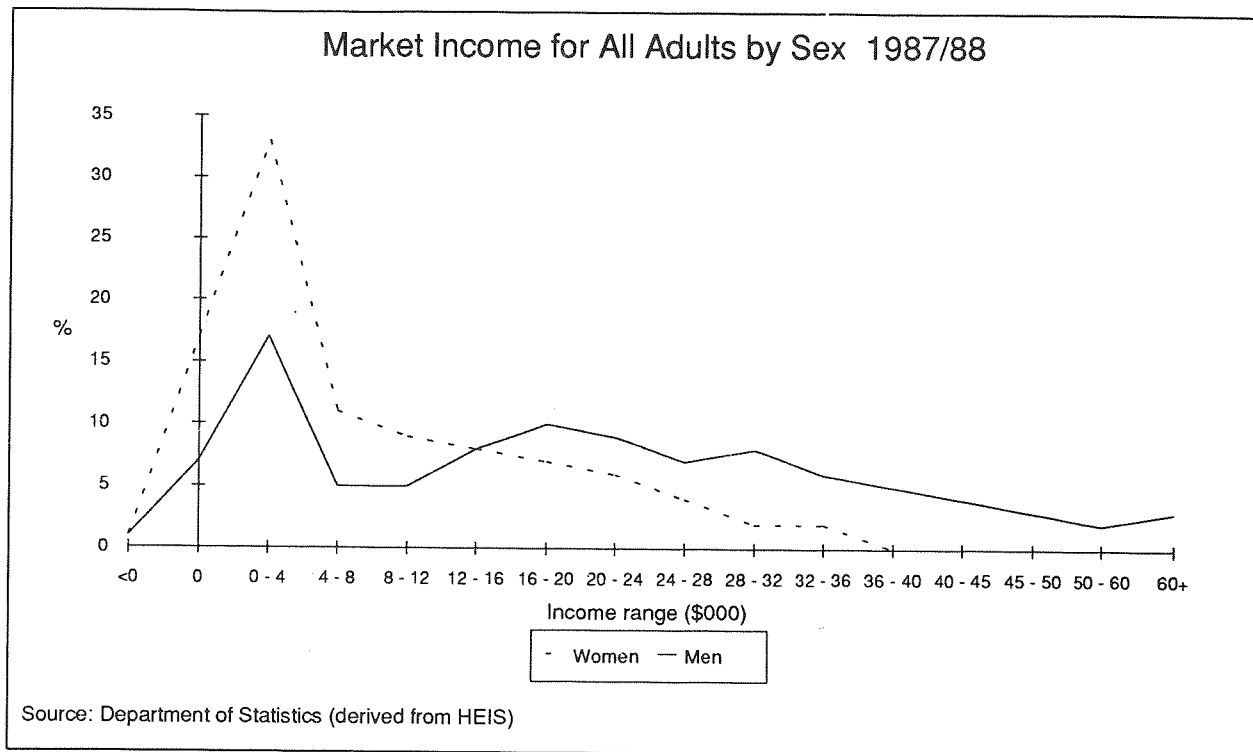
Between 1981/82 and 1987/88 women have shifted up the distribution of market income in relation to men. A major cause has been the increased labour force participation of women, and their gradual shift into higher paying occupations and positions of seniority. This is illustrated in Infogram 7.4.

Total income

In 1987/88, 29 percent of women's total incomes (market income plus social welfare payments) came from government transfers, compared with 9 percent of men's. For both sexes the largest component of government transfers was National Superannuation. In 1987/88 the second-largest component for men was the Unemployment Benefit from which they received \$210 on average, almost double the amount received by women on average. In 1987/88 the Domestic Purposes Benefit was women's second-largest source of benefit income at \$650 per woman. From the remaining large benefit categories (Guaranteed Minimum Family Income and Family Support, Family Benefit and other benefits) women received three times as much as men.

The overall effect of social welfare transfer payments is shown by comparing the female/male ratio for market income to that for total income. In 1987/88 the average market income for adult women was \$8,360, 40 percent of the average of \$20,950 for adult men. The government's cash transfers lessen the difference. Including these, adult women received on average \$11,770 in total income, 51 percent of the average of \$22,929 for men.

Infogram 7.3



Infogram 7.4

**Proportion of Adults in each Quintile of Market Income by Sex
for the years ended March 1982, 1986 and 1988**

Market income quintiles of adult individuals (%)

	Low 1	2	3	4	High 5	All
Women						
1981/82	29.4	27.4	23.1	14.7	5.4	100
1985/86	28.5	26.2	23.5	15.6	6.2	100
1987/88	28.0	25.2	23.5	16.1	7.2	100
Men						
1981/82	10.0	12.2	16.8	25.6	35.4	100
1985/86	10.9	13.4	16.2	24.7	34.8	100
1987/88	11.3	14.4	16.2	24.2	33.9	100

Source: Department of Statistics (derived from HEIS)

Conclusion

The gap between average market income for women and men is large. It is mostly explained by socially determined (but lessening) differences in participation in paid employment. Much of women's work, a lot more so than men's, is unpaid. Attempts to put a value on this unpaid work make more apparent the overall

importance of women's contribution to the economy and to society.

Returning to paid work, when we try to compare like with like, the average earnings in 1987/88 of full-year full-time women employees were an estimated 72.6 percent of the average earnings of their male counterparts, a small change from the 72.2 percent ratio in 1981/82. The causes of this difference are partly explainable — for example, by differences in hours and occupational preferences — but are partly in dispute. In particular, there is the issue of gender bias. By this we mean women being paid less than men for work of similar levels of skill, effort or responsibility, as well as resistance to employment of women in certain occupations or positions. The Employment Equity Act and Equal Employment Opportunities policies are designed to address these and other issues of work-force discrimination.

Social welfare cash transfers reduce the female/male income difference to some extent. Women, through their greater contribution to child-rearing, and their larger representation among sole parents and pensioners, receive as individuals a larger share of such payments.

There are other important issues for women in the areas of income and wealth, in addition to that of employment gender bias. They include the question of child-care responsibilities as a barrier to paid work participation, the financial position of women who have lost their partners through death or marriage breakdown and, for those living in a 'family' household, the question of whether they receive a 'fair' share of total household resources. We have barely touched on these issues.

Chapter Eight

Income and Wealth Patterns Through Life

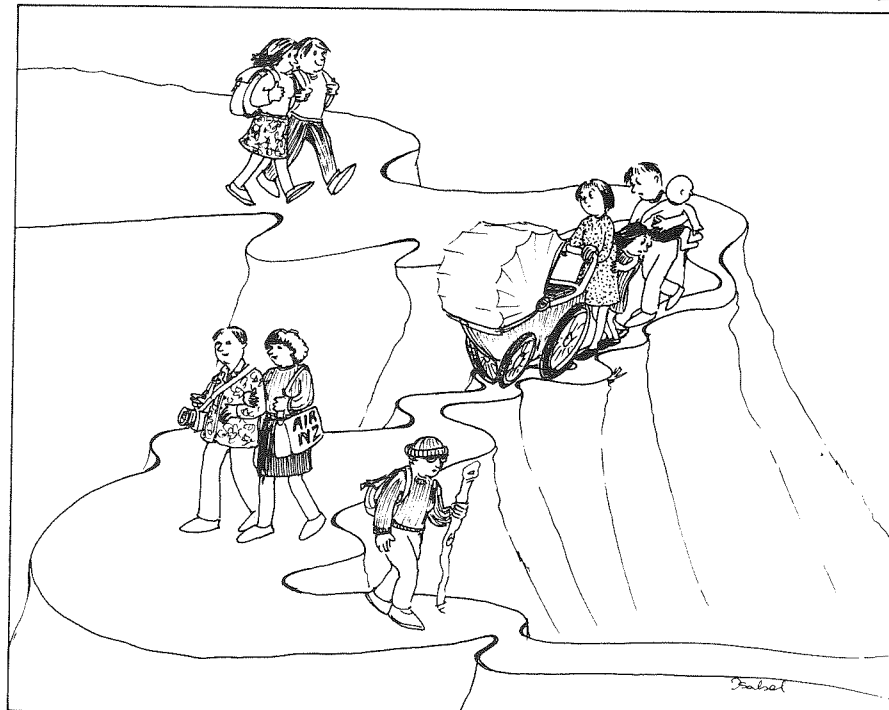
Chapters One through Seven discuss the distribution of income, and Chapters Nine through Eleven examine the distribution of wealth. In this chapter we make some general comments about links between the two, and the typical 'profiles' of income and wealth over the life cycle.

Ideally we would be able to measure the distribution of 'lifetime' income and wealth, in addition to measuring the 'cross-sectional' distribution at selected points in time. A lack of appropriate data prevents this being attempted. In the absence of such data we have tried to illustrate the changes in income and wealth through life by presenting much of our information in terms of life cycle stages.

A typical lifetime path for income and wealth can be sketched for the *average* person or household assumed to follow the *traditional* life cycle pattern. However, individuals or households will be widely distributed about the *typical* trajectory. The *atypical* trajectories of those having difficulties establishing a permanent place in the labour force, or affected by household dissolution, result in important issues of social policy — for instance, whether any disadvantages suffered by such groups also seriously affect the opportunities open to their children, or whether we might expect Maori life paths to differ somewhat on average from those of non-Maori.

Income and wealth are interdependent throughout life. Income is important to the accumulation of wealth over a lifetime. In turn accumulated wealth generates income, perhaps in cash form (interest, dividends, rents), or as 'realisable' income (capital gains), 'prospective' income (pensions) or 'non-cash' income (the services provided by ownership of durable assets, and especially by homeownership). The extent of savings from a given income, and the standard of living derived from that income, are partly dependent on family size, and we have adjusted for this through the use of equivalence scales.

BALANCING THE BUDGET - FOLLOWING THE INCOME PATH THROUGH LIFE



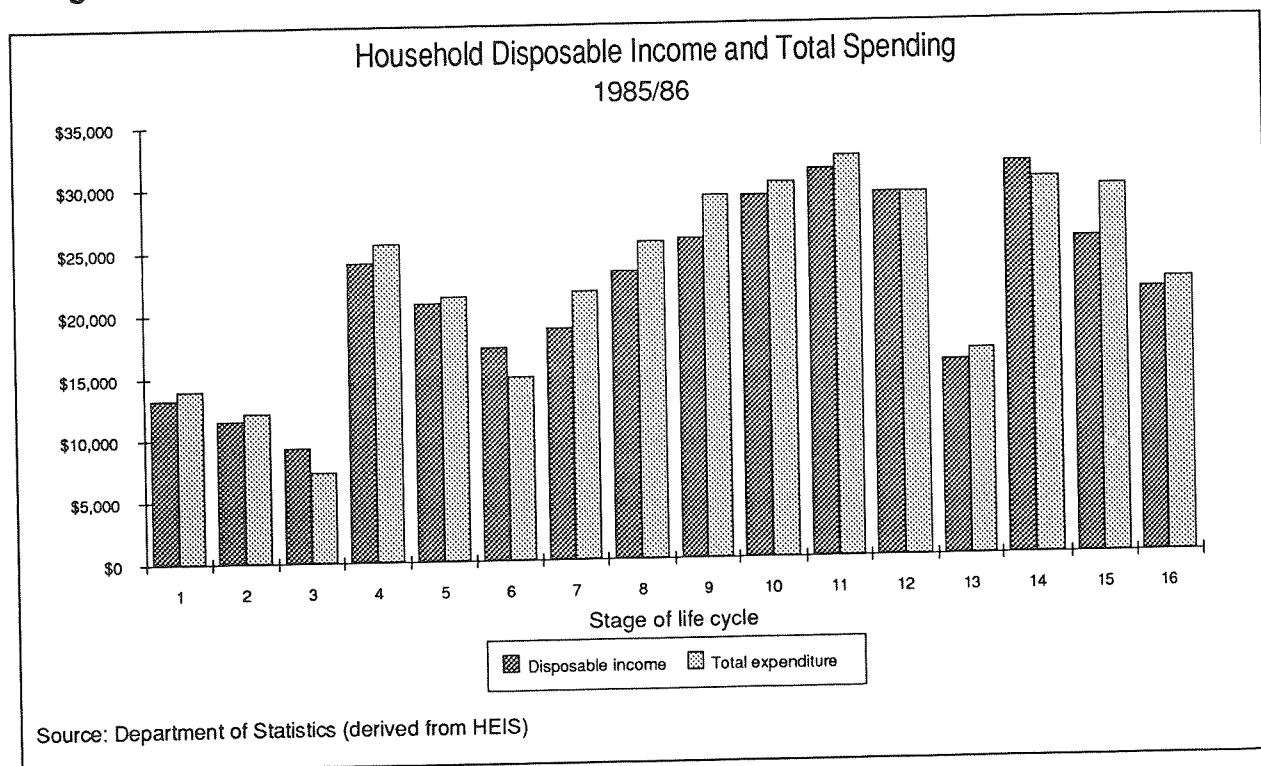
A family's income and expenditure over the life cycle

A typical income path for individuals has income rising rapidly in the initial years after entering the labour force, and then more slowly to middle age for those remaining in continuous paid employment. Employ-

ment income then tends to fall in the later years of paid employment (because of fewer hours worked etc.), partly compensated by increased income from other sources. The path shifts for families comprising couples with or without children. When a household is formed with both partners in employment, income jumps. It then generally falls with the arrival of children, whilst spending rises towards or in excess of income because of the cost of supporting children, and also often because of the initially high costs of home purchase. (Note that the regular reduction in the outstanding principal on the mortgage is a part of savings.) Later in middle age, the child-minding partner generally returns to work, either part- or full-time, whilst household spending declines as the home mortgage is paid off. Saving potential is often highest at this stage of life. Finally, in the 'retirement' years household income falls significantly, but spending needs also fall. (For a discussion of typical lifetime income and spending patterns see Royal Commission on Social Policy 1972, pp.592-3.)

For the household life cycle types used in this report, Infogram 8.1 matches the average *disposable income* for each type against average total expenditure in 1985/86. Over all households average spending tends to exceed average disposable income. This is more so at the lower end of the income distribution for various reasons, including spending from 'irregular' income such as inheritances, gifts, lump-sum superannuation or lotteries, and from credit or borrowing.

Infogram 8.1



Key: Households' stage of life cycle

Single person	Couple (age of female)	Couple with children (age of female)	
1 15-39	4 15-39	7 <30	13 Sole parent
2 40-59	5 40-59	8 35-39	14 Other family
3 60+	6 60+	9 30-34	15 Non-family
		10 40-44	16 All households
		11 45-49	
		12 50+	

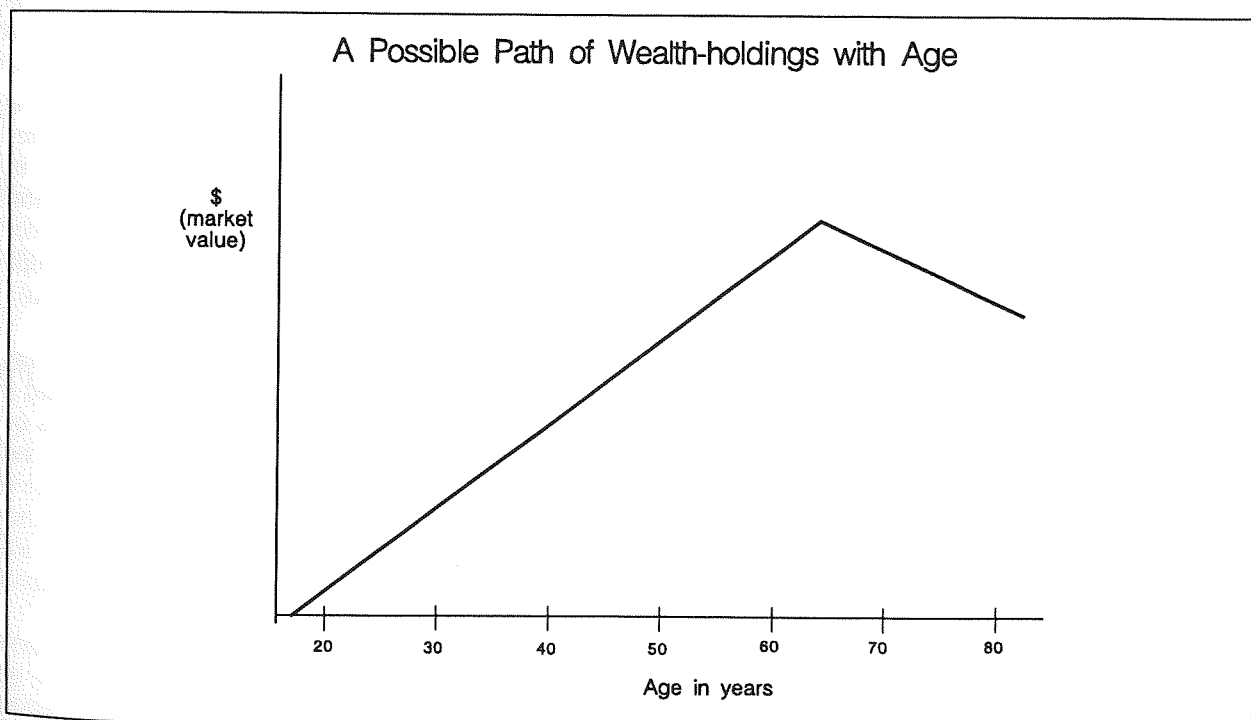
The infogram shows the general pattern, as discussed. Spending is greater in relation to income for younger families (including childless couples as well as those with children, perhaps because of home purchase). The age-profiles of income are broadly as expected. In '60 and over' households, disposable income is in excess of total spending, especially for single people aged 60 and over. (This last result seems to contradict a common belief that elderly national superannuitants living alone find it more difficult to cope than other household types. It could be that while this is true of those whose sole income is from National Superannuation, the inclusion in this household type of those with substantial other income causes the high average savings level for the group as a whole.)

It would be useful for policy-makers to know how representative these averages are. There are few data on the stability of a household's income over time. There may be less inequality in cumulated lifetime income than in annual income, as in some households good years offset bad years.

The lifetime accumulation of wealth

If wealth were accumulated solely from savings from disposable income, then the path followed by personal/household wealth-holdings through life would show wealth increasing steadily with number of years spent in the labour force (see Infogram 8.2). The higher the income the greater the wealth, depending on the consumption preferences of the individual or household. Wealth-holdings would peak at retirement age, and then be run down in the later years of life. We shall examine in later chapters whether this pattern is actually followed, or whether other influences such as the transmission of wealth by inheritance lead to a different pattern of wealth-holdings by age.

Infogram 8.2



Broadening the definitions

So far we have talked in terms of cash income, and 'personal marketable' wealth. For measuring standards of living over a lifetime, however, these definitions need widening.

Take first the income curve and non-cash income. Fringe benefits increase the income of a proportion of those in paid employment, more particularly those in the older, higher income groups. Capital gains can be widespread, especially on homeownership in past years, but capital losses are also possible, as on farmland in the early and mid-1980s and on shares more recently. Over the longer term, however, real gains have tended to outweigh losses on assets such as farmland and shares as well as houses — and in general they are untaxed. Capital gains on houses are accessible to those — the greater majority of households — able to achieve homeownership, with the increase in wealth being largest for those on higher incomes. Gains on other assets are restricted to a smaller part of the population (although a proportion of the income of superannuation funds comes from such gains).

More generally, significant influences on the standard of living are the contribution made by unpaid work in or around the home, and by the 'imputed' rental income from homeownership. The first is undoubtedly substantial and, if taken into account, narrows the gap between 'one-earner' and 'two-or-more earner' families. A difficulty with non-cash income, however, is that it is not readily usable to meet cash outlay needs although home cooking or gardening, for example, somewhat reduce cash outlay needs.

Imputed income to homeowners from not having to pay rent tends to be negative in the early years of homeownership because of high interest costs, particularly in recent times. In later years, however, it can make a very significant net contribution to a household's standard of living, although again in non-cash form. The effect is to tilt the average life income path upwards at middle and older ages.

Turning to the lifetime pattern of wealth-holdings, the material to be examined in later chapters shows the distribution of personal wealth-holdings with age to be rather flatter than as shown in Infogram 8.2. This is probably partly due to the effects of gifts and inheritance. However, the distribution is still naturally weighted towards the later years of life.

If 'non-marketable' components of wealth are added, the picture changes somewhat. Entitlements to occupational pensions tend to be distributed similarly to financial assets in general. Entitlements to state-provided superannuation are, however, much more broadly and equally distributed. Their inclusion in aggregate household wealth, as well as increasing the total substantially, will also make its distribution much more equal over the income range. However, if account is taken of the tax contribution required over time to finance state superannuation, the contribution to wealth is negative for those in younger age groups (reflecting the fact that state pensions are an ongoing redistribution of income from the young to the old).

If 'human capital' — the income-earning potential of individuals — is included in wealth measures, however, then there is an apparent increase in the share of wealth held by the younger age groups, and a further equalising of the distribution of wealth, when so defined. Which of these different definitions of wealth is used depends on the purpose for which it is used. Generally, the more broad the definition the more equal the resulting distribution.

Summary

The pictures shown of changes in income and wealth through life should be kept in mind in assessing the cross-sectional evidence given in the preceding and following chapters. They make clear the need to take account of demographic, social and historical developments in any comprehensive discussion of the community's income and wealth.

Chapter Nine

Wealth — Its Components and Their Estimation

In the earlier chapters on income a distinction was drawn between cash income — such as employment earnings, investment income, benefits and pensions — and non-cash income — fringe benefits, unrealised capital gains, imputed rental from homeownership, unpaid work in the home.

Wealth-holdings can be categorised in a similar fashion. Beginning with personal wealth, marketable wealth includes real assets — such as houses, farms, vehicles and other property — and financial assets, such as cash, loans, shares, life assurance policies, pension entitlements. Non-marketable wealth includes the value of entitlement to state-provided social security pensions (Guaranteed Retirement Income), and the value of human capital, in terms of individuals' ability to earn income from their skills.

As well as personal wealth there is also communally-owned or social wealth, where assets are held by iwi and religious organisations for example, sports bodies, and indeed by local or central government. (Debt must be set off against these assets to give net wealth. Privatisation of government assets reduces gross wealth but the proceeds can be used to reduce debt.) Again, this wealth can be categorised into marketable or non-marketable assets. The wealth embedded in natural resources, such as clean air and a pleasing environment, could be considered part of social wealth, or treated as another category of wealth again.

Marketable wealth, by definition, can be valued in terms of prices that might be paid for the underlying asset. Placing values on other forms of wealth presents considerable conceptual problems, and although quasi-market approaches can be utilised in some instances, these need to be treated with caution.

In this report we have mostly concentrated on personal marketable wealth, although Chapter Eleven looks at communally-owned Maori wealth. This should not be taken to imply that issues such as the value of the environment are not seen as important, but rather that there is insufficient agreement as yet on the conceptual tools for meaningful estimates to be included here. An outline of the principal forms of personal wealth is shown in Infogram 9.1.

The benefits of holding wealth

Wealth can be seen as a source of income, or the promise of future income. But it also has other values. For some assets, there is the personal pleasure of possession and use. Wealth provides security against unexpected events, and may enable the owner to take advantage of economic opportunities not otherwise available. It confers status, and often provides an increased ability to exercise power and influence.

Perhaps a particularly strong motivation for the accumulation of wealth is the ability to pass it on to others by way of bequests and gifts, including the financing of educational opportunities. The various 'non-pecuniary' benefits conferred by wealth are seen as a major justification for taxes on wealth by those who support such taxes (Sandford 1987).

Infogram 9.1

Main Types of Assets: Their Marketability, Income Flow and Potential for Capital Gains/Losses			
	Marketability	Income flow	Potential for capital gains/losses
Personal effects	Yes	None	Rare
Material assets held as a store of value e.g. gold, antiques	Yes	None	Yes
Dwellings	Yes (takes time)	Imputed income	Yes
Other properties	Yes (takes time)	Rental income	Yes
Money and interest-earning assets	Yes	Interest income	Not usually
Quoted shares	Yes	Dividend income	Yes
Partnership, private business, farms	Yes (takes time)	Profit	Yes
Life assurance	Yes (penalty imposed)	Lump sum	Not usually
Superannuation non-state-provided	Was no; position is changing	Lump sum or regular income	Not usually
State-provided superannuation	No	Regular income	No
Human capital	No	Employment income	No

How is wealth acquired?

A major conclusion drawn from *For Richer or Poorer* was that access to paid work makes possible the accumulation of savings and credit-worthiness which can be used to acquire wealth, and is thus a major determinant of most individuals' wealth. Clearly those with only limited access to paid work, or whose incomes are relatively low, have less opportunity to accumulate wealth, since their disposable income is likely to be consumed by living expenses.

Bequests and gifts also play a part in wealth accumulation, as can the provision of better educational opportunities for children of better-off households, which can ensure access to well paid work. There is considerable debate on the relative importance of savings from income, as against bequests and transfers, in explaining the way in which wealth is distributed. In this report we draw no conclusions on this issue, but do provide some data on household receipts of gifts and bequests, and the way in which wealth is distributed by age and sex. One should also not forget that an important aspect of the accumulation of wealth is not just the amount of savings or bequests, but also the entrepreneurial talents and/or good fortune of individuals seeking to increase their wealth. (See Easton 1983, Appendix One.)

Methods of estimating wealth

Two main methods have been used to estimate the distribution of personal marketable wealth. One draws on estate duty returns, the other uses household investment income and insurance expenditure to impute asset values. Supplementary approaches have also been utilised and are discussed later.

Estate duty returns

The traditional source of information on wealth in New Zealand has been the data available on the value of estates of people dying in each year. The number of expected deaths in each age group each year is known from population data, so the assets of those for whom returns are filed may be used as a base to project the assets of the population as a whole. Use of subgroups, by sex and other characteristics, can be used to refine the estimates.

It may be thought that only those liable to pay estate duty, some few hundred a year in New Zealand, actually have to file returns. In fact, returns are made for nearly half of the 24-25,000 deaths occurring each year, due to the requirements of the legal processes involved in transferring property on death. (Since October 1989 these requirements have changed and returns are now compulsory for only a minority of estates.)

Payne (1990) sets out fully the method used, and discusses some of the estimation problems arising from changes to legislation; in particular, the effect of the Matrimonial Property Act 1976, which has led to the exclusion of some jointly-held property until such time as both partners are deceased.

A possible source of error in the method is the influence of socio-economic position on mortality. The estate returns at the younger ages are likely to under-represent those who are homeowners and holders of other forms of wealth, leading to an understatement of wealth for those age groups. There is also some question as to whether increasing amounts of wealth are being sheltered by being transferred into trusts, or being gifted prior to death. Payne concludes that, by virtue of comparison with some known population aggregate wealth values, the estate duty returns approach may well be substantially underestimating wealth-holdings.

Household imputation

Data from HEIS provide information on cash flows from investments of various kinds, and on insurance expenditures in respect of dwellings, contents and motor vehicles. By investigating average investment yields according to the type of security, and market levels of insurance premiums, a picture can be built up of imputed wealth.

By comparison with the estate duty approach, the imputation method gives results distributed by households, rather than by individuals. This allows a greater degree of direct comparison with household income distributions to be made (Robins 1990).

The results using the imputation approach are sensitive to the investment returns and insurance premium rates assumed. A detailed analysis in the United Kingdom concluded that this method may not be as reliable as estate duty estimation techniques (Atkinson and Harrison 1978).

Overall wealth estimates derived from estate duty returns

Payne's paper follows earlier work using estate duty data. Galt (1985) covered the period from 1870 to 1939, and showed average wealth in New Zealand to be high by international standards, and relatively egalitarian in distribution. Easton (1983) has provided aggregate personal wealth estimates for periods from the mid-1950s to the mid-1970s. (See also Crothers 1987.)

The estimates given here extend these earlier figures. For the years from 1980/81 it has been possible to get a breakdown of data by sex (unavailable to Easton), and with a finer value-group dissection. The greater refinement leads to somewhat lower estimates of aggregate wealth, by some 5 to 10 percent.

Infogram 9.2 shows estimates of total personal marketable wealth from 1955/56 to 1987/88, drawn from

Easton and Payne, and in the latter years showing separately the effect of the male/female breakdown. On this basis an estimate of total personal marketable wealth in New Zealand amounts to \$85 billion in 1987/88.

Infogram 9.2

Estimates of Aggregate Personal Marketable Wealth 1956 to 1988
(based on estate returns)

March year	Easton \$(b)	NZPC ¹	NZPC ²	Ratio to GDP ³
				3.30
1956	6.2			2.95
1966	11.7			2.75
1971	14.3	15.4		2.54
1976		28.5		2.11
1977		28.7		2.08
1981		47.6	43.3	1.62
1986		72.6	66.7	1.56
1988		92.3	85.1	

Note: Easton's estimates are as at March, and the 1971 estimate is an extrapolation from 1966.

¹ Estimates comparable to those of Easton, not distinguishing between male and female estates.

² The NZPC's 'preferred' estimates using the male/female breakdown available from 1980/81, and a more detailed value-group classification.

³ Using Easton's estimates and the comparable NZPC series.

Source: Easton (1983, p.161), Payne (1990)

The final column in Infogram 9.2 relates the wealth figures to national income for the same period, using GDP as a measure of that income. The steady fall in the ratio from 3.30 in 1955/56 down to 1.56 in 1987/88 is quite striking. It does highlight the possibility of an increasing undercoverage in estate duty returns, as discussed earlier in this chapter.

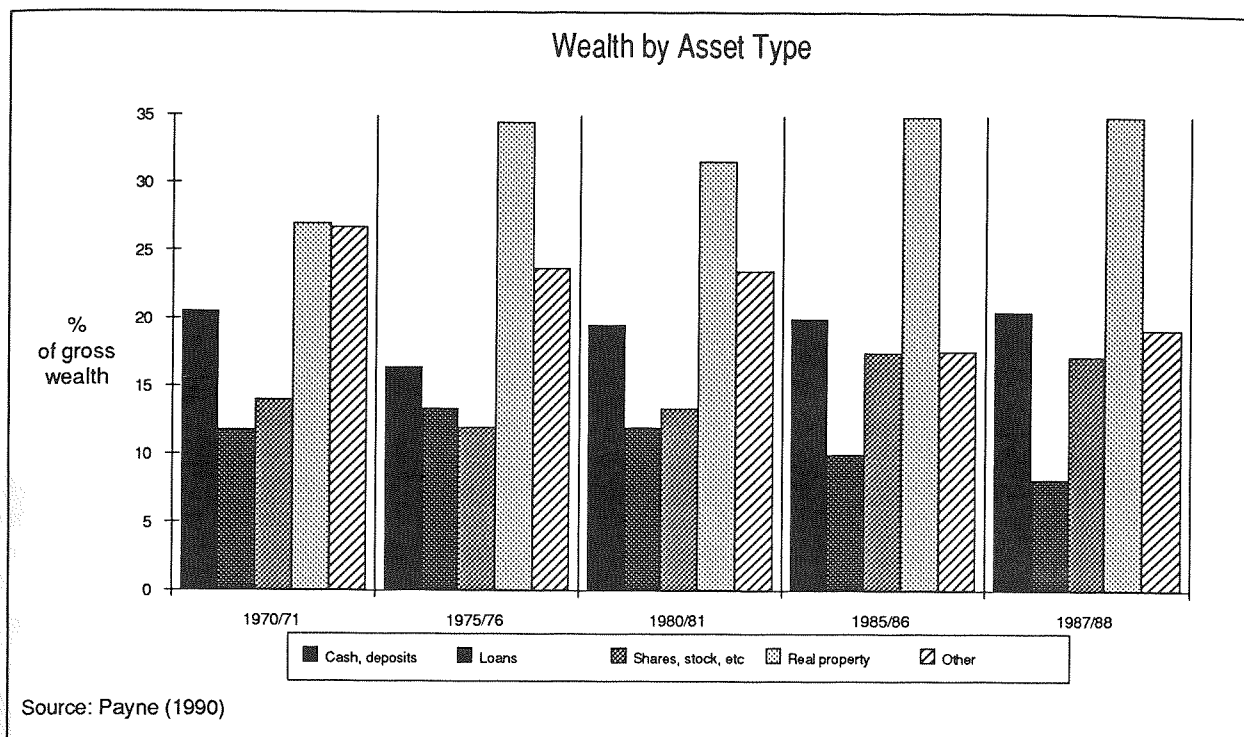
So although it is also possible to speculate that wealth as a ratio to GDP may have genuinely fallen — for example, from increased foreign ownership, a relative shift down in asset values compared to income, greater consumption and less savings — the possibility of undercoverage requires wariness in drawing any conclusions in this respect from estate duty data.

Despite the technical problems in respect of coverage, it is hoped the distribution information derived from the data remains reasonably valid. Infogram 9.3 shows the percentage asset-composition of wealth for various years derived from estate duty returns. With allowance for fluctuations due to sampling errors proportions are fairly consistent over time. About a third of the gross wealth is held as real estate, about a fifth as cash and bank deposits, and about a sixth as shares. Because of time-lags, the results of the 1987 sharemarket crash are not apparent.

Overall wealth estimates imputed from HEIS data

The data in this section come from Robins (1990). The aggregate value of real and financial household assets is given in Infogram 9.4 in total, and as an average per household. The household average values are over all households, not just owner-occupiers, so that the average for owner-occupiers would be higher than that shown.

Infogram 9.3



Infogram 9.4

Aggregate and Average Asset-holdings of Private Households

	Total (\$b)		Per household (\$000)		Composition (%)	
	1985/86	1987/88	1985/86	1987/88	1985/86	1987/88
Material assets						
Owner-occupied housing	39.6	69.3	37.1	61.6	51	48
Contents ¹	15.9	48.2	14.9	42.8	20	33
Vehicles	11.1	14.6	10.5	13.0	14	10
Total	66.6	132.1	62.6	117.4	86	91
Financial assets						
Low yield	3.2	6.3	3.0	5.6	4	4
High yield	2.4	4.0	2.2	3.5	3	3
Other interest-earning	1.3	1.1	1.2	1.0	2	1
Shares	4.3	2.0	4.0	1.8	5	1
Total	11.1	13.4	10.4	11.9	14	9
Total assets	77.7	145.4	73.0	129.3	100	100

¹ Of rented and owner-occupied homes, and other properties.

Source: Robins (1990), using imputations based on HEIS data

Real property (farmland and residential buildings)

Estimates of the market value of privately-owned property can be derived from the valuation rolls maintained by Valuation New Zealand. These give estimates of property values by local authority for each of 'land value' and 'capital value' (the latter including buildings, fences, etc.). We have used the figures applicable to rateable properties (including those where grants in lieu of rates are paid) which have been adjusted to a common valuation date. Unfortunately separate totals by use of property (farmland, residential, commercial, etc.) are not published. Infogram 9.7 provides an approximate rural/urban split.

Infogram 9.7

Total Property Values: Rural and Urban						
Net equalised values as at 31 March						
	1982		1986		1988	
	Land value	Capital value	Land value	Capital value	Land value	Capital value
Counties and islands	24.6	40.8	25.6	49.1	27.7	55.1
Cities and boroughs	14.8	47.0	31.2	89.0	53.2	131.9
Total¹	39.4	87.9	56.8	138.2	80.9	187.0

¹ Includes independent town districts.

Source: Valuation New Zealand

When allowance is made for inflation, the infogram shows that rural land values over the period have fallen markedly in real terms and, similarly, rural capital values have barely held their real worth. While there has been some extension of urban boundaries, the fall in the market price of farmland in the 1980s must be the major factor.

We have been unable to obtain data directly on residential properties as to aggregate market values, nor as to values net of mortgages. Some approximate estimates can be made, however. Infogram 9.8 shows the results of applying average sale prices as reported by Valuation New Zealand to the known totals of residential housing stock. To the extent that average and higher priced houses are sold more frequently than lower priced houses, the estimates may be biased upwards, but examination of the data suggests that this effect is not material.

These estimates indicate that in early 1988 the total market value of occupied permanent private dwellings in New Zealand was of the order of \$116 billion. For owner-occupied buildings, the estimate is \$86 billion. These figures may be contrasted with the values given in Infogram 9.5.

The estimates in Infogram 9.8 are gross, before allowance for mortgages (as for the HEIS data-imputed estimates, but not for the estate duty-derived figures). We have been unable to find useful information relating directly to average mortgages on dwellings (see Payne 1990, for further discussion). A plausible estimate, however, is that owner-occupied dwellings overall would have mortgages on average of one-fifth of market value. Net values would therefore be about 80 percent of the figures in Infogram 9.8.

Infogram 9.8

Approximate Total Value of Private Residential Dwellings						
As at March ¹	No. of occupied permanent private dwellings (000)	Proportion owner- occupied (%)	No. of owner- occupied permanent private dwellings (000)	Average sale price ² \$(000)	Total value	
					All occupied dwellings \$(b)	Owner- occupied dwellings \$(b)
1981 (census)	1,003.1	70.9	711.2	37.6	37.7	26.7
1982	1,017.7	71.3	725.6	49.2	50.1	35.7
1985	1,062.6	72.5	770.4	71.8	76.3	55.3
1986 (census)	1,078.0	72.9	785.9	80.4	86.7	63.2
1987	1,093.6	73.3	801.6	95.7	104.7	76.7
1988	1,109.5	73.7	817.7	104.8	116.3	85.7

¹ Figures on dwelling numbers and proportion owner-occupied at non-census dates are estimated from the 1981-1986 inter-censal trend.

² Weighted average of average house price and average owner-occupied flat price, in ratio four to one.

Source: Censuses of Population and Dwellings; Valuation New Zealand

Listed company shares

Figures are available for total sharemarket capitalisation, in respect of shares listed on the New Zealand Stock Exchange. The extent to which these are personal holdings is difficult to surmise, since institutions such as superannuation funds and life offices are large equity holders. (These funds are largely indirectly held by individuals.) There are also inter-company holdings, and some foreign ownership. It should be noted that total market capitalisation was \$13 billion in March 1985, rising to \$21 billion in March 1986 and \$40.5 billion in March 1987, before falling to \$26 billion in March 1988, but the amount directly attributable to personal holdings can not be accurately ascertained.

Superannuation entitlements

Superannuation arrangements in most developed countries are principally characterised by inaccessibility to funds until reaching the age of 60 or later, and provision of benefits in the form of taxable retirement income. As a consequence, national tax regimes for superannuation are generally oriented towards treating monies placed in such arrangements as tax-deferred income.

While this was the case in New Zealand more or less up until 1988, the extent to which tax-free lump sums could be taken, and the lack of full restrictions on accessibility to savings in employer-sponsored schemes, tended to obscure the rationale of superannuation arrangements in this country. Rather than choosing to rationalise and tighten up or remove the concessional elements of the existing legislation, government chose to remove any separate tax treatment entirely in 1988. As a consequence, all existing superannuation fund monies may now be taken tax-free, and scheme rules may permit payment in lump sum form and accessibility to funds at any time.

The distinction between superannuation provision and other forms of savings is therefore currently in the process of disappearing with the removal of a separate tax treatment for identified superannuation arrangements. At this point in time it is too early to estimate to what extent long-term savings will be affected. It remains that substantial personal wealth entitlements have been built up in identified superannuation funds, including schemes for the employees of central and local government. In addition, there is the entitlement to the state-provided social security pension Guaranteed Retirement Income (GRI) paid for out of taxation which, to the extent that the implicit inter-generational promise is kept, can be said to constitute a form of wealth-holding.

Rashbrooke (1990) provides estimates of superannuation wealth, derived as at March 1988. The estimates of wealth held in identified superannuation arrangements are based on the annual report of the Government Actuary, and on annual reports from the Government Superannuation Fund (covering central government employees) and the National Provident Fund (covering local government employees and groups such as nurses and the fire service). For estimates of the value of GRI, an actuarial valuation approach was used.

Total superannuation wealth, excluding GRI, is estimated as \$20 billion. This is made up of some \$10 billion of assets reported as held by private sector superannuation funds, including the National Provident Fund, \$2 billion held in the Government Superannuation Fund, and an unfunded liability of \$8 billion in the Government Superannuation Fund. While some private sector superannuation schemes have actuarial surpluses (that is, more assets than their calculated liabilities) there is an offsetting actuarial deficit in the local authorities scheme administered by the National Provident Fund. The private sector assets figure is based on a mixture of book and market values, and probably does not reflect in full the effect of the 1987 sharemarket crash and the subsequent fall in commercial property values.

It will be noted that approximately half the superannuation wealth is in the Government Superannuation Fund, with 73,000 members and 42,000 pensioners. About \$5 billion of the unfunded liability is thought to be in respect of the existing pensioners, the balance being in respect of the accrued membership to date of current members; the future benefits represented by these unfunded liabilities is met from taxation as the benefits arise, with over \$400 million being needed from the Consolidated Fund in the year ending March 1989. The private sector assets cover some 290,000 members and 31,000 pensioners. The distribution of entitlements is fairly unequal, some substantial entitlements being balanced by a large number of small entitlements.

The current state-provided social security pension has been known as National Superannuation since its introduction in 1976. Recent changes have included a name change to Guaranteed Retirement Income with effect from 1991, but the present National Opposition has indicated that it will reverse the change of name if it wins the 1990 General Election.

On the basis of recently announced changes — the present eligibility age of 60 being moved up to 65 beginning in 2006 and finishing in 2026, and the level of benefit falling to 65 percent of average earnings over the next 20 years — Infogram 9.9 shows the calculated value of the entitlement for the four major population groups. By way of comparison, the value before the recent changes is also shown.

Infogram 9.9

Estimated Value of State-provided Social Security Pensions		
	Value after benefit change \$b	Value before benefit change \$b
Non-Maori men	58	75
Non-Maori women	82	104
Maori men	3	5
Maori women	5	6
Total population	148	191

Source: Rashbrooke (1990)

The calculations assume a discount rate of 2.5 percent and current population mortality. They do not allow for the effect of ordinary income tax nor the National Superannuation surcharge tax. The 'before benefit change' values would of course have required higher taxes to finance them. The relatively low values for Maori compared to non-Maori are partly due to lower Maori life expectancy, but also to the greater proportion of young in the Maori population compared with non-Maori. The estimates were calculated prior to the announced increase for beneficiaries living alone.

The proposed changes by the National Opposition would give rise to lower figures than those in the first column of Infogram 9.9, due to faster phasing-in of the increase in the age of entitlement.

It is clear that this nominal wealth exceeds the estimates of real personal marketable wealth given earlier in this chapter, although it should not be forgotten that corresponding future tax liabilities are generated matching future payouts. The universality of GRI, in conjunction with progressive rates of income tax and the National Superannuation surcharge tax, if it continues (National have indicated that they will repeal it), implies a more equal distribution of wealth than would otherwise be the case.

Human capital

Just as future pension payments can be 'capitalised' so, in theory, can the future earnings of any individual. This concept is known as 'human capital'. Such estimates are problematic for any individual. They depend on the person's life expectancy, the number of remaining years' participation in the paid work-force, the income they will receive, etc. For a population as a whole, however, averages can be computed more readily. Even so, there are difficulties — such as the assumptions to be made about future economic growth, and the 'return' appropriate to those spending some years not in paid employment. For these reasons we have not attempted human capital estimates for this report.

Such work as has been done overseas, however, suggests that the inclusion of human capital adds very substantially to the total measure of wealth. The distribution of wealth on this wider definition is also more equal than that of personal marketable wealth.

An important part of human capital analyses is the relating of differences in individuals' income potential to their skill and educational qualification levels. Typically, the higher a person's educational qualification the higher their income at a later stage in life, and the later in life their income from employment peaks. To some degree, offsetting these are the shorter time possibly spent in the work-force because of the longer time spent achieving qualifications, and the higher average tax paid on higher incomes.

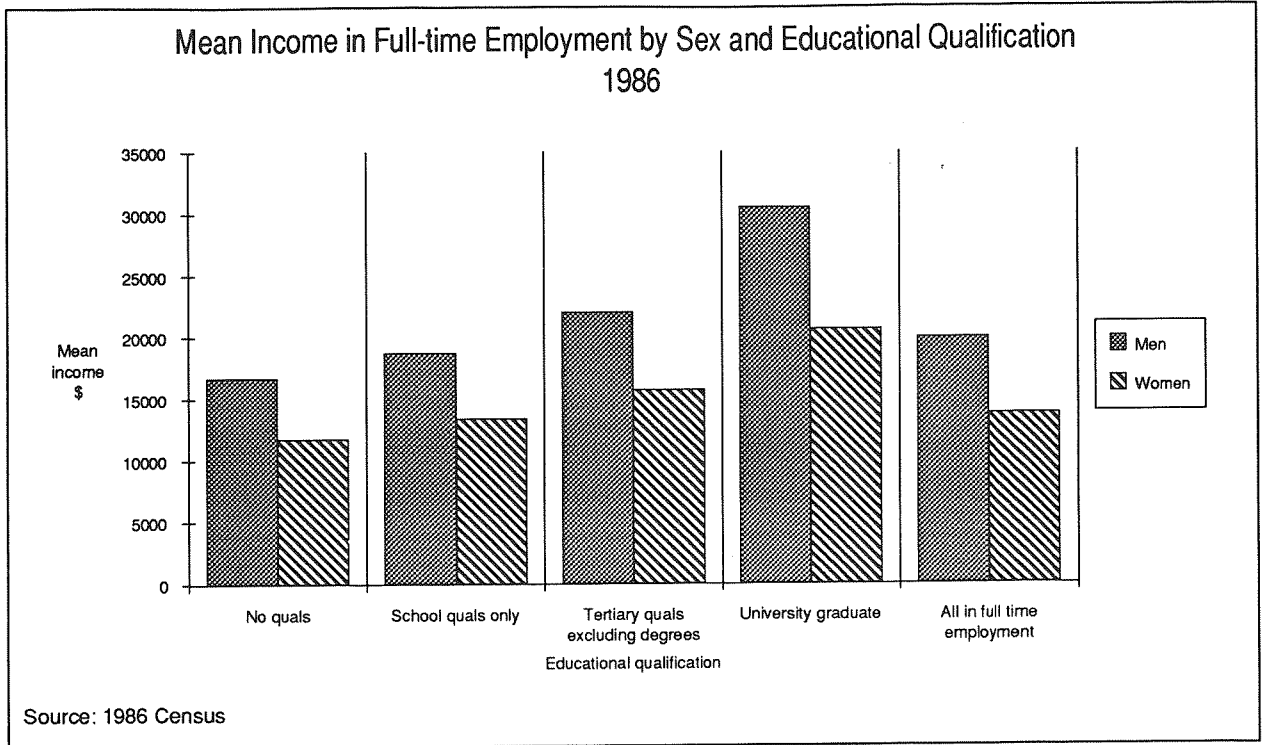
Infogram 9.10 compares mean incomes for different levels of educational qualification for women and men in full-time employment at the 1986 Census. Infogram 9.11 shows income by age profiles, for all ages combined (see over).

Summary

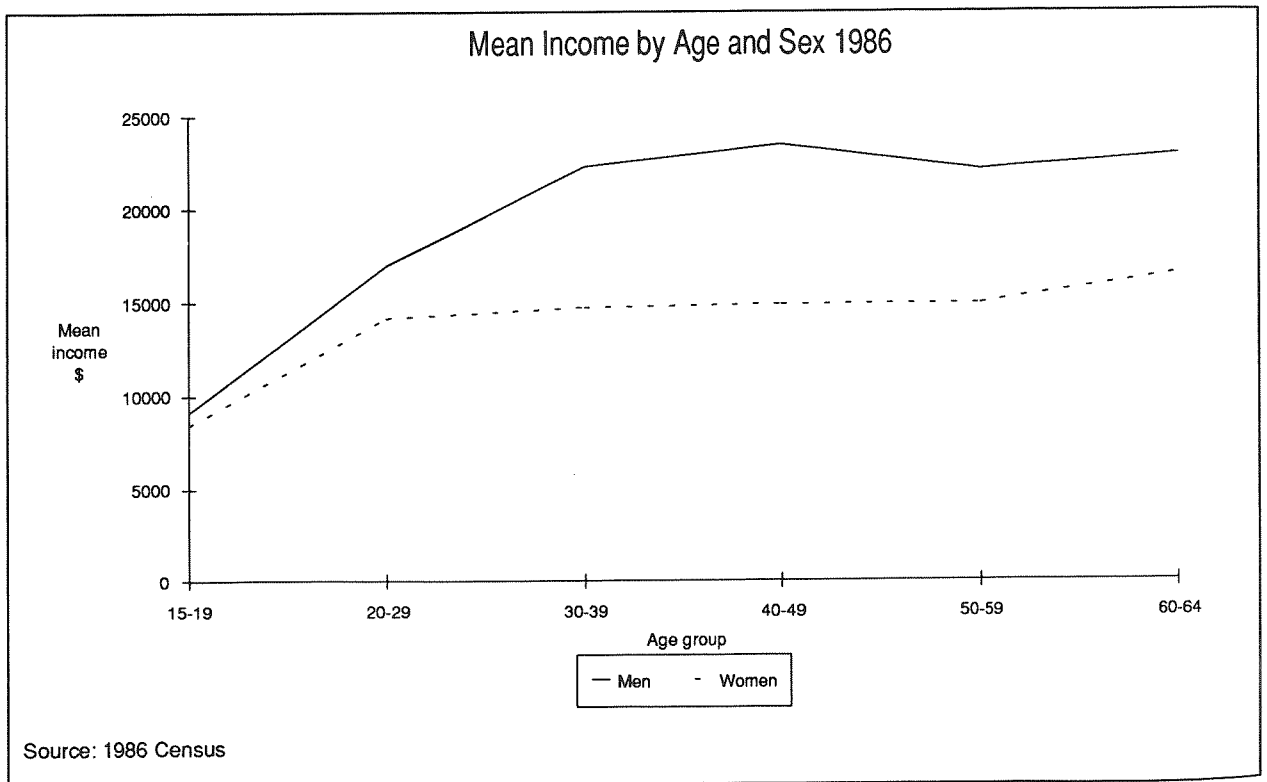
In this chapter we discussed the components of wealth, noted some aspects as to both how and why wealth is acquired, and presented some aggregate results for personal marketable wealth over the New Zealand population as a whole. The two main approaches to wealth estimation from which the distribution of wealth will be analysed have been discussed, and the shortcomings outlined. We have also investigated wider concepts of wealth, including pension entitlements and 'human capital'.

From this base, Chapter Ten investigates the distribution of personal wealth. Chapter Eleven explores some aspects of the evaluation of Maori communally-held, particularly non-marketable wealth, and in Chapter Twelve information on both income and wealth is brought together with reference to the over-60s group. It will be clear that considerable development remains to be done in respect of methods of researching wealth-holdings.

Infogram 9.10



Infogram 9.11



Chapter Ten

The Distribution of Personal Wealth

In Chapter Nine we gave various estimates of total wealth. In this chapter the focus is on how wealth is distributed, among people or households.

Household wealth distribution based on HEIS data

Infogram 10.1 shows average holdings of various types of wealth over the life cycle for 1987/88. Infogram 10.2 gives a breakdown by disposable income quintile for both 1985/86 and 1987/88. In interpreting the figures it should be remembered that the value of housing is gross — that is, not net of mortgages.

From Infogram 10.1 couples with children, except young couples, have the greatest holdings of non-financial assets. Older couples without children have, on average, more financial assets. Wealth-holdings, in general, increase with the 'age' of the household up to the age of 60, with a slight fall off thereafter. The exception is that holdings of financial assets are at their highest for the over 60s.

Infogram 10.2 shows the value of owner-occupied housing, and contents (of rented, owner-occupied and other properties), to be more evenly distributed across disposable income groups of households than the value of financial asset-holdings and vehicles. Taken separately, the distributions of contents and owner-occupied housing are very similar. The flattening of their joint distribution at the bottom quintiles reflects the high proportion of the elderly in these quintiles who, whilst having a low level of disposable income, have often achieved outright homeownership. ('Sixty and over' households made up 60 percent of those in the bottom quintile and 24 percent of those in the second quintile.) This flattening would be more pronounced still if the asset values were measured net of mortgages.

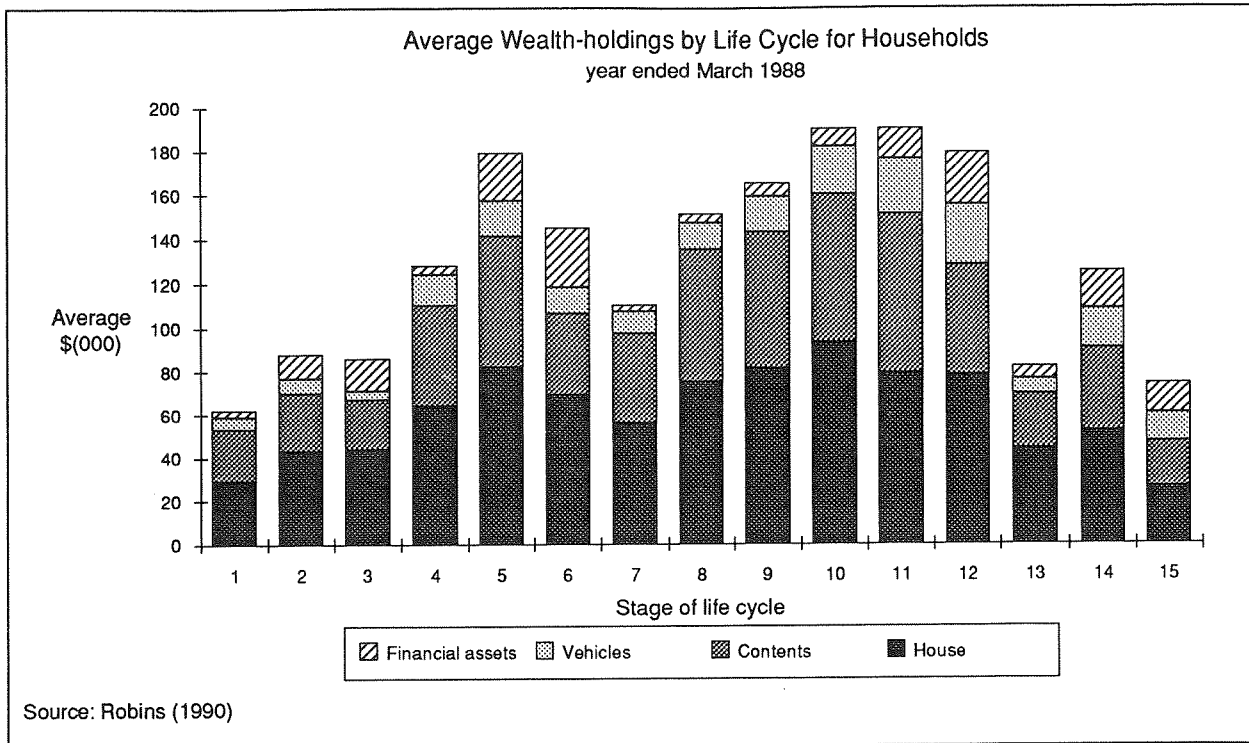
A more detailed analysis of financial assets shows, as would be expected, that with increasing disposable income the proportion of such assets held as either high-yielding financial assets, or as shares, increases sharply (Robins 1990).

Individual wealth distribution based on estates data

The data on estates passed for estate duty are for individuals rather than households. They allow the calculation of changes in average wealth with age, and also of differences in wealthownership between the sexes.

Wealth-holdings can be averaged over that proportion of the population which possesses sufficient assets for an estate return to be made if they died at their present age. This proportion is considerably less than half the population, as indicated by estates passed for duty each year being less than half the total deaths. Or it can be averaged over the whole population, including 'non-wealth-holders'. In fact, a proportion of the latter will hold some assets, but not sufficient to require an estate return to be compiled on death.

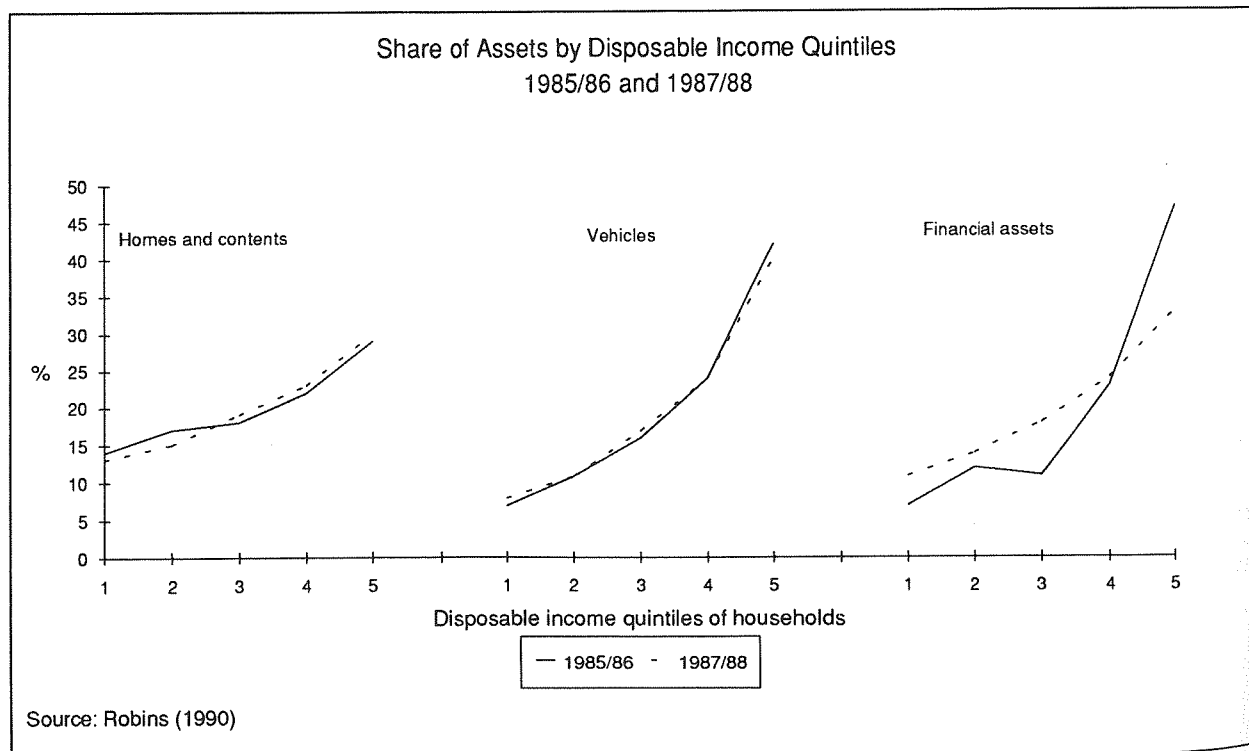
Infogram 10.1



Key: Households' stage of life cycle

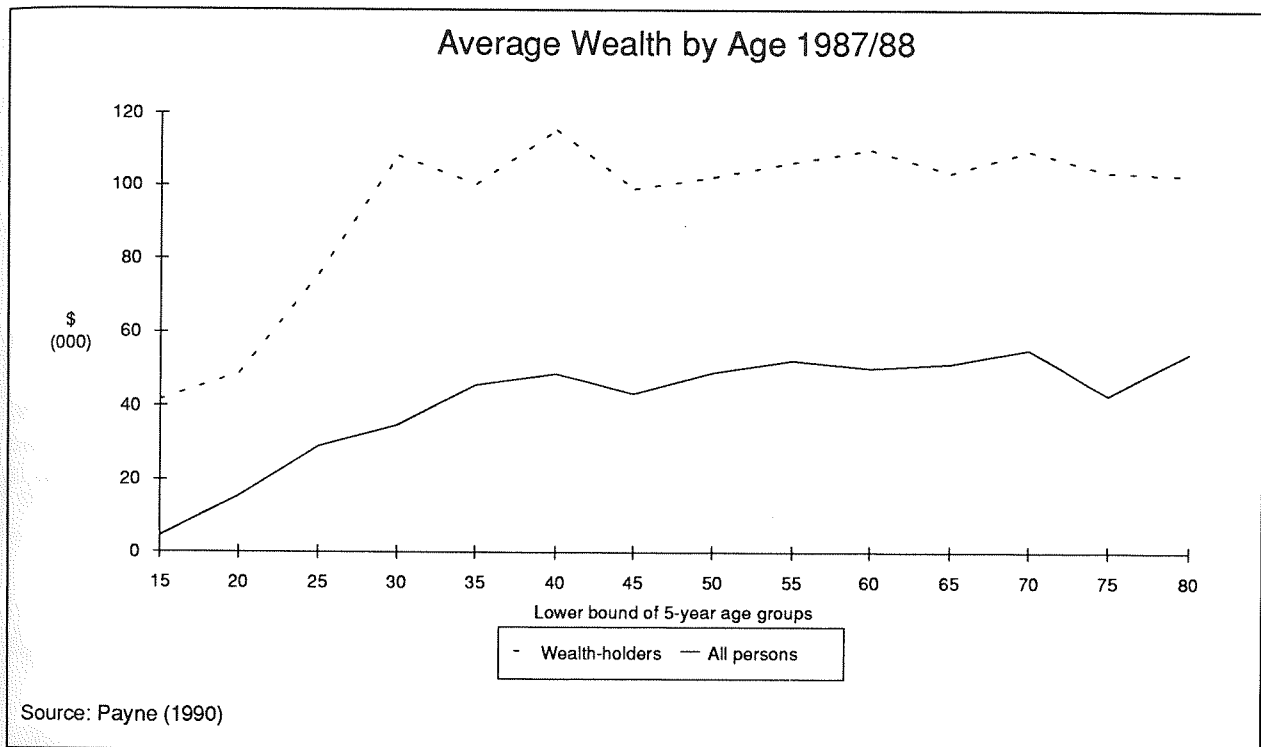
Single person	Couple (age of female)	Couple with children (age of female)	
1 15-39	4 15-39	7 <30	13 Sole parent
2 40-59	5 40-59	8 35-39	14 Other family
3 60+	6 60+	9 30-34	15 Non-family
		10 40-44	16 All households
		11 45-49	
		12 50+	

Infogram 10.2



Infogram 10.3 shows average wealth by age groups for both wealth-holders and the total population. In 1987/88 the average value of assets held by wealth-holders was estimated at \$104,000. However, the average over all people aged over 15 is \$36,000, and over the whole population, including children, is \$28,000 per person.

Infogram 10.3



As age increases, more people acquire assets. For wealth-holders, the average increases rapidly up to around age 30 or so, but then more slowly or not at all through to age 60. There is some indication that average wealth has, in recent years, been reaching its peak earlier in life than it was a couple of decades ago. From around age 60 onwards there is a tendency to a reduction in average wealth, but certainly not a large one.

For the population as a whole, average wealth follows a similar path with age, but continuing to increase gradually to late middle age, and then remaining fairly constant.

Does inequality of wealth distribution increase with age?

If inequality in wealth-holding increases steadily with age, then it is likely that savings are particularly important in determining the distribution of wealth. If not, if wealth is distributed unequally from youth upwards, then it is a reasonable speculation that other factors such as inherited wealth play a large role.

Infogram 10.4, for 1987/88 and for all people, gives Gini coefficients for the distribution of wealth in each age group (see Appendix Two). The higher the coefficient value, the more unequally wealth is distributed. For all people the coefficient is 0.85. It can be seen that apart from the very youngest age groups the coefficient shows no marked trend with age. The conclusion is that wealth-holdings, at least as reported in estate statistics, do not become more unequally distributed with increasing age. There are a number of possible reasons for this, such as passing of wealth to younger generations through gifts or bequests, or an increased preference for consumption rather than asset acquisition in later life.

Infogram 10.4

Gini Coefficients by Age Group 1987/88

Age group		Age group	
0-20	.98	60-65	.77
20-25	.83	65-70	.74
35-30	.79	70-75	.74
30-35	.84	75-80	.73
35-40	.76	80 and over	.72
40-45	.78		
45-50	.77	Total all ages	.85
50-55	.76	Total 20 and over	.79
55-60	.75		

Source: NZPC calculations

For the adult population as a whole (those aged over 20) the Gini coefficient for wealth distribution is .79. Corresponding figures for 1976, 1981 and 1986 were .77, .75 and .78 respectively. This suggests some increased inequality of wealth distribution in the 1980s, but it is difficult to be sure that the increase is significant.

Wealth by gender

For the first time it is possible to compute wealth-holdings separately for men and women from 1980/81. The results are given in Infogram 10.5. From 1980/81 to 1985/86 the proportion of total wealth held by women increased very significantly from 30.5 percent to 40.2 percent. In the following two years there was some reversal, with the proportion falling to 38 percent. For the period as a whole, however, the trend is definitely upwards.

To some extent this could be the delayed effects of matrimonial property legislation in the mid-1970s, or the results of tax avoidance, but it is certainly possible that it does reflect a genuine trend to greater equality between the sexes in wealth-holding (in terms of titleownership).

On average women live longer than men, and are usually younger than their spouses on marriage, so that a significant proportion of wealth owned by women has always been held by widows in the older age groups. In 1987/88 over 40 percent of women's wealth was owned by women over 60, compared with less than a quarter for men over 60.

Male and female wealth, in recent years, can be compared by age group (Payne 1990). The upwards shift in wealth owned by women relative to that of men is evident for almost every age group. In addition, the average wealth of women seems to increase progressively with age, up until the late 60s or older, in a way that men's does not. For the very elderly, however, there is indication of a fall in women's average wealth, which is not evident for men.

Infogram 10.6

Wealth by Asset Type by the Wealthy and Very Wealthy ¹ (proportions of gross wealth)						
Asset type	1980/81		1985/86		1987/88	
	>200	>450	>200	>450	>200	>500
Percentage proportions						
Cash, deposits	9.8	7.9	11.6	9.4	13.5	9.4
Furniture, effects	1.3	2.1	2.0	1.3	2.1	1.6
Farm stock, implements	5.1	3.0	2.5	2.9	1.5	0.9
Private business interests	6.4	9.3	3.9	2.3	2.8	1.4
Assurance policies	3.3	3.2	2.5	1.2	3.3	1.3
Loans	13.9	11.3	13.3	11.7	10.6	9.4
Shares, stock, etc.	19.5	21.7	28.1	38.3	28.5	41.5
Real property	27.4	27.3	25.9	22.0	24.9	18.5
Other property	3.3	4.1	2.7	2.6	2.5	2.4
Notional estate	5.7	4.1	4.4	4.3	6.6	7.0
Foreign property	4.2	6.0	2.9	3.8	3.6	6.7
Gross wealth	100.0	100.0	100.0	100.0	100.0	100.0
Total debts	-5.1	-4.0	-3.8	-4.9	-4.1	-3.3
Net wealth	94.9	96.0	96.2	95.1	95.9	96.7

¹ Wealthy [>200] = estates with net value greater than \$200,000, including very wealthy [>450] = net value greater than \$450,000.

Source: Payne (1990)

The distribution of gifts and inheritances

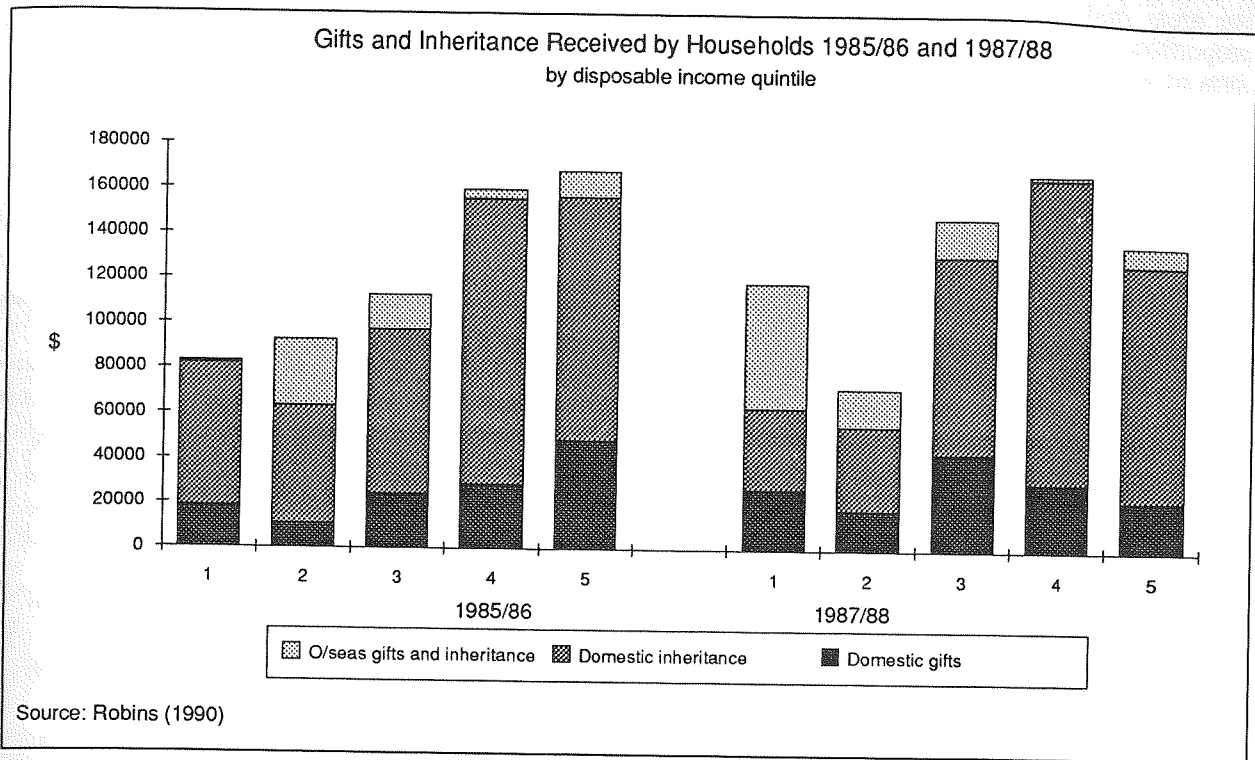
Infogram 10.7 presents HEIS-derived data on gifts and inheritance for 1985/86 and 1987/88 by disposable income quintile, with the numbers below the infogram showing the incidence of each source of such income. Irregular money transfers are particularly subject to sampling error problems. This will account for some of the irregularities in this and Infogram 10.8, especially for 1987/88. It is clear, however, that total receipts of gifts and inheritances tend to increase with income, although there does not appear to be a very heavy concentration in the top quintiles. This might reflect a degree of under-reporting of inheritances by higher income households in HEIS, but perhaps more the fact that HEIS reports money transfers only.

Data by life cycle categories are given in Infogram 10.8. The figures indicate that gifts are received mainly by young people, or families with children. Inheritances are directed more to the middle-aged, as well as to families with children.

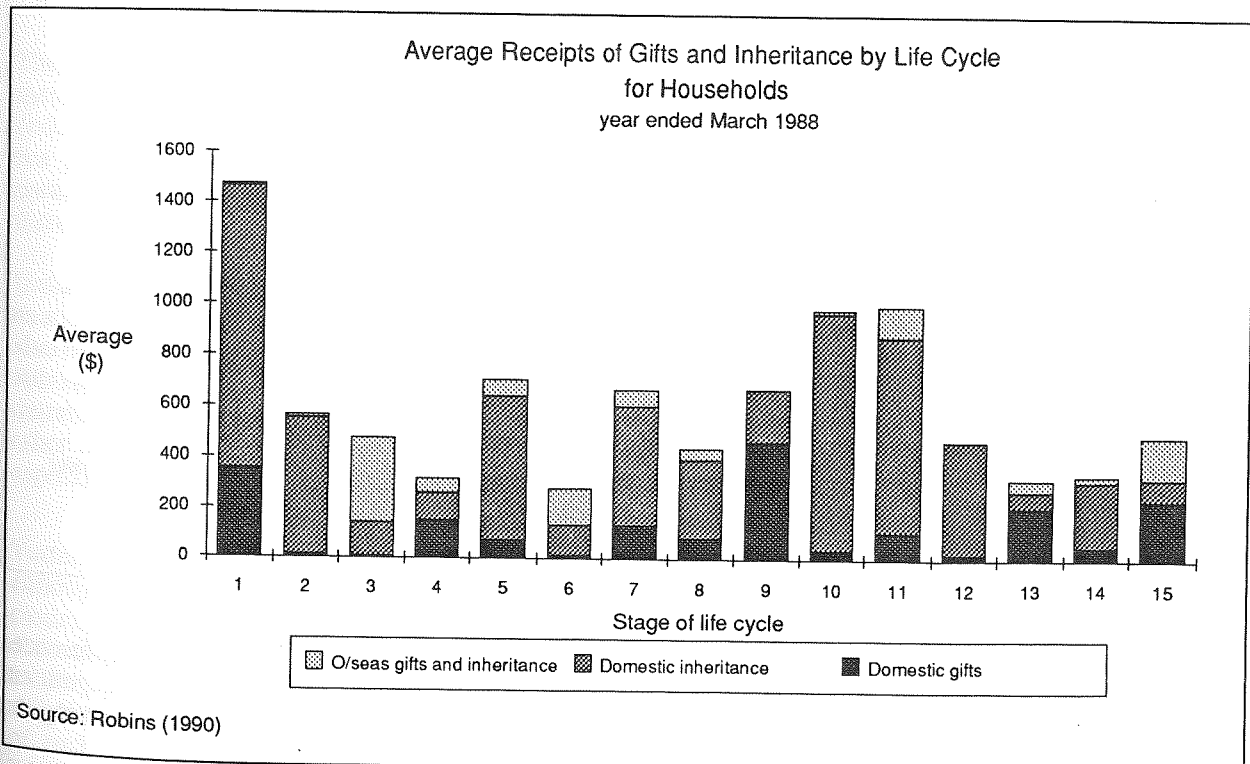
Distribution of homeownership

At the time of the 1986 Census, 72.9 percent of permanent private dwellings were owner-occupied, compared with 70.9 percent in 1981. Of these, 43.2 percent were owned without mortgage in 1986, increasing from 40.4 percent in 1981. The proportion owned without mortgage increases steadily with age as shown in Infogram 2.8 (Chapter Two).

Infogram 10.7



Infogram 10.8



It is not possible at present to link these census data with the HEIS data on the distribution of income. It is apparent, of course, that homeownership is more prevalent for higher income households in a given age bracket, as well as increasing with age for all income brackets.

As with wealth in general, home equity is built up by a combination of savings from income, and wealth transfers in the form of bequests or intra-family transfers. Perhaps the most important feature of wealth in

the form of homeownership, however, is that it is widely distributed, becoming more so with age, and that the great majority of 'retired' households own their own home, generally mortgage-free. The high proportion of homeownership should not, however, obscure the problems and needs of those without this form of wealth.

Distribution of pension entitlements

In Chapter Nine we note that in March 1988 there were some 290,000 people in private sector personal and occupational schemes, and a further 73,000 in the Government Superannuation Fund. Infogram 10.9 shows the distribution by age and sex of some 35,000 contributors in 1989 to the occupational superannuation schemes managed by two prominent life insurance offices. The data for this infogram have been adjusted by scaling female numbers up as if the female work-force numbered the same as the male work-force in each age group.

Infogram 10.9

Participation in Occupational Superannuation Schemes ¹ by age and sex		
(Number)		
Age	Men	Women
Under 20	299	254
20 < 25	1752	1228
25 < 30	3495	2084
30 < 35	3951	1565
35 < 40	4251	1262
40 < 45	4335	1321
45 < 50	3478	1131
50 < 55	2716	945
55 < 60	2026	668
60 and over	711	255
Total	27014	10713

¹ From 1989 data supplied by two prominent life insurance offices. The raw data have been adjusted for differing levels of male/female work-force participation.

Source: Rashbrooke (1990)

While the sample is not necessarily representative of all superannuation scheme members, any differences are likely to be minor. It is clear that a markedly lower proportion of women take part in occupational superannuation compared to men, except at the youngest ages. It may be inferred that women leaving the work-force tend not to join their employer's superannuation scheme when returning.

From the same data, but unadjusted for work-force participation rates, the distribution of members by income and sex has been obtained, and is shown in Infogram 10.10.

Infogram 10.10

Participation in Occupational Superannuation Schemes ¹ by salary level and sex			
(Number)			
Salary range	Men	Women	Total
Under \$15,000	2096	1098	3194
\$15,000 to \$20,000	3669	2130	5799
\$20,000 to \$25,000	4790	1819	6609
\$25,000 to \$30,000	4254	1302	5556
\$30,000 to \$35,000	4147	636	4783
\$35,000 to \$40,000	2591	315	2906
\$40,000 to \$45,000	1596	165	1761
\$45,000 to \$50,000	1198	84	1282
Over \$50,000	2673	144	2817
Total	27014	7693	34707
Median income	\$28,500	\$21,700	\$26,600

¹ From 1989 data supplied by two prominent life insurance offices.

Source: Rashbrooke (1990)

The infogram shows greatest numbers in the \$20,000 to \$35,000 income range, with numbers tailing off thereafter. This is as one would expect with open access to schemes. It would also seem to suggest that tax-deductibility of superannuation scheme contributions was of benefit to a wide range of income-earners and not just the well-paid, although the median incomes appear to be above work-force averages. The concentration of women in the lower income bands is possibly a reflection of lower take-up rates on work-force re-entry.

Unfortunately, membership data tell us little about the distribution of the benefits payable from superannuation schemes. The higher income groups will draw higher benefits as a result of higher pay; they may also have more stable continuous employment and hence the ability to accrue benefits over a longer period, although this is less certain in the current era of job mobility. Perhaps affordability is more of a determinant — for lower income groups, and even middle income groups (depending on life cycle stage), other needs will be more pressing than retirement savings. (These will include other forms of savings, especially home purchase, which can also provide security in retirement.)

Turning to the state-provided social security pension, the flat-rate benefits ensure an equal distribution — although some debate continues as to whether the balance is right between the rate for single people, particularly if living alone, and the rate for couples. Changes to the pension have different impacts on different sections of the community, however. Income is necessarily being transferred from higher lifetime income groups to lower or nil lifetime income groups, such as mothers who stay home to look after children. Hence a reduction in benefit would seem to favour high lifetime income households. The impact of such a change, however, differs between groups with identifiably different patterns of longevity. Women live longer on average, so changes in pension levels have more effect on the value of their pension entitlement. Also higher income people tend to be of higher socio-economic status and to live longer on average, so that the distributional impact of pension changes over the lifetime is somewhat uncertain.

Summary

The information provided in this chapter shows that wealth is less equally distributed than income. Gini coefficients for the distribution of individual wealth, of the order of 0.75, are significantly higher than those for household income, at or below the 0.4 level.

But note that we have been unable to compare like with like; the proper comparison should be between household wealth and household income. The estate-duty return analysis treats around half the adult population as having no assets, and yet many of these are likely to be members of households with some greater or lesser degree of wealth.

The new source of information that we have tapped in respect of wealth distribution by household, derived from HEIS data is of considerable interest but as yet some caution is needed in drawing any firm conclusions. One particular point to note is that although high income is correlated with high wealth in general, there is a substantial proportion of over 60s in the lower disposable-income groups but with substantial housing assets.

The data on the distribution of occupational superannuation scheme membership is also of interest, but is perhaps going to become of less relevance as superannuation takes on the characteristics of other forms of savings, in line with the removal of a separate tax treatment. It is significant that while currently identifiable personal and occupational superannuation wealth entitlements are of the order of \$20 billion, the nominal wealth of social security pensions amounts to over \$150 billion before tax.

In sum, how equally wealth is distributed depends on how widely it is defined. Personal marketable wealth, those assets which most of us think of as wealth, is more unequally distributed than income, although the inequality is less if considered in terms of households rather than individuals. Widening the definition to include entitlement to the social security pension, for example, reduces inequality quite notably. Consideration of the social security pension in wealth terms, assists in the appreciation of the role it plays in our social fabric.

Chapter Eleven

Maori Wealth Owned Collectively

Some wealth is owned 'communally', by private non-profit organisations or churches for instance, rather than by individuals or households. Such collectively-held wealth is especially important for Maori. In this chapter we examine the wealth-holdings of Maori collectives. These include the whakapapa-based (genealogy) groupings of iwi (tribes), hapu (sub-tribes) and tribal runanga (confederation of iwi and hapu); as well as the statutory iwi authorities, and other legal institutions such as incorporations and trusts, usually with whakapapa links.

Maori wealth in the context of the Treaty of Waitangi

Maori have valid claims for a share in the ownership and control of New Zealand's resources. One basis for these claims is the Treaty of Waitangi. The English text of Article Two of the Treaty guarantees "full, exclusive and undisturbed possession of [Maori] lands and estates, forests, fisheries and other properties". The list of things and the extent of their protection is described by the Maori text as the full chieftainship of their land, villages and "o ratou taonga katoa", or "all their valued customs and possessions", which encompasses language, customs and spiritual beliefs.

There is also an ethical justification for the compensation of Maori for past events. Maori disadvantage is, in good part, an historical consequence of policies imposed by the non-Maori majority. These have had the effect, deliberately or otherwise, of depriving Maori of their original resource base, as court decisions and findings by the Waitangi Tribunal have shown.

Implementing the recommendations of the Waitangi Tribunal will remedy some of the unjust allocation of resources in New Zealand, in areas where Maori were dispossessed without due process or compensation. However, resource ownership is only one of the considerations. Other social (health, education) and economic (training, equal employment opportunity) policies are needed to overcome income inequality. Resources are also required for maintaining and enhancing Maori spiritual and cultural values.

The following sections cover land, other natural resources, commercial enterprise and social, cultural and spiritual resources.

Land — ownership and utilisation

Different attitudes between Maori and Pakeha to land and other natural resources affect ownership patterns, as well as their use. The Maori notion of land 'ownership' could be better described as 'belonging'. Everyone belongs and is thus entitled to a fair share of the benefits derived from the land (see Chapter Five).

In this section we discuss land which is in collective Maori ownership. Today, there are three types of Maori land defined in law:

- Customary land not otherwise legally owned, the total area of which is believed to be insignificant;
- Reserved or vested land which, during the nineteenth and early twentieth centuries, was administered by the Crown in trust for the Maori owners. A commission of inquiry in 1974/75 resulted in most

of the land being vested in Maori land incorporations and trusts. It became ordinary Maori freehold land, but still subject to the reserve leases. Little reserved and vested land now exists, but the spectre of it remains in the perpetual leases that limit the development options available to the present Maori owners of the former reserved lands;

- Maori freehold land, which may be defined as that which the Maori Land Court has jurisdiction over (Asher and Naulls 1987).

The exact area of Maori freehold land in New Zealand is not known, although the 1989 Official Yearbook put the figure at 1,305,698 hectares, which is about 5 percent of the total land area of New Zealand. Only a very small proportion of New Zealand's economically productive land is retained under Maori freehold title, and that which is, is often of poorer quality. Infogram 11.1 shows the pattern of decreasing Maori landownership between 1840 and 1986.

Infogram 11.1

Pattern of Decreasing Maori Landownership 1840-1986					
hectares (000)					
1840	26,709	1891	4,487	1939	1,632
1852	13,770	1911	2,890	1975	1,215
1860	8,667	1920	1,939	1986	1,180

Source: 1840-1975 derived from Asher and Naulls 1987; 1986 reported in *Inter-relationship of Economic and Social Policy*, Royal Commission on Social Policy 1988; see also the New Zealand Official Yearbook, Department of Statistics

Land has been ceded to, or confiscated by, the Crown for various reasons and under various acts, and compensation granted in various forms (see Infogram 11.2). In almost all cases compensation has taken the form of a capital sum, or of annual payment over a fixed term of years or in perpetuity. However, the real value of such compensation was not large to start with and has been eroded by inflation.

Infogram 11.2

Compensation for Acquired or Confiscated Maori Land				
Board	Crown payment	Nature of claim	Constituting act	Beneficiaries
1. Aorangi	\$45,000	In re purchase of Aorangi Block	Maori Purposes Act 1950	As determined by Maori Land Court Order of 21.8.1925
2. Arawa	\$18,000 p.a. in perpetuity	In re ownership of Rotorua Lakes	Maori Land Amendment & Maori Claims Adjustment Act 1922	Arawa tribe
3. Aupouri	Nil	To control income from certain land and capital funds at Te Kao	Maori Purposes Act 1953	Te Aupouri tribe
4. Ngai Tahu	\$600,000 (by \$20,000 p.a.)	In re purchase of South Island lands	Ngai Tahu Trust Board Act 1946	Ngai Tahu tribe

Board	Crown payment	Nature of claim	Constituting act	Beneficiaries
5. Ngati Whatua of Orakei	Nil	To control lands returned by Crown	Orakei Block (Vesting & Use Act 1978)	Descendants of Tuperiri, ancestor of Orakei hapu of Ngati Whatua
6. Tainui	\$15,000 p.a. + \$2,000 p.a.	In re confiscation of Waikato lands	Waikato-Maniapoto Maori Claims Settlement Act 1946	Tainui tribes
7. Tai Tokerau	\$94,000	In re surplus lands	Maori Purposes Act of the Crown 1953	Ngati Whatua, Ngapuhi, Te Rarawa, Ngatikahu & Te Aupouri tribes
8. Taranaki	\$15,000 p.a. in perpetuity	In re confiscation of lands after Maori Wars	Maori Purposes Act 1953	Atiawa, Ngati Tama, Ngati Mutunga, Ngati Maru, Ngati Ruanui, Ngaruahine, Taranaki, and Ngarauru tribes
9. Tuhoe Waikaremoana	\$200,000	Lands taken for roads	Urewera Lands Act 1921-22 & Lake Waikaremoana Act 1971 & Maori Affairs Act 1958	Ngati Kahungunu and Tuhoe tribes
10. Tuwharetoa	\$9,000 p.a. plus 1/2 of fishing licences over \$6,000 & 1/2 camp fees & fines	In re ownership of Lake Taupo	Maori Land Amendment & Land Claims Adjustment Act 1926	Tuwharetoa tribe
11. Wairoa-Waikaremoana	\$40,000	In re cession of Kahouroa Block to Crown	Maori Purposes Act 1949	Certain members of Ngati Kahungunu tribe
12. Whakatohea	\$40,000	In re confiscation of Maori lands	Maori Purposes Act 1949	Whakatohea tribe
13. Tauranga moana	\$250,000	In re confiscation of Maori lands	Tauranga Moana Trust Board Act 1981	Tribes who fought at Gate Pa

Source: McHugh A.G. *The Future Role of Maori Trust Boards*, Report on Maori Trust Boards Conference, Waitangi, October 1982, in "Compensation for Maori Land Rights: A Case-study of the Otago Tenth's", Ward J.T., *NZ Economic Papers*, Vol.20, 1986

A case study on Maori land rights: The Otago Tenths

It was a principle of the early Wakefield settlements that, of the land it purchased, the New Zealand Company should "reserve a portion equal to one-tenth of all the land which they should acquire for the Native families". The expectation was that with the development of settlers' land there would be a corresponding increase in the value of the land reserved for Maori. This was done for the Wellington and Nelson purchases, the land so set aside still being known as the 'Maori tenths'.

In 1844 an offshoot of the New Zealand Company, the Otago Association, purchased land in Otago from the Ngai Tahu, the area purchased then being thought to be about 400,000 acres. The Maori tenth was never set aside. In 1850 the New Zealand Company ran into financial difficulties and surrendered its charter to the Crown. It appears that any initial intentions of reserving land for Maori were lost sight of.

Valuing the Otago Tenths

In 1983 the land covered by the initial purchase, both rural and urban, was valued at \$918 million in 'land value' terms, and \$804 million in 'unimproved value' terms. In other words, the value of the Otago Tenths, had they been set aside and developed in the same way as the rest of the block, would be \$80 to \$92 million, in 1983 prices.

Assuming a real yield of 5 percent on this land, the Tenths would provide an annual income of \$4 million, again in 1983 prices. Rates and land tax have to be set against this. No allowance has been made for the fact that no compensation has been paid at all over the period of almost 150 years since settlement began in Otago. (See Ward 1986.)

The notion of individualised ownership arose out of the Pakeha legal framework. Since the signing of the Treaty, and until recently, many laws actively promoted the breaking up of land, which had been communally-held by the various tribes in accordance with custom, into individual titles. This made it easier for Pakeha to purchase land and has hindered communal development initiatives. Succession of land upon death, as well as 'partitioning', have resulted in the fragmentation of Maori land interests. The result has often been small parcels of land, many landlocked through the lease or purchase of surrounding land, with little or no economic use to their owners (Asher and Naulls 1987).

Tribes are not recognised as landowners or participants in other contractual functions, unless they become registered as a trust board, charitable trust, incorporated society, etc. However, the Runanga Iwi Act (1990) allows iwi to form a legal body, a runanga, to represent the iwi's interests.

One solution has been to seek more communal arrangements which combine turangawaewae with administrative convenience. These include mechanisms specific to land tenure, such as amalgamation of ownership and institutional arrangements whose activities are not confined to land development, such as:

- Incorporations, in which current owners become shareholders according to their respective interests in the land, and are paid dividends on income resulting from development activities. Shareholder consent is needed before land can be sold.
- Section 438 Trusts, which refer to Section 438 of the Maori Affairs Act 1953. They range in size from small family trusts to larger tribal concerns, and take into account the Maori propensity to do things as a group;
- Maori trust boards, which look to enhance the well-being of their beneficiaries. The boards have freedom to acquire and dispose of land.

Some changes to these institutional structures have been proposed. An important principle is that Maori land interests should be recognised as being held in trust for future generations. This would be reflected in provisions concerning the sale, lease or other alienation of Maori land in the undisturbed possession of its owners. The proposed legislation would aim to provide for more effective and direct representation of the owners of Maori land in multiple ownership.

Maori incorporations are being returned to the status as before the Maori Affairs Amendment Act 1967. This Act equated incorporations more with companies, so that the owners become shareholders rather than landowners. Under the new provisions the concept of a share is retained, but it is made clear that the share is a beneficial interest in Maori freehold land. Maori incorporations will be much closer in form to incorporated bodies of trustees, rather than companies.

Other natural resources

The fish stock

Much of the fisheries resource has been government-controlled in recent years, and leased out to commercial operators in the form of quotas. As a result of current negotiations a proportion of quota, gradually increasing, will be allocated to Maori.

Maori land leased for forestry

As at March 1989, the value of forests growing on land leased from Maori owners was around \$250 million. The Maori share of this value is approximately 20 percent that of the lessors. The forested area concerned amounts to 73,000 hectares gross and 51,000 hectares net (actually planted). Of the 51,000 hectares, 30,000 is held in two leases owned by Tuwharetoa at Lake Taupo and Lake Rotoaira. The next biggest share (6000 hectares) is held by Te Awahohonu at Hawke's Bay. Aupori owns 5000 hectares at Parengarenga (figures from Ministry of Forestry).

Commercial activities and asset-holdings of Maori economic authorities

The equity base of Maori incorporations and trusts, most of which are basically involved in the agricultural sector, is about \$600 million (Mahuta 1988). In June 1987 there were 86 development schemes in operation covering an area of 111,121 hectares, of which 69,787 hectares was in grass, 215 in horticultural development, and 2081 in pine forests and plantations (New Zealand Official Yearbook 1989).

Infogram 11.3 lists the commercial activities and assets of those Maori economic authorities which have assets exceeding \$2 million, by district. The objective is to convey some impression of the magnitude, utilisation and distribution of Maori collectively-owned material wealth.

The average authority had \$5.7 million in assets. The majority of authorities were engaged in sheep and cattle farming; just over one-fifth were in forestry, the next most popular activity. There has been a recent trend towards diversification.

Infogram 11.3

Maori Economic Authorities with Assets Exceeding \$2 million by district								
	Tai Tokerau	Waikato- Maniapoto	Wairiki- Te Arawa	Tai Rawhiti	Aotea	Takitimu	Te Wai- pounamu	Total
No. of authorities	5	9	25	16	19	1	2	77
No. of authorities in each activity:								
Sheep	4	3	17	16	15	1		56
Cattle	4	2	17	16	15	1		55
Forestry	1	1	7	1	6		1	17
Tourism			1					1
Deer		1	2		1	1		5
Horticulture		2					1	3
Perpetual lease			1					1
Goats					1			1
Lease income					2		2	4
Commercial property		1	1		2		2	6
Assets (\$m)	20.7	34.2	124.0	108.7	108.3	4.3	41.4	441.60

Note: Some of the authorities do not engage in any of the activities listed.

Source: Mahuta 1988

A major proportion of Maori enterprise assets are held in rural areas. Many are involved in the agricultural sector, so that rates of return tend to be low (partly because of their sectoral focus) and levels of debt are relatively high. Dyall (1987) reported the results of a sample of pastoral farming loan applications from individuals, incorporations and trusts over the period 1983-1985. Returns on capital before interest and tax payments ranged between 2 and 5 percent, with levels of indebtedness ranging from 40 to 60 percent.

Commercial development

According to Dyall, the key to economic development is for Maori institutions to utilise their sizeable equity base in urban-based commercial opportunities (to provide employment), within the manufacturing and service sectors of the economy where higher rates of return are experienced.

In 1984 the Maori Economic Development Commission was established. Out of this, various initiatives were developed:

- The Maori Development Corporation (MDC), which aims to financially assist Maori commercial projects. (The Corporation's total assets were valued at \$41.4 million after its first full trading year to 31 March 1989. Shareholders funds were valued at \$27.8 million.)
- The Poutama Trust, which assists the packaging of potentially commercial projects and provides management support for projects funded by the MDC and other financial organisations (funding base \$10 million in 1988).

- Mana Enterprises, which is aimed at broadening the economic base through the creation of Maori enterprises and the expansion of existing Maori businesses, so that employment opportunities can be created.

Cultural, social and spiritual resources

Maori traditional values take an holistic approach to well-being. People are valued as the major resource. Cultural, social and spiritual resources are recognised as an important determinant of the strength of people's identity as individuals, family and tribal groups. Security of identity can bring the confidence which fosters social and economic development.

Winiata (1988) has defined and provided measurement indicators of the resources of the Raukawa runanga. Many of the resources he described were of the nature of cultural, social and spiritual resources. For instance, among the human resources he listed runanga membership, measured by the number of eligible and active members, and the pataka (repositories) of whakapapa (genealogy), measured by both the number of tohunga (experts) and degree of interest. Among other resources, he listed marae facilities, taonga and the cultural value of landholdings.

Winiata further identified activities by which each indicator and the resource it measures might be maintained or increased. These include stimulating awareness of iwi affiliations, building new marae, fundraising for improvements to marae facilities, training members in the proper use of whakapapa, encouraging members and families to attend events at the marae, and managing land and financial assets to ensure the promotion of (cash and) cultural return.

Conclusion

Over the past century and a half, Maori economic resources have been alienated through sale, confiscation, and adverse judicial interpretations of Maori rights under the Treaty of Waitangi. The imposition of a legal ownership system alien to Maori custom led to individualised and fragmented titles of ownership to what had been communally-held resources. This has played a large part in the alienation of resources and has hindered development initiatives. There are also cultural, social and spiritual resources which contribute to Maori well-being, and which must not be ignored in any discussion of wealth-holdings, utilisation and returns. The implementation of Waitangi Tribunal recommendations will remedy some of the unjust allocation of property rights in New Zealand. However, resource ownership is only one factor influencing social and economic outcomes for Maori. Other policies related to health, education, training, and equal employment opportunities are required to overcome inequality.

Chapter Twelve

Income and Wealth of the Over 60s

At 60, the age at which we think of people entering into their retirement years, individuals can still have as much as a quarter or more of their total years to live. The average non-Maori woman might expect to live another 21 years, and her male counterpart for another 17 years. For Maori at age 60, life expectancy is lower; another 16 years for women, 13 years for men. During this period, if the over 60s (by which we mean those who have passed their sixtieth birthday) are to live in dignity and comfort, and are to be able to contribute to the community to the extent they feel able and wish to, they will need to have access to an adequate share of the community's resources.

At the time of the 1986 Census there were some 493,000 people, about 15 percent of the New Zealand population, aged 60 or over. Of these, 134,000 were aged 75 and over. The majority of those aged 60 and over are women — around 56 percent overall, increasing with age. Population projections indicate the ratio of over 60s to the overall population will continue to increase, and that the proportion of those 75 and over to those age 60 and over will also increase markedly.

The principal provision made for retirement by many households is to own their own house, thereby reducing income needs for rent or mortgage payments (but not for rates, maintenance, etc.). Direct income needs can be met by income from investments made while in paid employment, or from occupational or personal superannuation schemes. However, few have been able, or have chosen, to make the necessary savings from income to provide on its own an adequate income in later life. Income support from the state is therefore necessary for most people, at least to some extent, and indeed many consider the social security pension to be a *quid pro quo* for their own tax contributions while in paid employment.

The existing social security pension (was National Superannuation, now Guaranteed Retirement Income) is a flat rate payment independent of past earnings history, financed from taxation. The benefit level is fixed by reference to average earnings levels, with single beneficiaries entitled to 60 percent of the married-couple rate. (From 1990 this has been increased to 65 percent for those living alone.) Entitlement is from age 60 — earlier than for most countries, although other economies have concessions for the elderly to a greater extent than now exists in New Zealand. Entitlement is universal, with no assets test, and no income test prior to 1985. From 1985 a National Superannuation surcharge tax was imposed on income above a certain level, affecting some 25 percent of recipients to a greater or lesser extent, but only about 6 percent lose the full amount of their benefit.

Both major political parties intend to raise the age of entitlement to 65. Labour's proposal would have a rather longer lead time than National's, while National intends to abolish the surcharge.

The change in age of entitlement is motivated by the prospect of an ageing population driving up the fiscal cost of pension provision, as well as by the additional health costs of an older population. There has been considerable debate on the need for change, and it is important to examine the resources in income and wealth which are, and will be, available to the people affected.

Income of the over 60s

Average income, and its components, is shown in Infogram 12.1 for the two household types to which most people in the age group belong. These are single person households with the person aged 60 and over, and couple households where the woman is aged 60 and over. People living in institutions are excluded, but these are only about 8 percent of the over 60s group as a whole, and only 16 percent of those aged 75 and over (Department of Statistics 1990).

The important part the social security pension plays is clear — two-thirds of income for single person households, and around three-fifths for couples. Income from investments provides about 15 percent of average income, and other regular income — basically pensions from superannuation — about 5 percent. The contribution from superannuation provision is probably larger than shown, since some investment income will be derived from investment of superannuation lump sums, and there is also some evidence of under-reporting of pension income.

Infogram 12.1 does not take into account social services. As discussed elsewhere there is an above average expenditure on health for the over 60s, only partly offset by this group receiving very little from education spending.

Infogram 12.1

Income source	Single person		Couple, no children, woman aged over 60	
	Average per household \$	Percent of total direct income	Average per household \$	Percent of total direct income
Wages and salaries	1,100	8.6	3,430	14.3
Self-employment	130	1.0	880	3.7
Investment	2,070	16.1	3,620	15.1
Other regular income	860	6.7	1,480	6.2
Market income	4,160	32.3	9,410	39.3
National Superannuation	8,430	65.5	14,120	59.0
Other benefits	280	2.1	410	1.7
Total direct income	12,860	100.0	23,930	100.0

Source: Department of Statistics (derived from HEIS)

The distribution of money income

Infogram 12.2 shows the distribution of income for one person and two person households, separated into 60-64 and 65 and over age groups. The data from the 1986 Census are for total income, including the social security pension and all other benefits. At the end of March 1986 the social security pension rate, before tax, was \$8,139 for single people and \$13,300 for couples.

The proportions in the higher income bands are greater for the 60-64 age group, but 9 percent of single people and 32 percent of couples, in the age 65 and over bracket, have total income over \$20,000. For single people the surcharge tax starts applying at around the \$15,000 level, and for married couples at around the \$20,000 level.

In the lower income bands, gender differences are not pronounced, with National Superannuation being the dominant source. At higher incomes there are marked gender differences, as Infogram 12.3 shows.

Infogram 12.2

One and Two Person '60 and Over' Households by Total Household Income				
Households in permanent private dwellings				
Total household income \$ per year	One person household		Two person household (couple only)	
	Age (of occupier)			
	60-64 %	65+ %	60-64 %	65+ %
5,000 or less	3	3	0	0
5,001 - 7,500	35	41	2	3
7,501 - 10,000	19	25	2	2
10,001 - 12,500	10	10	22	37
12,501 - 20,000	18	12	23	26
20,001 - 40,000	11	5	34	22
40,001 and above	4	4	16	10
	100	100	100	100
No. of households	19,980	96,678	35,238	80,256

Source: 1986 Census, Series C, Report 12,

Infogram 12.3

Percentage With Income More Than \$20,000 per annum by age and sex						
Age group	60-64	65-69	70-74	75-79	80+	All people 60 and over
Men	25.4	11.5	8.6	7.5	7.4	14.5
Women	5.2	3.5	3.1	3.2	3.3	3.8

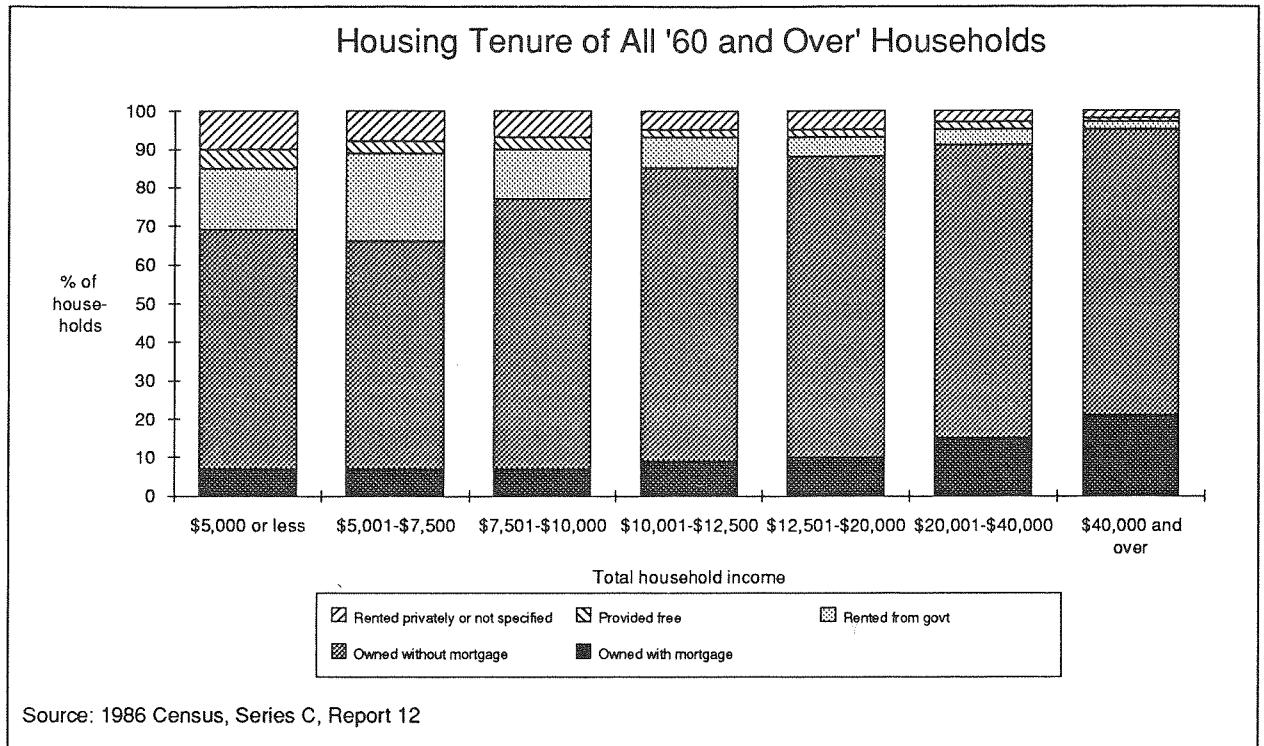
Source: *Elderly Population of New Zealand*, Department of Statistics 1990

The distribution of housing

The most important source of non-cash income for those in the older age groups who are homeowners, is the imputed income from not having to pay rent (see Chapter Two). For non-homeowners, those living in government-subsidised rental accommodation also have their income effectively increased. Infogram 12.4 draws on the 1986 Census to show housing tenure by income level, where the occupier was age 60 or over, for all households — single person, couples and other. Institutions are not covered.

Infogram 12.4 shows the expected high degree of homeownership — more than two-thirds (with and without mortgage) for almost all income brackets, and over 90 percent for those on higher incomes. Apart from owner-occupiers, the infogram shows the proportion who either have their accommodation free, or who are tenants of the Housing Corporation, other government agencies or local authorities, usually on subsidised rentals if cash income is low.

Infogram 12.4



In Chapter Two the imputed income from homeownership was assessed as about \$2,500 to \$3,000 in 1985/86, and \$3,500 to \$4,000 in 1987/88. This was after allowing for payment of rates, insurance, maintenance, etc., but before interest payments. Most of the homes owned by '60 and over' households are mortgage-free, and it is likely that many mortgages that do persist are at low levels.

Pensions and superannuation

Pension income may be received from an occupational superannuation arrangement, or as an annuity purchased either by a lump sum, or as a result of contributions made over the years to a personal superannuation scheme. As noted in Chapter Nine, from April 1990 all such pensions have been free from income tax, although half the pension is subject to the National Superannuation surcharge tax in recognition of the investment earnings on the capital set aside to fund the pension payments as they fall due. The investment earnings of pension funds are taxed directly as if being earned by the contributors themselves.

Those people in the over 60s group who have substantial pension entitlements, as well as those close to retirement, have made a substantial windfall gain from the change in tax treatment. Legislation has allowed pensions to be reduced to take into account the future imposition of tax on fund investment income, but this impact is considerably less than the freeing of pension payments from income tax. In practice, many occupational superannuation schemes did not avail themselves of the option to reduce pensions, or did so by minimal amounts. With the impact of the National Superannuation surcharge tax considerably reduced on pensions as well (half subject to the surcharge, all previously), the greatest windfall gains have accrued to those with the higher pension levels.

Some aggregate data on pensions are presented in Chapter Nine (drawn from Rashbrooke 1990). The data may be expanded to observe that, in March 1988, the average private sector pension was about \$6,000 per annum, while the average Government Superannuation Fund pension was around \$12,000. There is, in fact, considerable variation in pension levels, and the median payments are thought to be rather lower than the averages. It was estimated that as much as 35 percent of the retired population may have some pension coverage, either directly or contingently as spouses, although levels are in many cases rather small. This estimate contrasts with HEIS results which suggest only 15 percent of over 60s households receive pensions.

Wealth-holdings of the elderly

Various aspects of wealth-holdings have been discussed in Chapters Nine to Eleven. One relevant point is that average wealth showed little change with increasing age. This apparent tendency not to cash in assets in old age points to these being held for reasons of security and/or the desire to bequeath assets.

The distribution of homeownership, covered earlier in this chapter, could equally well be discussed in terms of wealth-holdings. The wide extent of homeownership, even at low income levels, is one of the most important factors relevant to the economic resources available to the over 60s group.

Lump sums provided by superannuation schemes are another component of wealth upon retirement. These have not been affected by tax changes, except that previous concessions on taxation of investment income have been removed. The average lump sum paid on retirement from occupational schemes has been estimated as \$44,000, and from personal (not employer-subsidised) schemes as \$16,000, although again considerable disparity occurs between individuals. Some one-person superannuation arrangements are known to hold assets over \$1 million, built up under previous tax regimes to make use of available tax avoidance possibilities.

To what extent superannuation lump sums and other retirement savings, such as endowment assurances, are invested for income or used to clear debt, as opposed to being consumed almost immediately, is not known. The distinction between income and wealth tends to blur as income from paid employment disappears, with the important question perhaps being social attitudes and understanding of the manner in which assets may be drawn on for daily, occasional and emergency consumption needs to supplement cash income.

Although not usually thought of as such, a person's entitlement to a regular pension in future years can also be considered a part of wealth. This is true both of pensions arising from occupational and personal schemes, and of the government-provided Guaranteed Retirement Income (GRI). The regular stream of future pension payments can be 'capitalised' — that is, converted to a present capital sum which would provide the expected equivalent of the future stream of payments. Details of such computations are discussed in Rashbrooke (1990). An approximate rule of thumb, however, for 'inflation-indexed' payments would be to calculate their capital value, on retiring at age 60, as around 12.5 times the annual pension amount for men, and more for women. The multiplier decreases with age because of diminishing remaining life expectancy.

Including the value of pension entitlements has a strong influence on the distribution of wealth amongst the aged. The value of occupational and personal pension payments is probably distributed reasonably similarly to personal wealth as is more usually defined. However, the value of GRI entitlements is very substantial (see Infogram 8.9) and its inclusion makes overall wealth more equally distributed. On the other hand, it differs from wealth as more usually defined, in that while GRI entitlements do produce income, the title to them is not transferable in the way that title to other assets is.

Conclusion

It is clear that for many over 60s households, cash income needs are met mostly from the state-provided social security pension. For example, single people in this group had equivalent disposable income in 1987/88 of \$15,200, of which \$13,200 was from National Superannuation (these are 'equivalent' figures — that is, scaled up to the equivalent standard of living of a couple); for couples the figures are \$17,800 and \$14,100 respectively. Single people in the 40-59 age group by contrast had equivalent disposable income of \$21,600, and couple households with the woman aged 40 to 59 had \$23,300.

Of course there are savings in work-related expenses for those households no longer actively participating in paid employment. This, together with the advantages of mortgage-free homeownership, enjoyed by most '60 and over' households, means that such households are better placed in relation to those in younger age groups than the figures above would suggest.

The cash incomes of most 'retired' households are, however, only modest. There is a significant minority with substantial other income and asset-holdings. But for most, the state-provided pension is essential to providing an adequate standard of living.

The fiscal cost of GRI is high, however, and will tend to increase as the population ages next century, even with the intended lifting of the qualifying age to 65. The taxes to finance GRI leave less income in the hands of the working-age population for both savings and consumption.

Governments therefore face difficult policy decisions on state-provided pensions and debate can be expected to continue for decades to come. This is why it matters to be well informed about the income and wealth of those aged 60 and over. Currently, much of the factual information required is lacking. We need more in-depth analysis of the wealth and income of the over 60s, and of how these change with age. But we also need to investigate questions such as the effects of the removal of a separate tax treatment for long-term contractual savings, the extent to which people of working age plan for old age, and to what extent state pension provisions affect attitudes to long-term savings.

Chapter Thirteen

Conclusion

The first point to be made in concluding this report is that our society, and its mechanisms for distributing income and wealth, are complex and constantly changing. The ways in which income and wealth are distributed are influenced by changes in the performance and structure of the economy and especially the labour market, by demographic change, by changes in community attitudes and values, as well as by government taxes, benefits and social service programmes. The government's actions are significant, but are far from being the sole determinant of the final distribution.

These varying influences make it harder to reach confident conclusions about change over time. To illustrate, the incomes of both 'over 60' and sole parent households average considerably less than household incomes in general. The proportion of both household types increased between 1981/82 and 1987/88; from 19.4 to 20.4 percent of all households for 'over 60' households, and from 5.8 to 9.4 percent for sole parent households. Demographic and social changes such as these alter the distribution of income over time even if there were no change in economic factors.

To cope better with such change, we have made extensive use of a new classification of households by life cycle state, developed by the Department of Statistics. This is a useful addition to the more traditional analysis in which, for example, the income or wealth of the poorest 10 or 20 percent of households is compared with that of the richest 10 or 20 percent. Both ways of looking at the data are useful. Ideally we would like to combine the two, and look at the distribution within each household type, but this would require a much larger data base than is now available.

Second, the purpose of this report is not to tell the reader what is a fair distribution and what is unfair (that is a matter for community judgement, not researchers). Nor is it to say what government should do to fix it now (the most effective government actions may be indirect and slow to take effect). The purpose of this report, in conjunction with its predecessor *For Richer or Poorer*, is rather to improve our understanding. This will allow all of us to make better informed judgements about what is fair and unfair, and more realistic decisions on what government can and should do about it.

Redistribution by government, through taxes and benefits or through free or subsidised services, can play a part in making a fairer society — but only within limits set by the nation's resources, the constraints on borrowing, and individuals' responses to high levels of taxation and benefits.

The point of these periodic overview reports by the Planning Council's Income Distribution Group is twofold — to build a better picture of the distribution system by successive observations over time, and to improve the quality of the picture by indicating where additional information would improve focus and definition.

In what follows we summarise the main conclusions from our analyses, and go on to discuss briefly the policy implications. The focus, in the discussion of the income distribution, is on changes since the early 1980s and more especially in the two years from 1985/86 to 1987/88.

Income distribution

Real incomes from employment, after tax, fell through much of the 1980s. And during the two years from 1985/86 to 1987/88, a period in which large changes were made to the tax and benefit system, income

became less equally distributed. This was partly accounted for by tax changes; the increase in indirect taxes (GST) and reduction in top-bracket income tax rates. But the main reason is that income from the market, about 80 percent of which is from employment, became less equally distributed. And the main cause of this was a drop in labour force participation, especially in full-time employment. This underlines the importance of returning the New Zealand economy to a high real wage, full employment growth path if we are to achieve a more equitable society.

The impact of changes in taxes is not as clear as a narrow focus on changes in the personal tax schedule might suggest. Other substantial tax changes in recent years have broadened the tax base and made taxes more uniform. Many former tax concessions have been lost. Even where avoidance or evasion is still possible, spending from the proceeds is now usually taxed through GST. High income households have gained from tax scale reductions, but these were accompanied by removal of tax concessions and tax avoidance opportunities. Those concessions were generally thought to favour the better-off, although the tax deductibility of member contributions to superannuation schemes has a wider impact. Elsewhere on the income scale, families have gained from government transfers such as Family Support, but heavier indirect taxes have impacted most on low income households.

Some important omissions from our figures include capital gains (or losses, for many shareowners in 1987/88), and the 'imputed' rental income from homeownership (the net saving on housing costs from home purchase). The great majority of 'older' households, especially 'retired' households, are homeowners, often mortgage-free. This component of income is often overlooked because it is not a cash flow. Our figures, however, show it does add significantly to the effective income of '60 and over' households.

Maori incomes

A larger proportion of Maori households than of all households are in the lower income brackets. Fewer Maori households own their own home, and family sizes are larger on average. These differences are partly explainable by the younger average age of Maori, but partly also by genuine differences in economic status.

The gap between Maori and non-Maori closes when account is taken of government redistribution through taxes and benefits (which also tends to reflect the younger age structure of Maori). Such redistribution, however, does not address the basic causes of the gap. Also, when allowance is made for imputed homeownership income, and for greater average family size, Maori-headed households are still significantly less well-off in economic terms on average. Maori did become better off in relative terms, in the decades following World War II but their position has deteriorated in the 1980s because of worsening employment trends.

Incomes of men and women

Most of this report deals with household rather than individual incomes. For individuals a gap persists between male and female average incomes. A major determinant is women's lower participation in paid work because of greater child-care responsibilities. Even allowing for this, the gap remains. 'Occupational segregation' is another factor, and the effects of recent employment equity legislation will be of considerable interest. Areas where further research is needed include the allocation of resources between sexes within the household.

Wealth distribution

Personal wealth is less equally distributed than income. We have used estate duty returns as the main data source on wealth but have also experimented with other approaches and with broader definitions of wealth than usual. Thus approximate estimates have been made of the value of superannuation scheme entitle-

ments, both for occupational and personal schemes, and for the state-provided Guaranteed Retirement Income pension. The latter in particular adds very substantially to the total estimated stock of wealth, and also makes its distribution more equal.

Our estimates provide useful information on the composition and distribution of wealth. They show that average wealth-holdings increase up to middle age, but then are fairly constant and do not fall away significantly in old age. Another important conclusion is that the share of wealth owned individually by women has increased significantly during the 1980s — from 32 percent in 1981/82 to 38 percent in 1987/88.

A feature of the estimates is that the ratio of total personal wealth to national income has declined steadily in recent years. This is probably because changes in matrimonial property laws and transfer of assets for tax avoidance have led to an increasing undercoverage of wealth by estate returns. It could, however, also reflect an increase in the rate of return required on assets, or changes in the nature of wealth-holdings. Further study will be required in this area.

Policy implications

Availability of employment as the key to income equity

Income from employment is the major source of market income. Our figures suggest that the main cause of increased inequality in recent years has been the increased difficulty in finding jobs, especially full-time jobs. The most important step to achieving a more equitable income distribution is to have an economy which delivers employment opportunities for those seeking them.

Maori well-being

While Maori are still far from sharing equally in economic well-being, material well-being is not their only objective. Maintaining the integrity of Maori culture is another important objective. Most Maori want both to strengthen their culture and to share with non-Maori in economic gains.

At present, however, Maori have a lower material standard of living. A lack of financial and physical capital resources is a part-cause of Maori/non-Maori differences. But the crucial difference is in human capital. Maori on average have lower educational and vocational qualifications, and in employment are more concentrated in 'traditional' industries and occupations, slow-growing or declining. It is particularly in the areas of educational achievement and training that more is needed.

The elderly

The concerns of many retired people focus on income security, and the availability of health and other care. While the great majority of elderly people own their own home, many have low or no income from market sources (such as private pensions or investment earnings.) They rely on the provision by government of a guaranteed pension and of services such as health care.

If income security is to be provided for the elderly, as is clearly the wish of the majority of New Zealanders, then the problems are of providing an adequate income in old age, but at a cost which is reasonable to expect the working-age population to meet, and in a form which is not a major disincentive to private saving provisions for old age.

A more equitable society?

Income became less equally distributed among New Zealand households during the late 1980s. As discussed in the Introduction this does not necessarily mean that the income distribution has become less 'fair'. Whether income is considered to be distributed fairly, or unfairly, is a matter for community judgement — though one that is not easily ascertainable.

The fact that emerges clearly from this report, however, is that income became less equally distributed because many people found it much harder to get paid employment. A change in income distribution caused by an increase in joblessness cannot be seen as an improvement. We recognise that New Zealand's economic difficulties are rooted deep in the past, and that many of the policy changes of the past decade have stressed efficiency objectives, at the cost of increased joblessness, in the hope of improving New Zealand's economic performance — and hence creating viable long-term jobs.

Another source of inequity is the lower average standard of living of Maori households. Policies which help eliminate these differences (and, importantly, which enable Maori to do this on their own behalf), and which lead to a return to a healthy full employment, high wages economy, will unequivocally lead to a 'fairer' distribution of income.

Earlier in this report we examined the way in which central government redistributes income through its budget. In many ways the budget mechanisms for income redistribution, through benefits and taxes, performed effectively to partly counter increases in market income inequality and to partly redress the inequality between Maori and non-Maori incomes.

In fact, on our measures, if all of the effects of government spending and revenues on market income are taken into account, the distribution of final income in 1987/88 was no less equally distributed than in 1985/86. This was despite the less equal distribution of market income. However, the difficulties in allocating much of government revenue and spending across households require some caution about this outcome.

We believe that a reliance on government redistribution through benefits and taxes is not the best way to achieve a fair income distribution for New Zealanders. A better way is to provide an economic environment in which individuals and groups are able to seek, and achieve, their own economic and social and cultural objectives.

Appendix One

Recommendations For Further Research

This report has updated and extended the information contained in the Income Distribution Group's first report, *For Richer or Poorer* (1988). In that report issues were listed for further research. This report has extended the earlier work with analysis of income and wealth differences by ethnicity, age and sex; the impact of different life cycle stages; and the economic position of the elderly. There has been a much fuller development of the analysis of wealth.

Although we have broadened the traditional definitions of income and wealth in this report, it must be said that we have not completely integrated the wider material with the more traditional framework. For example, we still do not know very precisely the distribution of the net benefits of homeownership across the income range. The same is true generally of the distribution of personal wealth by level of household income. Tasks for the future include more research on these matters.

The Group would have also liked to look at issues in relation to the social wage, the measurement of tax avoidance and the impact of fringe benefits. These remain on the agenda for future research.

Future work of the Group will be influenced by the availability of statistics. The Department of Statistics is currently reviewing its income and wealth statistics. We hope some of our suggestions below will be implemented following that review. The System of National Accounts (SNA) is also under review, internationally and in New Zealand. Two major developments on which a start is being made in New Zealand are the inclusion in the accounts of the value of unpaid work, and environmental accounts.

Our primary objective is to monitor changes in income and wealth and their distribution, and also the effect of government policies on these. To this end, the further work which needs to be done includes research on the areas listed below.

Better measurement

- i) How the various components of income and wealth and savings are distributed and inter-related — by income group, family type, ethnicity, sex, age or stage of household life cycle, etc. Our knowledge is particularly weak on the distribution of wealth.
- ii) As a specific instance, the inter-relationship between income and wealth for the 'over 60s'.
- iii) The 'lifetime' distribution of income and wealth — that is, information on changes over time, and longitudinal changes for given groups of people or given generations.
- iv) The value of unpaid work.
- v) The extent of intra-family distribution of income. This is particularly important for Maori.
- vi) The distribution of resources between iwi.
- vii) The value of the environment and the impact it has on standards of living and wealth.
- viii) National balance sheets, showing totals of various types of asset for the whole economy, and for the main sectors (households, business, government, etc.).

Policy-oriented analysis

- ix) The characteristics of consumers of government social services such as health and education.
- x) The ways in which tax and benefit systems influence personal and household economic decisions, such as work incentives and willingness to save and invest.
- xi) The determination of what constitutes an 'adequate' income to enable people to 'belong and participate' in society, for families of different types and stages in the life cycle. This would give a better picture of the adequacy of current benefits and wages.
- xii) The extent to which income is an adequate measure of standard of living, and to which it needs to be supplemented with social indicators or deprivation type indicators.

Appendix Two

Technical Measurement Issues

Units of measurement

Much of the information presented in this report is derived from the Department of Statistics' Household Expenditure and Income Survey (HEIS). This covers permanent private New Zealand households.¹ A household may consist of a family, but it may also be made up of unrelated individuals, such as flatmates who neither pool their resources nor share all expenses.

Throughout the report, the two units of measurement used — individuals and households — are grouped in two main ways: according to their income levels (using various concepts of income), and according to their stage in the life cycle. The income and life cycle groupings are described later in this appendix, and summary data given for both.

Use of HEIS data

HEIS data have been used in this report as a new source for estimates of personal wealth (Robins 1990), as summarised in Chapters Nine and Ten. The main use, however, has been for analysing incomes. Estimates for the whole population, or subgroups of it, can be obtained directly from the sample survey data. These estimates can be taken a step further by reweighting the sample figures in line with benchmark data from the Census of Population, and adjusting also so that the survey-based estimates agree with System of National Accounts (SNA) totals. Census weights and SNA adjustments are discussed further below.

Finally, to analyse the impact of government on household incomes, use has been made of the SEBIRD model. SEBIRD — the acronym for Study of the Effect of the Budget on Income Redistribution and Distribution — uses HEIS data through the Department of Statistics' tax model, ASSET. (See *For Richer or Poorer* for a description of the workings of the model.)

SEBIRD was originally developed by Suzanne Snively. Results for the year 1981/82, along with an extensive discussion of the methodology and theoretical basis for the model, were published in *The 1981/82 Government Budget and Household Income Distribution* (Snively 1987). SEBIRD was further developed, and results were produced for the year 1985/86 and projected for the year 1987/88, as part of the Department of Social Welfare's input to the Royal Commission on Social Policy. During this time the IDG drew on it to provide information for *For Richer or Poorer*. The model is now operated by the Department of Statistics, and was used for the Department's recent publication *The Fiscal Impact on Income Distribution, 1987-88*. Development and updating of the model in response to user needs will be an ongoing process within the Department.

¹ In the Household Expenditure and Income Survey, a household is defined as:

'Either a single individual living in a dwelling who makes his or her own housekeeping arrangements, or a group of persons living in or sharing a dwelling, for most of the reference period of the survey, the individual members of which participate in some measure at least in the consumption of food purchases for joint use by members, or who, if not dependent for income upon other household members, contribute some portion of income towards the provision of essentials of living for the household as a whole' (Household Expenditure and Income Survey 1985/86, Department of Statistics).

Individuals living in institutions, motels or hotels are excluded, as are those living in non-permanent dwellings such as tents or caravans. Children at boarding school and others in institutions who spend continuous periods at home, and are largely supported by the household, are counted as household members.

For this report we requested special runs from the Department of Statistics' model for 1987/88. Results for 1985/86 were obtained from the Department of Social Welfare's version of the model. Tables for 1981/82 were produced by the Department of Statistics from the ASSET model.

System of National Accounts adjustments

Input data to the SEBIRD model consisted of information on market incomes and social welfare payments from HEIS, data on direct taxes from the Department of Statistics' ASSET model, and data on government services from the government's published figures for public expenditure. Adjustments were then made to bring the total amounts reported by or allocated to households for social welfare payments, taxes and government expenditures, into line with the amounts listed for these items in the New Zealand System of National Accounts. Note that no adjustment has been made, however, to market income. The 1985/86 and 1987/88 SEBIRD data used in this report have been SNA adjusted. The 1981/82 data have not, except those drawn from Snively (1987). The disposable income deciles, against which data from the HEIS wealth imputations have been presented, are also SNA adjusted.

Census weightings

The HEIS data for 1985/86 and 1987/88 have been standardised to the census distribution of income and household type using weights based on the 1986 Census. This is an attempt to adjust for any bias introduced through non-response or other sampling problems in the HEIS. This means, for instance, that figures given for numbers of households are not those estimated from the survey, but the number in the corresponding census population. In the case of 1981/82 data, tables produced by the Department of Statistics are unweighted. The data supplied in Snively for 1981/82 were weighted to match the 1981 Census. The SEBIRD data used in *For Richer or Poorer* for 1985/86 were weighted to the 1986 Census. The Department of Statistics has since revised the weightings, and the 1985/86 data in this report are based on the revised weightings. There are therefore small differences between the results for 1985/86 in the two reports.

Allocation of the government budget over households

After adjusting the HEIS household distribution to the census benchmark, and scaling benefit and tax totals to agree with the National Accounts, the components of the central government budget are allocated among households. The details are given in the Appendices to *The Fiscal Impact on Income Distribution, 1987-88* (Department of Statistics 1990). Briefly, the methods used for the main components were as follows:

- i) Social welfare benefits — as recorded in HEIS, adjusted to National Accounts totals.
- ii) Personal direct taxes — as imputed from HEIS incomes data by the Department of Statistics' model (ASSET), adjusted to National Accounts' totals.
- iii) Health expenditure — allocated among individuals by age and sex category.
- iv) Education expenditure — allocated among individuals using HEIS data on attendance at educational institutions.
- v) Housing expenditure — allocated using HEIS data on nature of tenure.
- vi) Indirect taxes — allocated in proportion to household spending of various types.

- vii) Other government spending and revenues — in general, allocated in proportion to data from HEIS on households' general expenditure, combined in appropriate cases with data on income from such sources as investment income. (The details of the allocation used for this report differ slightly from those used in the Department of Statistics' report.)

Decile and quintile income ranges

Individuals or households, as the case may be, have been divided into 10 groups (deciles) each containing 10 percent of all households or individuals, or five groups (quintiles) each containing 20 percent. The groups are ordered from lowest to highest on the basis of their income. Various income concepts are used as the basis for the ordering depending on what the information is designed to portray.

There are two major themes in this report — redistribution and outcomes. Redistribution considers the effect that taxes, social welfare payments and the government's provision of services have on the distribution of income obtained from 'the market'. To examine this, we build up a picture of the distribution of the various items on a base of deciles of households ordered according to market income. Outcomes are evaluated against deciles ordered according to equivalent disposable income. The material on the distribution of wealth derived from HEIS data is presented by deciles of households ordered according to disposable income.

Table 1 describes the decile and quintile boundaries used in this report for individuals, and Table 2 the decile boundaries used for households. Table 3 gives the number and distribution of Maori households across the various sets of deciles for the three years. (Households in the total population are of course allocated equally.)

Table 1

Dollar Income Ranges for Adult Individuals					
I. Dollar income ranges for quintiles of adult individuals ordered according to market income for the years ending March 1982, 1986 and 1988					
	1	2	3	4	5
1981/82	<101	101-2700	2701-9200	9201-14800	14801+
1985/86	<291	291-4650	4651-12500	12501-20300	20301+
1987/88	<311	311-4850	4851-15600	15601-25900	25901+
II. Dollar income ranges for market income deciles of adult individuals for the year 1987/88					
Boundaries between deciles (\$)					
1 and 2	2 and 3	3 and 4	4 and 5	5 and 6	
1987/88	0	310	1600	4850	10050
	6 and 7	7 and 8	8 and 9	9 and 10	
	15600	20300	25900	35000	

Table 2

Dollar Income Ranges for Deciles (Households)									
Boundary between deciles	Market income deciles			Disposable income deciles			Equivalent disposable income deciles		
	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88
1 and 2	250	266	200	5400	8158	8321	6450	9674	11810
2 and 3	3950	3345	2300	7400	12354	13113	7300	12244	13161
3 and 4	9750	11569	10100	9500	14422	15996	8500	13363	14958
4 and 5	13450	16949	19900	11500	16614	19035	9400	14791	17195
5 and 6	16900	21681	26300	13500	19080	22589	11400	16506	20091
6 and 7	20250	26573	33500	15800	22048	26507	13200	18585	23216
7 and 8	24200	32383	41700	18000	25401	31459	15100	21001	26938
8 and 9	29200	39767	50800	20800	29973	37250	17700	24316	30813
9 and 10	36650	50585	64600	25100	36107	46110	20800	29609	36872

Note: The decile boundaries are subject to sampling errors perhaps of the order of \$500, increasing to \$1000 at the top and bottom ends of the distribution.

Source: 1981/82 market income ranges (Snively 1987); other income ranges from Department of Statistics (derived from HEIS)

Life cycle typology

The Department of Statistics has recently developed a classification of household types based on their phase in the life cycle. Table 4 describes the numbers and distribution of all household and Maori households that fall into each life cycle category.

Table 4

Estimated¹ Distribution of Household Numbers Across Life Cycle Categories

Life cycle stage	All households				Maori households							
	Number of households		Distribution of households		Number of households		Distribution of households					
	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88			
Single person:												
15-39	37115	41083	44646	3.7	3.9	4.0	1450	923	2808	2	2	4
40-59	37985	37071	50925	3.8	3.5	4.5	1740	1848	4647	3	3	6
60+	98007	110934	120023	9.7	10.4	10.7	1450	1310	2820	2	2	4
Couple, female aged:												
15-39	73940	67270	70383	7.3	6.3	6.3	2610	2095	4093	4	4	5
40-59	71330	77432	83359	7.1	7.3	7.4	580	1234	3019	1	2	4
60+	98296	94457	109540	9.7	8.9	9.7	870	0	1494	1	0	2
Couple with children, female aged:												
<30	105835	93083	90453	10.5	8.7	8.0	11888	8723	12761	19	15	16
30-34	94817	84638	85907	9.4	7.9	7.6	4639	4472	3467	7	8	4
35-39	75100	96182	85832	7.4	9.0	7.6	5219	6307	4122	8	11	5
40-44	62341	60830	72874	6.2	5.7	6.5	4059	3509	2624	6	6	3
45-49	45234	49825	48844	4.5	4.7	4.3	2610	3009	2568	4	5	3
50+	47843	56409	46609	4.7	5.3	4.1	3190	3211	4183	5	5	5
Sole parent	58862	79427	105239	5.8	7.5	9.4	4639	8737	18176	7	15	23
Other family	64661	67982	57450	6.4	6.4	5.1	15078	13570	10826	24	23	13
Non-family households	39725	48287	52647	3.9	4.5	4.7	3190	595	2447	5	5	3
All	1011091	1064890	1124732	100.0	100.0	100.0	63211	59542	80055	100	100	100

¹ The figures are estimates, based in some categories on quite small sample numbers. Source: Department of Statistics (derived from HEIS).

Note:

- (1) In the case of couples, age groups are delineated on the basis of the age of the female.
- (2) Children are defined not on the basis of their age, but on the basis of their family relationship. This means, for example, that the sole parent category contains households where an adult child lives with one parent.
- (3) Single people in the youngest age group are those living alone. Many young people fall into the non-family households group which is made up predominantly of flats.
- (4) The category 'other family' is made up of various forms of extended families. Fifty-nine percent of the households in this category contain three adults and children: 27 percent contain three adults without children. The remaining 14 percent contain either non-coupled but related pairs of adults with or without children, or households of one or two adults in which at least one child is related but is not a child of any adult in the household. Seven percent of households contain two adults and a related child (but not through birth). This group also contains a large proportion of elderly people.

Equivalence scales

Equivalence scales are used to adjust income to reflect the varying needs of different household types. Households with equal equivalent income have an equal living standard, theoretically. Different equivalence scales reflect different ways of determining standard of living. The equivalence scale used in this report to compare incomes of households of different size and composition is an extended version of the Whiteford (1985) geometric mean scale. The table below describes the adjustment factors provided by this scale for the various household types. A household's income is adjusted to be equivalent to a household consisting of two adults and no children, by dividing actual household income by the appropriate scale.

The Geometric Mean Equivalence Scale

The equivalence scale is:

1 adult only	0.64
1 adult 1 child	0.90
1 adult 2 children	1.10
1 adult 3 + children	1.31
2 adults only	1.00
2 adults and 1 child	1.20
2 adults and 2 children	1.38
2 adults and 3 children	1.59
2 adults and 4 or more children	1.74*
3 adults, no children	1.22*
3 adults or more, plus children	1.75*
4 adults or more, no children	1.65*

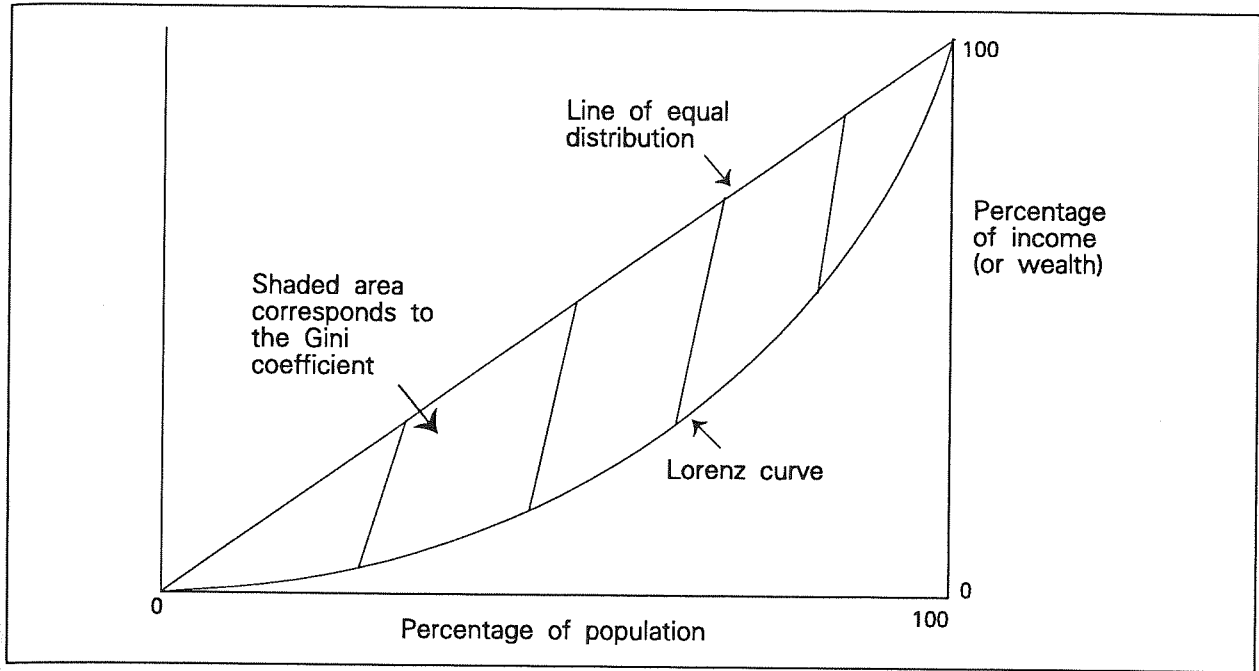
This means, for example, that the income of a household of one adult and one child should be 90 percent of a household of two adults, for the two households to have the same equivalent income. The scale is identical to Whiteford's apart from those figures marked *.

A range of equivalence scales have been used in New Zealand, but none is universally accepted. One of the most commonly used in New Zealand is the Jensen equivalence scale, produced by John Jensen (Department of Social Welfare), although there is no sound empirical basis for this scale. The scale chosen for this report reflects the mean of a range of scales. It is hoped that further research will lead to better equivalence scales being developed which reflect New Zealand expenditure patterns and relative costs for different household types. Preliminary work by the Department of Statistics has failed to establish stable equivalence scales. (See Smith 1989, and also Rutherford, Khan, Rochford and Hall 1990, on recent Department of Social Welfare research on equivalent income.)

Gini coefficients

The Gini coefficient is a measure of the inequality of a distribution. Its definition can best be illustrated by a diagram.

The point at the upper right-hand corner represents the point at which 100 percent of the households receive 100 percent of the income. Along the diagonal line, the distribution is equal as 10 percent of the households receive 10-percent of the income, and so on. The nearer the Lorenz curve lies to the 45° line of equality, the more equal is the distribution of income. The Gini coefficient for the Lorenz curve is the ratio of the shaded area to the total area under the line of equality. The coefficient can vary from 0 (complete equality) to unity (complete inequality).



Appendix Three

Data Tables

Appendix Two provides decile and quintile definitions for 1981/82, 1985/86 and 1987/88, as well as the classification of households by life cycle stage, and number of households in each category (for the total population and for the Maori population).

This appendix gives selected data only, from the computer tabulations commissioned for the report. Further detail is available on request. Also much of the material underlying Chapters Eight to Twelve on wealth is given in the working papers released with this report.

This appendix is split into three sections:

- key statistics brought together for ready reference
- supplementary material
- some of the detailed data derived from HEIS, giving demographic data on the distribution of the population, and of adults and children, across deciles and among life cycle categories.

Key statistics on income and wealth

Some key statistics from the body of the report are summarised here. Most of the figures below refer to 1987/88. Since then, average incomes have increased, by about 15 percent to 1989/90, but consumer prices increased 12 percent.

Incomes

A. *Individuals*

	Average Annual Market Income 1987/88 (\$)				
	Women	Men	Both sexes		
			Total population	Maori	Non-Maori
All adults (15 and over)	8,400	20,900	14,400	11,300	14,650
Full-year, full-time employees	22,000	30,300	27,850	23,000	28,300

B. Households (and families)

Averages

In 1987/88, income from the market averaged over all households was \$30,050.

In addition, income from 'non-regular' sources (gifts, inheritances, redundancy, insurance policies maturing, etc.) amounted to about \$1,700 per household.

There are also 'non-cash' income flows. Our estimates are that in 1987/88 fringe benefits averaged \$1,400 per household, and the benefits of homeownership from not having to pay rent (before paying mortgage interest) averaged \$3,100 per owner-occupying household. There are also real capital gains on assets, which are positive in most years, but negative in 1987/88, because of the October 1987 sharemarket crash.

The average over all households is higher than the income of the 'middle' or 'median' household, because higher income households have more weight in the average.

The market income of the median household was \$26,300.

Families

There are diverse household types. A major grouping is the 'couple with children' category. The market income average for this group was \$44,100. This is higher than the average for all households, because such families have a high participation in paid work.

Maori/non-Maori comparisons

	Maori	Household averages Non-Maori	Maori as % of non-Maori
Actual market income	23,750	30,050	79
Equivalent market income	19,400	25,250	75
Equivalent disposable income	20,700	21,950	94

Distribution of income, and change from 1985/86 to 1987/88

	Percent of aggregate income received by:			
	Bottom 20% of households		Top 20% of households	
	1985/86	1987/88	1985/86	1987/88
Market income	0.2	-0.4 ¹	47.1	48.0
Disposable income	9.2	7.8	36.6	37.9
Final income	10.5	9.5	34.1	35.1

Note: Households ranked by market income.

¹ A proportion of households in the bottom 20 percent report losses from self-employment, etc.

Wealth

Again the figures quoted here refer to 1987/88, since when prices have increased, by 12 percent (CPI) to 1989/90.

Personal marketable wealth (cash, shares, houses, cars, etc.) is estimated to have totalled \$85 billion in 1987/88, \$36,000 per person aged over 15, and \$76,000 per household.

The top 10 percent of wealth-holders owned about 37 percent of this total, and the top 1 percent about 9.5 percent. However, these figures, from data on estates left at death, are known to give an underestimate of the total of personal wealth. Also they exaggerate the inequality of wealth distribution, because many whose estates would be shown as zero at death do have some modest assets. Also children and others not having title to assets do share the benefits within households of those assets.

Another source, developed for this report, suggests that very approximately the top 20 percent of households have about 31 percent of total personal wealth, and the bottom 20 percent about 12 percent.

Gifts and inheritances

Gifts received as money averaged \$120 per household in 1987/88, and bequests received in money form averaged \$460.

Weekly social benefit rates from April 1990

(after tax, unless otherwise specified)

Benefit type	Without children	
	Single \$	Couple \$
Guaranteed Retirement Income (GRI)	207.07 gross 172.86 net G 149.11 net S	338.90 gross 288.10 net G 244.04 net S
Unemployment 16-17	86.14	223.22
18-19	114.86	
20 yrs or over	143.57	
Domestic Purposes, Invalid's, Sickness, Widow's Benefit		270.44
Under 18 years	131.30	
18 yrs or over	162.26	
	With children	
	Sole parent \$	Couple \$
All benefits (one child)	213.14	255.08
(more than one child)	228.87	

Abatement rates for GRI

(Veteran's pensions, at the same rate as GRI, are exempt from the surcharge.) A single person on GRI may have other taxable income of \$7,202 a year before the surcharge starts to apply. A married couple both receiving

GRI can each have taxable income of \$6,006 before the surcharge starts to apply (unused exemption by one partner can be used by the other). Fifty percent of income from registered pensions is exempt.

Abatement rates for
income-tested benefits

None if other income is less than \$50 per week, or \$60 per week for those with children. Payment is reduced by 30 cents for every dollar of income over \$50 or \$60 but under \$80 per week, and 70 cents for every dollar of income over \$80 per week.

Note: net G: Net after tax (tax calculated on G rate, i.e. considering GRI as the primary income).
net S: Net after tax (tax calculated on S rate, i.e. considering GRI as secondary income).

Other benefits (\$ per week)

Family Support	\$36 for the first child \$16.00 per child for other children
Abatement rate	18 cents for every dollar of family income above \$17,500 during the year
Guaranteed Minimum Family Income	\$310 (including Family Benefit and Family Support), \$16 per week (Family Support) for each additional child, plus \$6 Family Benefit.
Family Benefit	\$6.00 per child

Note: Changes announced in the Budget Statement of July 24, 1990 are not included in this table.

Source: Department of Social Welfare reports

Table 1(a)

Numbers of Household Occupants, by Income Deciles
Market income deciles of households

Decile	Distribution of occupants (%)			All households							
	1981/82	1985/86	1987/88	Average no. of persons per household		Average no. of adults		Average no. of children			
	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88		
1	6.2	6.2	7.4	1.9	1.9	2.1	1.4	1.4	0.5	0.5	0.7
2	5.8	5.9	6.3	1.7	1.8	1.8	1.4	1.5	0.3	0.3	0.3
3	8.1	8.1	7.4	2.4	2.5	2.1	1.5	1.8	0.9	0.7	0.5
4	9.2	9.8	9.1	2.8	3.0	2.6	1.9	2.0	0.9	1.0	0.8
5	10.8	10.4	10.1	3.2	3.2	2.9	1.9	2.1	1.3	1.1	1.0
6	11.0	11.1	10.8	3.3	3.4	3.1	2.0	2.1	1.3	1.3	1.1
7	11.8	11.1	10.8	3.6	3.4	3.1	2.2	2.3	1.4	1.1	1.0
8	11.4	11.7	11.9	3.4	3.6	3.4	2.3	2.4	1.1	1.2	1.1
9	11.7	11.7	12.2	3.5	3.6	3.5	2.5	2.6	1.0	1.0	1.1
10	14.0	14.0	14.0	4.2	4.3	4.0	3.0	3.2	1.2	1.0	1.2
All	100.0	100.0	100.0	3.0	3.1	2.9	2.0	2.1	1.0	0.9	0.9

Decile	Distribution of occupants (%)			Maori households							
	Average no. of persons per household		Average no. of adults		Average no. of children						
	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88		
1	7.7	10.8	19.9	2.9	3.1	3.1	1.7	1.4	1.2	1.7	1.7
2	3.9	4.2	3.9	3.8	3.2	2.9	1.7	2.2	2.1	0.9	1.2
3	8.6	8.2	6.2	4.0	3.7	2.7	1.9	2.0	2.1	1.7	1.1
4	9.2	12.4	13.6	3.9	4.1	3.3	1.9	2.4	2.0	1.7	1.3
5	10.9	12.3	12.4	4.1	4.3	3.6	2.0	2.5	2.1	1.8	1.6
6	14.0	11.6	10.6	4.7	3.9	3.8	2.1	2.2	2.7	1.7	1.6
7	11.8	8.1	10.5	5.5	4.0	3.5	2.3	2.6	3.2	1.4	1.2
8	12.1	11.3	8.3	4.9	4.8	3.7	2.6	2.5	2.3	2.3	1.3
9	9.3	10.0	6.7	4.8	4.6	3.8	2.4	2.6	2.4	1.9	1.4
10	12.5	11.1	7.9	6.4	5.4	4.7	3.4	4.1	3.1	1.4	2.0
All	100.0	100.0	100.0	4.5	4.1	3.4	2.2	2.4	2.3	1.7	1.5

Source: 1981/82 data for all households Snively (1987); other data, including 1981/82 Maori households, from Department of Statistics (derived from HEIS)

Table 1(b)

Disposable income deciles of households

Decile	Distribution of occupants (%)			All households			Average no. of children					
	1981/82	1985/86	1987/88	Average no. of persons per household	Average no. of adults	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	
1	5.6	5.9	5.7	1.7	1.8	1.6	1.2	1.4	1.3	0.4	0.4	0.3
2	6.9	5.9	6.0	2.1	1.8	1.7	1.6	1.4	1.4	0.6	0.4	0.3
3	8.3	7.8	7.4	2.5	2.4	2.1	1.7	1.8	1.6	0.8	0.6	0.5
4	9.2	9.5	9.5	2.8	2.9	2.7	1.8	1.9	1.6	1.0	1.0	1.1
5	10.5	10.5	10.6	3.2	3.2	3.0	1.9	2.0	1.9	1.3	1.2	1.1
6	11.5	10.5	10.6	3.5	3.2	3.0	2.0	2.1	1.9	1.4	1.1	1.1
7	11.5	11.1	11.7	3.5	3.4	3.3	2.1	2.3	2.1	1.4	1.2	1.2
8	11.2	11.8	11.7	3.4	3.6	3.3	2.2	2.5	2.2	1.2	1.1	1.1
9	11.5	12.4	12.0	3.5	3.8	3.4	2.3	2.6	2.3	1.1	1.1	1.1
10	13.8	14.7	14.8	4.2	4.5	4.2	2.9	3.4	2.9	1.3	1.1	1.2
All	100.0	100.0	100.0	3.0	3.1	2.9	2.0	2.1	1.9	1.1	0.9	0.9

Decile	Distribution of occupants (%)			Maori households			Average no. of children					
	1981/82	1985/86	1987/88	Average no. of persons per household	Average no. of adults	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	
1	1.5	4.3	4.8	1.5	2.3	2.0	1.3	1.3	1.2	0.2	1.0	0.7
2	5.5	4.7	2.9	2.7	2.7	1.9	1.7	1.7	1.5	1.0	1.0	0.4
3	10.5	4.2	7.7	4.1	3.0	2.5	1.7	2.0	1.3	2.4	0.9	1.1
4	9.3	9.4	14.9	3.8	3.5	3.2	2.0	1.8	1.5	1.8	1.7	1.7
5	10.4	13.7	8.0	3.9	3.9	3.1	2.0	2.1	1.9	2.0	1.8	1.1
6	11.5	11.2	13.4	4.9	4.0	4.1	2.1	2.3	1.9	2.8	1.8	2.1
7	11.3	8.4	15.0	5.0	4.7	3.9	2.1	2.3	2.1	2.9	2.4	1.7
8	12.3	12.7	10.0	5.2	4.6	3.6	2.6	2.6	2.1	2.7	2.0	1.5
9	8.0	15.8	8.7	4.9	5.0	3.7	2.4	3.0	2.3	2.4	2.0	1.4
10	19.6	15.7	14.5	6.6	5.7	5.0	3.3	3.9	2.8	3.2	1.8	2.2
All	100.0	100.0	100.0	4.5	4.1	3.4	2.2	2.4	1.9	2.3	1.7	1.5

Table 1(c)
Equivalent disposable income deciles of households

Decile	Distribution of occupants (%)				All households				Maori households						
	Average no. of persons per household		Average no. of adults		Average no. of persons per household		Average no. of adults		Average no. of persons per household		Average no. of adults				
	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88			
1	11.3	11.4	9.8	3.4	3.5	2.8	1.7	2.0	1.7	2.0	2.0	1.7	1.4	1.1	
2	7.6	11.4	7.4	2.3	3.5	2.1	1.6	2.0	1.5	2.0	1.5	0.7	1.5	0.6	
3	9.9	8.2	9.8	3.0	2.5	2.8	1.8	1.7	1.8	2.0	1.8	1.2	0.8	1.0	
4	11.3	9.5	10.5	3.4	2.9	3.0	2.0	2.0	1.7	2.0	1.7	1.4	0.9	1.2	
5	11.3	10.4	11.2	3.4	3.2	3.2	2.0	2.0	1.9	2.0	1.9	1.4	1.1	1.2	
6	11.3	10.7	10.8	3.4	3.3	3.1	2.0	2.2	2.0	2.2	2.0	1.4	1.0	1.1	
7	9.9	9.5	10.5	3.0	2.9	3.0	2.0	2.1	2.1	2.1	2.1	1.0	0.8	0.9	
8	9.9	9.8	10.5	3.0	3.0	3.0	2.1	2.3	2.1	2.3	2.1	0.9	0.7	0.8	
9	8.9	9.8	9.4	2.7	3.0	2.7	2.1	2.5	2.1	2.5	2.1	0.5	0.5	0.5	
10	8.6	9.5	10.1	2.6	2.9	2.9	2.3	2.6	2.4	2.6	2.4	0.4	0.4	0.5	
All	100.0	100.0	100.0	3.0	3.1	2.9	2.0	2.1	1.9	2.1	1.9	1.1	0.9	0.9	
Decile	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88
1	19.2	13.7	10.9	4.8	4.1	3.1	2.1	2.0	1.7	2.1	2.0	1.7	2.8	2.1	1.3
2	7.5	11.3	9.3	3.5	3.9	3.4	1.7	2.2	1.6	1.7	2.2	1.6	1.9	1.7	1.9
3	9.9	10.3	13.0	4.2	4.0	3.9	2.0	1.8	1.5	2.0	1.8	1.5	2.2	2.1	2.3
4	14.1	8.2	10.7	5.3	4.1	3.5	2.2	2.3	1.5	2.2	2.3	1.5	3.1	1.8	2.0
5	11.5	11.2	15.9	4.5	4.3	3.9	2.3	2.3	2.1	2.3	2.3	2.1	2.2	2.0	1.8
6	9.5	13.7	8.3	4.2	4.0	3.3	2.0	2.4	2.1	2.0	2.4	2.1	2.1	1.5	1.2
7	5.3	9.5	6.7	3.7	4.1	3.6	2.2	2.6	2.3	2.2	2.4	2.3	1.5	1.5	1.3
8	10.5	8.7	11.8	4.9	4.5	3.4	2.5	2.9	2.0	2.5	2.6	2.0	2.4	1.6	1.4
9	6.4	8.3	5.2	3.9	3.5	2.5	2.4	2.4	1.9	2.4	2.4	1.9	1.6	1.1	0.5
10	6.1	5.1	8.2	5.4	5.3	3.2	3.5	4.4	2.3	3.5	4.4	2.3	1.9	0.9	0.8
All	100.0	100.0	100.0	4.5	4.1	3.4	2.2	2.4	1.9	2.2	2.4	1.9	2.3	1.7	1.5

Source: As for Table 1(a)

Table 2(a)
Numbers of Household Occupants, by Life Cycle Groups
 All households and Maori households

Life cycle stage	All households						Average no. of children					
	Distribution of occupants (%)			Average no. of persons per household			Average no. of adults					
	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88
Single person:												
15-39	1.2	1.3	1.4	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
40-59	1.2	1.1	1.6	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
60+	3.2	3.4	3.7	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0
Couple, female aged:												
15-39	4.8	4.1	4.4	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
40-59	4.7	4.7	5.2	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
60+	6.4	5.8	6.8	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0
Couple with children, female aged:												
<30	13.5	11.1	10.7	3.9	3.9	3.8	2.0	2.0	2.0	1.9	1.9	1.8
30-34	14.0	11.7	11.8	4.5	4.5	4.4	2.0	2.1	2.0	2.5	2.3	2.4
35-39	11.6	14.1	12.0	4.7	4.8	4.5	2.1	2.5	2.1	2.6	2.3	2.3
40-44	9.4	8.9	9.5	4.6	4.8	4.2	2.5	3.1	2.4	2.1	1.7	1.6
45-49	6.2	6.7	5.8	4.2	4.5	3.8	2.7	3.4	2.7	1.5	1.1	0.9
50+	5.6	6.6	5.2	3.6	3.8	3.6	2.9	3.4	3.0	0.7	0.4	0.6
Sole parent	5.2	7.0	9.2	2.7	2.9	2.8	1.4	1.6	1.3	1.4	1.4	1.4
Other family	9.5	9.6	8.8	4.5	4.6	4.9	2.8	3.3	3.3	1.7	1.4	1.5
Non-family household	3.4	3.7	3.9	2.6	2.5	2.4	2.4	2.5	2.3	0.2	0.0	0.0
All	100.0	100.0	100.0	3.0	3.1	2.9	2.0	2.1	1.9	1.1	0.9	0.9

Table 2(b)

Maori households

Life cycle stage	Distribution of occupants (%)			Average no. of persons per household			Average no. of adults			Average no. of children		
	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88	1981/82	1985/86	1987/88
Single person:												
15-39	0.5	0.4	1.0	1	1	1	1	1	1	0	0	0
40-59	0.6	0.8	1.7	1	1	1	1	1	1	0	0	0
60+	0.5	0.5	1.0	1	1	1	1	1	1	0	0	0
Couple, female aged:												
15-39	1.8	1.7	3.0	2	2	2	2	2	2	0	0	0
40-59	0.4	1.0	2.2	2	2	2	2	2	2	0	0	0
60+	0.6	0.0	1.1	2	2	2	2	2	2	0	0	0
Couple with children, female aged:												
<30	16.8	14.3	18.5	4.0	4.0	4.0	2.0	2.0	2.0	2.0	2.0	2.0
30-34	9.5	9.0	6.9	5.8	4.9	5.5	2.0	2.1	2.1	3.8	2.8	3.4
35-59	10.7	14.2	7.6	5.8	5.5	5.1	2.1	3.1	2.3	3.7	2.4	2.8
40-44	8.8	6.3	3.7	6.1	4.4	3.9	2.7	2.7	2.5	3.4	1.7	1.4
45-49	4.5	5.8	3.6	4.9	4.7	3.9	2.5	3.0	2.3	2.4	1.7	1.6
50+	5.2	5.3	6.7	4.6	4.0	4.4	2.7	2.9	2.4	1.9	1.1	2.0
Sole parent	5.7	11.4	21.1	3.5	3.2	3.2	1.2	1.4	1.4	2.3	1.8	1.8
Other family	30.9	28.9	20.0	5.8	5.2	5.1	2.8	3.4	3.3	3.0	1.8	1.8
Non-family household	3.3	0.5	1.8	2.9	2.0	2.0	2.4	2.0	2.0	0.5	0.0	0.0
All	100.0	100.0	100.0									

Source: Department of Statistics (derived from HEIS)

Note: 1. Two definitions of 'child' are used. For the life cycle typology 'children' includes any person, adult or non-adult, living with a parent. In the body of the tables, however, 'children' are those for whom Family Benefit can be claimed, i.e. those aged under 15 plus those aged 15 to 18 and still at school.

2. The 1981/82 occupant figures for disposable and equivalent disposable deciles were calculated on the basis to agree with National Accounts decile boundaries not adjusted totals.

3. All HEIS-based estimates are subject to sampling and other error, particularly for categories which are a small proportion of the total.

Glossary

Adults: People aged over 18 and people aged between 15 and 18 who have left school. (Note that those at school between the ages of 15 and 18 are classed as dependent children).

Asset: A Simulation System for Evaluating Taxation. This is the Department of Statistics tax and benefit model (see Broad, 1983).

Average Tax Rate: Total direct tax payable divided by total income (market income plus benefits).

Benefits: Social Welfare cash payments. They include in this report, unemployment, sickness, invalids, widows and domestic purposes benefits, and also National Superannuation (Guaranteed Retirement Income), as well as Guaranteed Minimum Family Income and Family Support payments.

Capital gain: an appreciation in the value of assets over a period of time.

CPI: Consumer Price Index, Department of Statistics.

Deciles: Deciles are groupings of 10% of the population of households or individuals ranked on their income. Thus the first income decile consists of the 10% of households or individuals with the lowest incomes, the second decile has the next 10%, right up until the tenth decile which has the 10% with the highest incomes. Deciles can be formed using any definition of income one chooses.

Dependent Child: A dependent child is defined as one for whom the parents are still receiving Family Benefit. These are people aged under 15 or are aged under 18 and are still attending secondary school.

Direct Tax: Direct taxes widely defined include taxes on personal income, company profits and wealth. In this report, however, the term is used in a more restricted sense to cover taxes directly paid by persons, namely personal income tax, and estate and gift duties.

Disposable Income: Market income plus benefits (giving 'total income') less personal income taxes.

Distribution: In this report the word distribution has been used to describe for any income measure (market, disposable, final, etc) or any policy item (tax, benefit, etc) the percentage share that each group (decile, household type, etc) receives.

Domestic Purposes Benefit (DPB): A benefit available to a man or a woman who is living apart from his/her partner and has dependent children.

Equivalence Scale: A set of factors used to adjust household incomes so that they are equivalent to the income a 'couple, no children' household would need to maintain the same standard of living (see Appendix Two).

Equivalent Income: Income after adjustment by an equivalence scale.

Estate Duty: A death duty with the tax liability related to the amount of the net estate left by the deceased.

Family Benefit: A non-taxed cash benefit, currently \$6.00 per week, paid by the Government to families for each child. All children below 15 are eligible and if they are less than 18 and still attending secondary school full-time they are also eligible.

Family Support: An income-related benefit, introduced in October 1986. It can take the form of a tax credit for a parent in paid work, or otherwise can be a transfer payment. The amount, and income level at which it is phased out, increases with the number of children.

Family Care: A non-taxable benefit for each child in addition to the Family Benefit, but abating with income above a certain level. The scheme operated from 4 December 1984 to end-September 1986.

Final Income: (Market Income adjusted for Budget.) The final income attributed to households after all items of government expenditure and revenue have been allocated among households.

Fringe Benefit Tax (FBT): A tax on fringe benefits provided by employers, such as cars, low-interest loans, and (for a period) employer contributions to superannuation and health insurance schemes. Introduced from April 1985, and payable by employers.

Gini Coefficient: A summary measure of the overall inequality of an income or wealth distribution (See Appendix Two).

Goods and Services Tax (GST): A value-added tax, introduced in October 1986 and levied on most goods and services in New Zealand. The tax was initially levied at 10 percent, and increased to 12.5 percent in 1989.

Guaranteed Minimum Family Income (GMFI): A benefit in the form of a tax credit or a cash benefit for those families with a person in full time employment earning less than a prescribed minimum level which increases with the number of children. This was first introduced in October 1986.

Hapu: Sub tribe.

HEIS: The Household Expenditure and Income Survey, run on a continuing basis by the Department of Statistics, which publishes annual reports on survey results. (See Appendix Two for further details.)

Household: A group of people who live together in a permanent private dwelling and who are a single unit. This means that they have common housekeeping arrangements with common food, and other household items. If people within a dwelling have separate eating arrangements they are separate households.

Import Duty: A duty levied on goods imported into New Zealand from other countries. Duties are set at varying rates depending on the goods involved.

Imputed Rent: The rent which it is estimated the owner-occupiers of a house would be paying if they rented the house instead of owning it.

Incidence: The tax paid by a given income-group or household category as a percent of the group's total income. That is, the average tax-rate for the given group.

Indirect Taxes: Taxes, and government fees and duties, linked to commodities (goods and services) at the point of production or sale or import.

Iwi: Tribe.

'Life-cycle' Household Type: This is the household type used in this publication and developed by the Department of Statistics which categorises households according to the age of the female in the household and whether there are children present. Refer to Appendix Two for a fuller description.

Marginal Tax Rate: The tax rate on the 'final dollar' of income.

Market Income: Income from the market, such as wages and salaries, self-employment, other employment (director's fees, honoraria), investment (interest, dividends, rental income, royalties) and other private sources (job-related and personal private superannuation, trust income and maintenance payments).

Median: The halfway point in a distribution. For example if households are ranked in order of income, from poorest to richest, the median household income is the income of that household exactly midway in the ranking. The median is usually different from the average (the arithmetic mean).

MIAB: Market Income Adjusted.

National Superannuation: The pension paid by the state to persons aged 60 and over, and financed from general government resources. (Renamed as Guaranteed Retirement Income - GRI in 1990.)

NZSNA: New Zealand System of National Accounts.

Progressive: A tax is progressive if, when expressed as a percentage of income, it rises as income rises. A social welfare payment or tax rebate is progressive if, when expressed as a percentage of income, it falls as income rises.

Quantile: A general term for categories based on ranking, such as deciles and quintiles.

Quintile: Groupings obtained in the same manner as deciles, except that each group contains one-fifth or 20 percent of the total.

Real Income Indexes: Measures of changes in income over time after adjusting for the effects of price inflation on purchasing power, as measured by the Consumer Price Index. For example, the Real Disposable Income Indexes published by the Department of Statistics.

Redistribution: Changes in distribution as a result of government intervention through, e.g., taxes, social welfare benefits, spending on social services such as education, health and housing, etc.

Regressive: A tax is regressive if, when expressed as a percentage of income, it falls as income rises. That is, its incidence is higher for low income groups.

Sampling Error: Errors in estimates derived from surveys such as HEIS because the estimates are based on a sample only, and not the whole population. The smaller the sample, the larger the possible size of sampling errors.

SEBIRD: Study of the Effects of the Budget on Income Redistribution and Distribution, a model developed by S. Snively for the allocation of government expenditure and revenues among households, and now operated by the Department of Statistics (See Appendix Two).

Share: The percentage of a particular type of income received or tax paid that a certain group receives.

Tax Evasion: The illegal defrauding of the Inland Revenue Department by whatever means.

Tax Avoidance: Legal methods for minimising tax payments.

Total Income: Market income plus social welfare payments (benefits and pensions).

Whanau: Family, extended family.

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MICHAEL ILLINGWORTH New Zealand 1932-1988.
Painting with Rainbow I
oil on canvas 838 x 965mm
Auckland City Art Gallery collection
purchased 1965