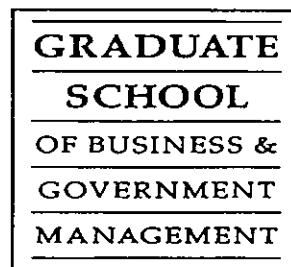


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**The incidence and severity of poverty
in New Zealand, 1990 - 1991**

Bob Stephens



VICTORIA UNIVERSITY
OF WELLINGTON



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1. Introduction

This paper reports on the findings on the incidence and severity of poverty in New Zealand for one year, 1990-91. It is based on the methodology set out in a companion paper (Stephens, 1994a), and will link in with a third paper which will look at the changes in the incidence and severity of poverty between 1982 and 1993. The year was chosen as being reasonably neutral in relation to the likely impacts of policy on the poor, and provided an opportunity to sort out many of the statistical difficulties in the measurement of poverty.

Reporting on the data for one year will allow the reader to gain an understanding of the many different ways that the poverty data can be presented. Whilst the researchers on the project have a preference for the 60 percent of median equivalent household expenditure as their poverty measure (Stephens, Frater and Ward, 1992), the problems, theoretical limitations and methodological shortcomings inherent in that measure are recognised (Stephens, 1994b). The presentation of information on eight, interrelated measures of poverty may sometimes confuse the reader with a welter of statistics. The information provides readers with additional information on the nature and extent of poverty, as well as permitting them to use their own measure of poverty.

2. Poverty measures

Poverty measures requested by the research team from Statistics New Zealand Household Expenditure and Income Survey (HEIS) were:

- 50% and 60% of median equivalent household disposable income;
- 50% and 60% of median equivalent household expenditure;
- these two measures were to be made before and after housing costs, with housing costs defined as rent (1001), mortgage payments (1200-1203, 1210-1213), payments to local authorities (1309-1319), property and water rates (1301, 1302), mortgage repayment insurance (6443) and insurance on buildings (6420, 6421). Home maintenance could not be separated out from home improvements, and were thus not included in the definition of housing costs. Unfortunately, the Housing Benefit could not be isolated out from other benefit payments to calculate pre-housing cost income.

- the Jensen (1988) equivalence scales were used, with a higher weighting given to children over 10 and a lower weighting for those under 10.

Calculation of the poverty level was based on the following steps:

- individual household disposable income/expenditure was divided by the appropriate equivalence scale (with 2 adults and 1 child set = 1.00).

- the resulting equivalent household income/expenditure was ordered numerically

- the median was determined

- a poverty line for a 2 adult and one child family was calculated at 50% or 60% of median equivalent household income/expenditure. [This approximates the average household size in New Zealand (2.8 persons), and means that equivalent income and equivalent poverty gap measures are reasonable approximations for normal dollar poverty lines and poverty gaps.]

- poor households were those who had an equivalent income/expenditure below the poverty line.

Information was provided on, for each measure of poverty:

- the number and proportion of each household type below the poverty line (the incidence of poverty)

- the number and proportion of each household type below the poverty line before the receipt of social security payments

- the absolute average size of the poverty gap in equivalent dollars. The poverty gap is the difference between the household's income/expenditure and its poverty line.

- the average poverty gap as a percent of the poverty line

- the total poverty gap for each household type.

Households were divided into the following categories:

- number of persons in household (1 to 6+)

- age of head of household

- household type (single adult, single adult + children etc)

- number of persons aged 60 and over

- number of children aged 15 and under

- work-force status

- tenure of dwelling

- landlord of dwelling

3. Overall Incidence and Severity of Poverty

On the preferred measure of poverty (60 percent of median equivalent household expenditure), some 19.9 percent of households were poor, constituting 17.8 percent of the population, or 611,000 people (Table 1). However, if the 50 percent expenditure is taken as the poverty measure, then 12 percent of households and 9.9 percent of people, were poor. But a substantially lower number are poor on the income measure. At 60 percent median equivalent disposable income, 13.7 percent of households were poor, with 13.3 percent of people, and at the 50 percent level, only 3.7 percent of households, and 5 percent of people.

TABLE 1
INCIDENCE AND SEVERITY OF POVERTY, 1990-91

Poverty Measure	Poverty H'holds	Incidence People	Percent Reduction Transfers		Poverty Gap		
			H'hold	Pers	Mean % Pov Line (equivalent \$	Mean \$	Total Equivalent \$m
Including Housing Costs							
50% Expend.	12.0	9.9			23.2	3454	429.08
50% Income	3.7	5.0	89.6	84.3	15.2	2227	85.05
60% Expend	19.9	17.8			24.9	4438	915.55
60% Income	13.7	13.3	65.6	68.4	11.5	2026	287.42
Excluding Housing Costs							
50% Expend	14.2	11.9			28.2	3471	509.42
50% Income	9.6	10.4	75.0	61.6	27.8	3369	335.57
60% Expend	21.4	19.1			29.5	4356	967.13
60% Income	17.5	17.9	58.0	51.3	25.4	3690	669.48

Source: Derived from Department of Statistics (1992).

It is worth reporting two other results on the incidence of poverty, using the same data, but slightly different approaches to measurement. First, if equivalence scales were not used in the determination of median disposable income, then in 1990-91, the poverty rate at 50 percent median disposable income was 14.8 percent of households, and at 60 percent, the poverty rate rose to 24.8 percent (Stephens, Frater and Ward, 1992). The effect of using equivalence scales in determining the poverty line is thus to significantly reduce the poverty level and incidence of poverty.

Second, the results in Table 1 have omitted households with self-employed losses, and those reporting expenditure three times or greater than their income. If these 'outliers' were included, but equivalence scales used, then at 50 percent equivalent household disposable

income, 6.7 percent of households, and 8.3 percent of people, were poor, almost double the Table 1 estimates. At 50 percent median equivalent household expenditure, including outliers gives a poverty rate of 12.1 percent of households, and 10.1 percent of people, virtually identical to the Table 1 results. In other words, a substantial proportion of those with low incomes are self-employed reporting losses, or who can maintain substantial expenditure, irrespective of income level. Whilst some of these households may be poor, it would appear that the vast majority are not, and thus the rest of the results exclude 'outliers'.

Interestingly, the exclusion of housing costs increases the incidence of poverty for all measures. This was an unexpected result, and in contrast with both Brashares (1993) for New Zealand, and overseas studies, where exclusion of housing expenditures or incorporation of housing subsidies has lowered the incidence of poverty. Brashares included the implicit subsidy from housing corporation tenants having lower than market rentals or interest rates into their income, and as a result, the incidence of poverty after housing fell. However, home owners also receive an implicit subsidy from the imputed rent of their dwelling, and for comparability this imputed rent should be added into their income as well. In the absence of data on imputed rents and implicit subsidies, this study subtracted housing expenditures from individual total household expenditure (income), thus giving an estimate of the amount of expenditure that the household could undertake after housing costs had been subtracted. Households with housing costs higher than average were thus more likely to be in poverty after housing costs.

The expectation was that those living in state housing would have a relatively high incidence of poverty, before housing costs. In 1990-91, rents in state housing were income related, so that those with low incomes should have low rents, and thus the exclusion of housing costs should reduce their incidence of poverty. On further investigating the data, Statistics New Zealand found that housing costs faced by households in poverty were relatively high. Only 14 percent of those in poverty (at the 50 percent income level) were in state housing, and housing expenditure for those in poverty was higher for those not in state housing (85 percent of disposable income), compared to 32 percent for those in state housing and in poverty (some of this difference is due to low reported income self-employed, who have been subsequently excluded from the analysis). For those not in poverty and in a state house, 20 percent of disposable income was spent on housing, while for those not in poverty and not in a state house, 11 percent of disposable income went on housing costs. This higher than average expenditure on housing by state housing tenants thus increased their likelihood of poverty after housing costs.

The column 'percent reduction transfers' indicates the extent to which the payment of social security benefits reduces the incidence of poverty, assuming no behavioural responses from the transfer payments. At the 50 percent income measure, social security payments are very effective, reducing poverty incidence in households by 89.6 percent, from 35.8 percent of households to 3.7 percent, but only 84.3 percent for people. But at the 60 percent level they are naturally less effective, with only a 65.6 percent reduction for households, starting from a pre-transfer poverty incidence of 39.8 percent. The number of pre-transfer poor households at the 60 percent level is 412,043, only 41,403 more than at the 50 percent level, yet the number of poor post-transfers is 103,676 higher at the 60 percent level. The inference is that a large number of beneficiary households have a disposable income between the 50 and 60 percent levels. The excluding-housing percent reduction ratios are lower at both income levels, but these estimates do not include the Housing Benefit as a separate item.

The next three columns relate to the poverty gap, or extent to which households fall below the poverty line. It thus provides an estimate of the severity of their poverty. Using the expenditure measure, not only is the incidence of poverty greater, but so is the severity of that poverty than on the income dimension. At the 50 percent level, using expenditure, the mean poverty gap is \$3454, or 23.2 percent of the (equivalent) poverty line, compared to \$2227 or 15.2 percent on the income definition. The total poverty gap, or the amount of additional transfer payments required to eliminate poverty, is \$429m on the expenditure measure (0.6 percent GDP), five times greater than the income measure. At the 60 percent level, the mean poverty gap falls using the income measure, indicating that the majority of those who are poor at this level have incomes between the 50 and 60 percent levels. The total poverty gap increases to \$287m, compared to \$915m (1.3 percent GDP) on the expenditure basis. There, the mean poverty gap increases to \$4438 (\$85 per week), implying that the majority who are poor are below the 50 percent level.

When housing costs are excluded, the discrepancy in mean poverty gap between income and expenditure, at both levels, is relatively small. The inference is that many households which have an adequate income (though probably barely adequate), have high housing expenditures, thus leading them to fall below the poverty line after housing costs. Some of this may represent a deliberate choice decision in terms of investment in housing through purchase by mortgage, especially for those buying their first home, but it may have consequences in terms of income available for other expenditures, and thus life-style. Equally, it could be young people flatting together paying open market rents. There is a substantial increase in the mean and total poverty gap on the income measure, but little

difference on the expenditure measure. Thus households with low expenditures in total also have below average housing expenditures.

Relationship Between Benefit Rates and Poverty Levels

Table 2 shows the relationship between benefit rates as at 31-3-1991, prior to the benefit cuts, and poverty levels for a variety of different family types. Poverty levels are based on the income measure (the expenditure measure poverty level is \$4 a week greater). The net earnings (earnings after tax) required to eliminate poverty for that family type are also shown. In general, at the 50 percent level, benefit rates exceed the poverty level, though not for those on the unemployment benefit level without children, or for couples with two or more children. Couples receiving National Superannuation and sole parents with one child have a benefit level which exceeds the poverty level by the largest amount, with the latter being because the implicit equivalence scale in the benefit system of 0.94 actually exceeds that of the Jensen (1988) scale (0.91) (Stephens, 1994). At the 60 percent level, all benefit rates are less than the corresponding poverty level, except for 2 adults receiving National Superannuation. The benefit rate and poverty level for a sole parent with one child are virtually identical, but couples with children face a large poverty gap on the benefit. Given that additional earnings are taxed (at 28 percent) and that benefits between \$60 and \$80 per week are abated at 30 percent and over at 70 percent, it is virtually impossible for beneficiary couples with children to avoid poverty.

TABLE 2

**BENEFIT RATES, POVERTY LEVELS and NET EARNINGS to
ELIMINATE POVERTY, Selected family types and benefits.1990-91**

Family Type	Poverty Level		Rate \$	Benefit Additional net income	
	50% \$	60% \$		50%(\$)	60%(\$)
Single (basic)	151.62	181.94	162.26	(10.64)	19.68
(unemployed)*	151.62	181.94	143.57	8.05	38.37
(Nat Super)	151.62	181.94	172.86	(21.24)	9.08
S + 1 child	212.27	254.71	255.14	(42.87)	0.43
S + 2 children	265.92	319.09	292.87	(26.95)	26.22
2 Adults (basic)	233.26	279.91	270.44	(37.18)	9.47
(unemployed)	233.26	279.91	223.22	10.04	56.69
(Nat Super)	233.26	279.91	288.10	(54.84)	(8.19)
2 A + 1Child	282.25	338.69	297.08	(14.83)	41.61
2A + 2 C	328.90	394.67	319.08	9.82	75.59
2A + 3 C	368.56	442.25	341.08	27.48	101.17

* Note that the single unemployment benefit rate for those under 19 was \$114.86.

International Comparisons

How do New Zealand poverty levels compare with countries in similar economic circumstances? Whilst exact comparisons are not possible, comparisons can be made with two international studies, using similar methods to those used here. The expenditure based approach has also been used in the EC, where Eurostat (1991) has reported poverty rates for a variety of EC countries, using 50 percent of mean equivalent household expenditure. The EC equivalence scales are fairly similar to the Jensen (1988) scales, and though the EC results are derived from household income and expenditure studies, they have not excluded 'outliers' as in this study. However, the latest data is for 1985. In 1990 in New Zealand, 50 percent of mean equivalent household expenditure is virtually the same as 60 percent median equivalent household expenditure¹. The Luxembourg Income Study (LIS) (Mitchell, 1990) uses 50 and 60 percent of median equivalent household disposable income, using country household budget studies, but a more generous equivalence scale. Again, the latest data is for 1985. Since 1985, all countries reported in Table 3, have had a significant increase in unemployment, which would normally raise poverty rates.

Table 3
International Comparisons of Poverty Incidence, 1985.

Country	Luxembourg Income Study Persons		European Commission Households Persons	
	50% median income	60%	50% mean expenditure	
Sweden	5.3	9.6		
Luxembourg	5.7	12.3		
Netherlands	6.2	12.1	7.9	11.4
Germany	6.9	14.6	9.2	9.9
UK	9.2	16.1	18.9	18.2
France	10.0	17.4	14.8	15.7
Australia	11.6	20.8		
Canada	11.7	18.0		
Italy	11.8	19.9	14.7	15.5
USA	20.1	26.7		
Belgium			5.2	5.9
Denmark			8.0	8.0
Ireland			17.4	19.5
New Zealand 1990	5.0 (8.3)	13.3	19.9	17.8

Source: Eurostat, 1991; Mitchell, 1991.

Table 3 makes the international comparisons. Using the LIS data, New Zealand has the lowest rate at the 50 percent of median equivalent household disposable income level, and fourth lowest, out of eleven countries, at the 60 percent level. The less generous equivalence scales, and the exclusion of outliers, means that New Zealand's rates are under-reported. Just adding in the 'outliers' raises the poverty rate at the 50 percent level to 8.3 percent of people, which would put New Zealand between Germany and the UK, in the middle rank of poverty incidence. At the 60 percent level, New Zealand's poverty rate is less than that of Germany, and substantially below that of Australia and the USA.

When comparisons are made with the EC, it should first be noticed that there is some change in the rank order of countries. The UK drops from the middle of the order on the LIS approach to the bottom in terms of households, and second to last in terms of persons. New Zealand is worst in terms of households, and only slightly better than UK in terms of people. All of the European countries had a smaller number of people poor on the EC expenditure measure than the (roughly) comparable LIS 60 percent level, but New Zealand has a larger proportion.

4. Who are the Poor

This section investigates which household types constitute the poor. Due to the small sample size in HEIS, cross-tabulations between the different methods of recording the data are not possible. However, a reasonably comprehensive picture can be determined through inter-relating the different measures. By considering the Age of Head of Household first, much of the discrepancy between the income and expenditure measure of poverty can be explained.

4.1 Age of Head of Household

Table 4 provides information on the incidence and structure of poverty, at the 50 and 60 percent level, including housing, for both income and expenditure. The elderly have the most obvious difference, with no over 65s being poor at the 50 percent income level, but 28 percent are poor on the comparable expenditure definition. Some 41.5 percent are below the 60 percent level in terms of expenditure, compared to 15.1 percent on the income measure. As a result, the structure of poverty is completely different between the two measures. At the 50 percent level, in terms of expenditure, half the poor are elderly, yet none on the income measure. At the 60 percent level, 44 percent of the poor are elderly,

double the income figure. The structure of poverty for other age groups are altered as a result of these figures, with, for instance, the 30-39 age group constituting 31.8 percent of the poor at the 50 percent income level, but only 14.6 percent on the expenditure measure.

Table 4
Structure and Incidence of Poverty, by Age of Head of Household
1990-91 (including housing expenditures)

Age of Head of Household	50 Percent Level					60 Percent Level				
	Incidence Inc	%red	Exp	Structure Inc	Exp	Inc	%Red	Exp	Structure Inc	Exp
15-24	3.8	88.7	7.4	6.8	4.0	16.0	59.8	12.6	7.6	4.1
25-29	6.8	73.3	8.4	18.6	7.1	15.6	52.2	16.3	11.6	8.3
30-39	5.2	74.3	7.8	31.8	14.6	12.9	46.7	14.8	21.2	16.7
40-49	5.5	67.9	6.6	27.8	10.2	12.3	39.2	11.2	16.6	10.4
50-59	2.9	86.7	8.2	10.2	8.8	13.3	46.6	13.3	12.4	8.5
60-64	2.1	95.9	8.4	4.8	5.8	12.0	78.0	18.5	7.3	7.8
65+	0.0	100	28.0	0.0	49.5	15.1	81.1	41.5	23.3	44.2
Total	3.7	89.6	9.9	100.0	100.0	13.7	65.6	19.9	100.0	100.0

Source: Derived from Household Expenditure and Income Survey data base, Department of Statistics, 1992.

The large discrepancy between income and expenditure incidence for the elderly was further investigated. It is not just a boundary problem, with the elderly just falling below the poverty line, as Table 5 shows that the mean poverty gap at the 50 percent expenditure level is \$3782, or 25.3 percent of the poverty line, and constitutes over half of the total poverty gap. However, the mean poverty gap at the 60 percent income level is very small, only 1.5 percent of the poverty line, or \$261. National Superannuation is just below this level, providing the explanation for the zero incidence at the 50 percent income level. The high poverty rate on the expenditure measure thus needs explanation.

Rough calculations from additional investigation on the relationship between equivalent income and expenditure show that about 60% of the elderly spend less than their income; 20% have expenditure equal to income and only the 20% remainder have expenditure greater than income. McGregor and Borooah (1991) found that in the UK "the expenditure measure suggests that the number of poor retired individuals is more than three times that implied by the income measure."

Explanations from a variety of sources as to the possible causes of this unexpected mismatch between income and expenditure for the elderly have been sought, and answers, which are not mutually exclusive, range from:

- poor recording by the elderly of their expenditure

- the elderly have greater lumpiness in their expenditure than the average population. Overall their income may equal their expenditure, but the lumpiness of expenditure mean that at any particular fortnight they may not have large expenditure, and thus fall below the poverty line. To some extent, this should be offset by the recall of items of expenditure of \$200 or more, plus inclusion of expenditure for the latest rates and utilities bills.

- the elderly are in fact a reasonably well-off group, and National Superannuation is generous. However, for this argument to be sustained, it is would be necessary to show that the elderly, at all income levels, are saving, and saving at a substantial rate. There is no evidence that the elderly are adding to their wealth. National Superannuation comes in below the 60 percent income level, and is in fact an extremely successful programme, reducing the poverty rate for those 65+ from 79.8 percent before transfers at the 60 percent level to 15.1 percent after transfers are included; or from 75.4 percent to nil at the 50 percent level. This accounts for the extremely high percent reduction from transfers as shown in Table 4, and even for those aged 60-64.

- before retiring, the elderly make large investments in capital assets, so that their expenditure when they retire does not need to include asset replacement/maintenance. The lower expenditure allows them to recover some of the financial outlay made prior to retiring.

- the elderly are frightened to spend money because of the past threats to cut National Superannuation, plus continuous introduction of user charges in health care and general reductions in subsidies. The elderly are thus cutting back on current expenditure so that they have some financial resources available to them in case their financial situation gets worse. On this scenario, the expenditure poverty rate indicates how they are living, even though their income is sufficient for a modest standard of living.

Returning to an investigation of the incidence and structure by age of head of household. At the 60 percent level, there is remarkable similarity in incidence between the income and expenditure measures, except for those over 60. The extent to which social welfare benefits lowers poverty falls until 50, and then rises. This is largely explained by the presence of children, with the Family Support supplement for children being substantially below the equivalence scale for those children. At the 50 percent level, there is a greater reduction in the incidence of poverty, with again a smaller reduction for those in the child-rearing age groups. On the income measure, at the 50 percent level, poverty incidence is highest at the

25-29 age group, when incomes are generally fairly low but children are adding to living costs. However, the majority of those poor are in the middle-ages group (30-50), though using the expenditure measure, the elderly dominate, followed by these two age groups. At the 60 percent level, the elderly make up the largest share of the poor, followed by the 30-39 age group.

Poverty Gaps

Table 5
Mean and Total Poverty Gap, by Age of Head of Household
1990-91 (Including housing expenditures)

Age of Head Household	50 Percent Level				60 Percent Level			
	Mean Poverty Gap		% Total Poverty Gap		Mean Poverty Gap		% Total Poverty Gap	
	Inc	Exp	Inc	Exp	Inc	Exp	Inc	Exp
15-24	14.7	16.3	6.6	2.8	12.4	21.3	8.2	3.5
25-29	19.5	17.9	23.9	5.5	17.8	20.9	17.9	7.0
30-39	13.5	24.0	28.2	15.1	15.4	22.7	28.3	15.2
40-49	13.8	20.4	25.3	8.9	17.1	22.5	24.7	9.4
50-59	15.0	23.6	10.0	8.9	11.6	25.3	12.4	8.7
60-64	18.8	18.3	6.0	4.6	8.6	19.2	5.5	6.0
65+	0.0	25.3	0.0	54.2	1.5	28.3	3.0	50.2
Total	15.2	23.2	100.0	100.0	11.5	24.9	100.0	100.0

Source: Derived from HEIS (Department of Statistics, 1992).

Table 5 provides information on the severity of poverty, as measured by the poverty gap, or distance between household income and that household's poverty line. At the 50 percent income level, apart from the over 65 group, the mean poverty gap is relatively similar, though highest for those aged 25-29. The expenditure figures are higher, and slightly less uniform, with poverty gaps of almost one-quarter of their poverty levels for those 30-39, 50-59 and over 65. The structure of poverty gap is reasonably similar to the incidence of poverty (Table 4), though the elderly have a slightly larger share of the poverty gap on the expenditure measure. There is greater variation in the degree of poverty gap at the 60 percent level, especially in relation to income. At younger age groups, and for those 50-64, the relative mean poverty gap falls, indicating that this measure is dominated by those with incomes between the 50 and 60 percent levels. The poverty gap for those over 65 is very small, and thus makes up a very small proportion of the total poverty gap, permitting a different structure of the poverty gap to emerge compared to the incidence of poverty. Those in the 25-49 age group have a greater severity of poverty than poverty incidence. The expenditure figures are far more stable, with the relative poverty gap increasing for

most age groups, and the structure of the poverty gap being similar to that for incidence, except for a slightly larger share for the elderly.

Excluding Housing

There are two, inter-related, reasons for considering the incidence and severity of poverty after housing expenditures. First, housing not only forms a significant proportion of the average expenditure for a New Zealand household, that proportion also varies considerably between households according to lifestyle, income, family size, age of residence, age of head of household, length of time in dwelling, form of possession, city size and region of country. Housing costs are relatively fixed in the short-run, so high housing costs means less income available for other expenditures, increasing the likelihood of inadequate expenditure on other commodities. Though food, clothing and power may also be considered necessities, and take on average as large a share of the household budget as housing, none have the same degree of variation in the proportion of income spent on them as housing. The incidence of poverty after housing costs may be quite different to the incidence before housing costs.

Second, New Zealand has undergone a considerable change in the form, level and method of assistance given to low cost housing. Until 1991, there was a system of state housing with either income-related rents or subsidised mortgages for low income households wishing to purchase. There was also a targeted accommodation supplement, payable in addition to a social security benefit, for those with high housing costs. Since 1991, state housing rents have moved to 'market rents', varied according to the size and location of dwelling, and state house mortgages privatised. An Accommodation Supplement has since been introduced, available on application to those in both public and private sectors, based on income level and rental payment. The issue is whether this policy change has altered the structure and incidence of poverty after housing costs.

Table 6 provides information on the incidence of poverty after subtracting from disposable income / expenditure net housing costs for each household, and recalculating the poverty line. There is a substantial increase in the overall incidence of poverty, especially on the 50 percent income measure where the overall incidence rises from 3.7 percent before housing costs to 10.4 percent after housing costs (but only from 5.0 percent of persons to 9.6 percent). It is the younger households where the incidence increases most significantly, with the poverty rate for the 15-24 group going from 3.8 percent to 20.1 percent, and the 25-29 age group from 6.8 percent to 18.0 percent. This is consistent with these age groups having high housing costs as they establish themselves in the housing market, first renting

and then buying, and whilst the latter may be seen as an investment, high housing costs also increase the risk of poverty after housing.

Table 6
Structure and Incidence of Poverty, by Age of Head of Household
1990-91 (excluding housing expenditures)

Age of Head of Household	50 Percent Level					60 Percent Level				
	Incidence		Structure			Incidence		Structure		
	Inc	Exp	Inc	Exp	P Gap	Inc	Exp	Inc	Exp	P Gap
15-24	20.1	17.9	13.6	8.2	7.6	31.1	24.6	14.0	7.5	7.8
25-29	18.0	17.2	19.0	12.3	11.3	28.4	23.6	21.2	11.2	11.5
30-39	12.9	9.7	30.1	15.3	15.1	21.1	16.8	27.2	17.6	16.4
40-49	9.6	8.5	18.5	11.1	10.4	14.7	13.6	17.5	11.7	10.6
50-59	7.3	7.3	9.7	6.6	8.6	10.6	14.5	8.2	8.6	7.9
60-64	3.8	8.5	3.3	5.0	3.8	10.9	15.0	3.0	5.8	4.7
65+	2.6	27.7	5.8	41.5	43.2	13.7	38.0	8.9	37.7	41.1
Total	9.6	14.2	100.0	100.0	100	17.5	21.4	100.0	100.0	100.0

Source: Derived from HEIS (Department of Statistics, 1992).

At the 50 percent expenditure level, the increase in incidence is only significant for those aged 15-29, implying that for the 30-39 age group their housing expenditures are being replaced by other (family related) expenditures. Although some elderly go into poverty due to housing costs (and their poverty gap is a large 35 percent), on the expenditure measure there is a more understandable slight reduction in the incidence of poverty after housing costs. Interestingly, the structure of poverty on the expenditure measure is almost identical to the structure of the poverty gap. A similar pattern is found at the 60 percent level, with significant increases in poverty after housing costs for those in the younger age groups, and on the income measure, a reduction for those aged 50 onwards. However, only those 60 and over have a reduction on the expenditure measure. The result is a changing structure of poverty, towards the younger age groups. Housing costs thus appear to be age related, but some of this is a product of past inflation reducing the real burden of mortgages for those who purchased housing some years earlier.

4.2 Number of Persons Aged 60 and Over

This section confirms the analysis of section 4.1, but allows a distinction to be made between the elderly who are living alone and those receiving the married National Superannuation rate. The discrepancy between the income and expenditure measures immediately reappears, though for the non-elderly, the difference is really very small.

Using income as the poverty measure, at the 50 percent level, only a few single elderly (over 60) are poor, and no couples. Even at the 60 percent level, couples basically avoid poverty, though 22.7 percent of singles are below this level. Only for this group, and at this level, is National Superannuation not an efficient device for reducing poverty. For the non-elderly, the reduction in poverty is a low 76 percent at the 50 percent level, and only 46 percent at the 60 percent level.

Table 7
Structure and Incidence of Poverty, by Number of Persons Aged 60 and Over: 1990-91 (including housing expenditures)

Number of Persons Aged 60 and over	Incidence		50 Percent Level			Incidence		60 Percent Level		
	Inc	%Red	Exp	Structure Inc	Structure Exp	Inc	%Red	Exp	Structure Inc	Structure Exp
None	5.1	76.2	7.6	93.6	42.8	13.7	46.1	13.6	68.1	46.4
One	1.3	98.1	25.4	6.4	39.9	22.7	67.3	36.8	31.2	34.8
Two or more	0.0	100	15.8	0.0	17.3	0.6	99.1	28.4	0.7	18.8

Source: Derived from HEIS (Department of Statistics, 1992).

When expenditure is used as the poverty measure, both single and couple elderly spend less than their income, resulting in an incidence of poverty of 36.8 percent for single elderly at the 60 percent level, and 28.4 percent for couples. The higher incidence for single people is also noticed at the 50 percent level. The structure of poverty is affected by the measure, though at the 50 percent level the difference is between the elderly and non-elderly, whereas at the 60 percent level the difference is between non-elderly and elderly couples.

Table 8
Mean and Total Poverty Gap, by Number of Persons Aged 60 and Over: 1990-91 (including housing expenditures)

Number of Persons Aged 60 and over	50 Percent Level				60 Percent Level			
	Mean Poverty Gap % Poverty Level		% Total Poverty Gap		Mean Poverty Gap		% Total Poverty Gap	
	Inc	Exp	Inc	Exp	Inc	Exp	Inc	Exp
None	15.0	21.5	92.3	39.6	15.1	22.6	89.7	42.2
One	18.2	25.2	7.7	43.2	3.6	28.4	9.9	39.7
Two or more	0.0	23.1	0.0	17.2	n.a.	24.0	0.4	12.8

Source: Derived from HEIS (Department of Statistics, 1992).

At the 50 percent level, the few single elderly who are poor have a relatively large poverty gap of 18.2 percent of their poverty line (Table 8), and they also have the largest poverty

gap in terms of expenditure. At the 60 percent level, the elderly have a larger poverty gap in terms of expenditure than non-elderly, whereas on the income dimension, the single elderly, on average, have a very low poverty gap, indicating that the majority have a disposable income just less than the poverty level. Although they have a comparatively high incidence of poverty (Table 7), the single elderly only form 10 percent of the total poverty gap on the income measure due to the small poverty gap.

For the non-elderly, the incidence of poverty after housing expenditures rises substantially for all measures compared to the before housing incidence. For the elderly, generally there is a reduction in the incidence of poverty, though some couples and a few singles are pushed into poverty after housing costs on the income measure. However, for those in poverty after housing costs, there is an increase in the poverty gap.

4.3 Household Type

Table 9 looks at the incidence and structure of poverty, by type of household. At the 50 percent level, the vast discrepancy in poverty incidence between the income and expenditure measures for one adult is apparent, and this is solely due to the high incidence of poverty among the elderly. For two adults, the discrepancy is not so large, indicating that many of the elderly who were poor, were single. Part of this higher incidence for single elderly can be explained by the equivalence scale for single people (0.65) being greater than that in the benefit scale (0.60). At the 60 percent level, again single adults have a far higher poverty incidence than 2 adults, with the income measure showing a lower poverty rate than the expenditure. The large increase in the poverty rate for single adults between the 50 and 60 percent levels, especially on an income basis, indicates that National Superannuation falls between these levels, and that large number of superannuitants have relatively little extra income. This is also borne out by the percent reduction figures: at the 50 percent income level, 96.3 percent of pre-transfer poverty is eliminated by social security payments, but at the 60 percent level, only 55.7 percent. Even at the 60 percent level, two adult families achieve a 90 percent reduction in poverty incidence.

With all measures, single adults with children have amongst the highest incidence of poverty, ranging from 11.7 percent at 50 percent income level to 35.8 percent at 60 percent income level. The high incidence for sole parents at the 50 percent level is interesting, due to the DPB being at a higher rate than the poverty level, though this declines with more children (Table 2). At the 50 percent level, sole parents have a higher incidence on the expenditure measure, but this reverses at the 60 percent level. The other group with a

consistently high incidence of poverty is that of 2 adults with 3 or more children. It is considered that many of these families will be in the full-time workforce, but that their earnings, plus family support, is insufficient to lift them above the poverty line. Social assistance has had the least reduction in the incidence of poverty for those with children, especially the 2 adult families. The conclusion is that assistance given to low income families is inadequate to lift many of them out of poverty.

Table 9
Structure and Incidence of Poverty, by Household Type
1990-91 (including housing expenditures)

Household Type	50 Percent Level					60 Percent Level				
	Incidence			Structure		Incidence			Structure	
	Inc	%red	Exp	Inc	Exp	Inc	%Red	Exp	Inc	Exp
1 adult	2.1	96.3	24.8	12.0	44.2	25.9	55.7	34.8	40.6	37.5
1 adult+children	11.7	86.2	18.3	18.7	9.1	35.8	58.4	29.9	15.4	8.9
2 adults	1.7	95.3	8.8	14.1	22.7	4.0	89.8	16.0	8.9	24.8
2 adults+1child	3.1	84.6	7.3	7.2	5.3	11.0	58.5	13.3	6.9	5.8
2adults+2child	4.1	70.7	6.7	10.7	6.8	13.3	30.3	13.5	9.2	6.5
2adults+3+child	12.7	50.0	13.2	21.2	5.3	21.8	40.2	27.7	9.8	8.5
3+adults	1.1	92.1	3.7	2.9	3.0	3.3	80.5	6.5	2.4	3.2
3+adults+child	6.5	71.6	5.7	13.2	3.6	12.3	58.8	12.9	6.8	4.8
Total	3.7	89.6	9.9	100.0	100.0	13.7	65.6	19.9	100.0	100.0

Source: Derived from HEIS (Department of Statistics, 1992).

The structure of poverty varies considerably according to the measure of poverty chosen. At the 50 percent level, using the income definition, the majority of the poor are one- or two-adult families (57.8 percent of households, but 85.9 percent of people), whereas on the expenditure measure, some 67 percent of the poor are one or two adults households, again mainly the elderly (but only 39.3 percent of people). At the 60 percent level, roughly 40 percent of poor households are single adults, on either measure, but only 15.3 percent of the population. The great divergence occurs for 2-adult households, which account for 8.9 percent of the poor on the income measure and a quarter of the poor on the expenditure measure, with consequential changes in the structure of poverty for other household groups.

Poverty Gaps

The severity of poverty varies substantially by household type, and between income and expenditure measures, and between levels. At the 60 percent level, using expenditure as the measure, Table 10 shows that single adults have a poverty gap of 28.2 percent of their poverty line, and when combined with their high incidence of poverty (Table 9), means that they have almost half of the total poverty gap of \$915m. Couples without children also have a relatively high poverty gap, and account for a quarter of the total poverty gap. Sole parents, and couples with children have a poverty gap of just over 20 percent of their poverty lines, but account for relatively little of the total poverty gap. Yet when income is taken as the measure of poverty, at the 60 percent level, single adults have a very low poverty gap (4.7 percent), though their high incidence gives them a reasonably large share of total poverty gap.

Table 10
Mean and Total Poverty Gap, by Household Type
1990-91 (Including housing expenditures)

Household Type	50 Percent Level				60 Percent Level			
	Mean Poverty Gap		% Total Poverty Gap		Mean Poverty Gap		% Total Poverty Gap	
	Inc	Exp	Inc	Exp	Inc	Exp	Inc	Exp
1 adult	9.8	23.6	7.7	44.8	4.7	28.2	16.7	42.4
1adult+children	19.9	18.2	24.5	7.1	14.8	22.4	19.9	8.0
2 adults	13.3	25.3	12.3	24.7	15.6	24.5	12.1	24.4
2adults+1child	13.8	18.6	6.5	4.2	12.1	22.6	7.3	5.2
2adults+2child	16.7	22.6	11.8	5.2	14.8	20.9	11.9	5.4
2adults+3+child	14.5	26.1	20.2	7.6	20.4	22.7	17.3	7.8
3+adults	14.1	15.7	2.7	2.1	14.2	19.5	3.0	2.5
3+adults+child	34.6	27.9	30.3	4.3	20.0	21.9	11.8	4.3
Total	15.2	23.2	100.0	100.0	11.5	24.9	100.0	100.0

Source: Derived from HEIS (Department of Statistics, 1992).

The highest poverty gaps are for those with children, with the poverty gap increasing with number of children. When combined with a high incidence of poverty, households with children make up the majority of the total poverty gap. The income measure gives a significantly different structure of poverty gap to poverty incidence, with single adults having a much greater incidence structure than poverty gap, indicating their relatively low mean poverty gap.

At the 50 percent level, with both income and expenditure measures, households with 3 or more adults with children have the largest poverty gaps. On the income measure, their high poverty gap, plus relatively high poverty incidence, means that they take up 30 percent of the total poverty gap, whilst on the expenditure measure, only 4 percent. These households may constitute either extended families, or families with adult offspring still living at home. Sole parent households have a poverty gap of 20 percent of their poverty line, and have a quarter of the total poverty gap on the income measure, but only 7 percent on expenditure. Again, the problem relates to the elderly, with both single and two adults having a relatively low poverty gap on the income measure, and relatively high on expenditure, with a corresponding divergence in the structure of the poverty gap. There is a reasonable correlation between the structure of the incidence of poverty with that of the poverty gap, except for the three adults with children where their severity of poverty on the income measure gives them a greater share of the poverty gap.

Excluding Housing

Table 11 shows the impact of omitting housing expenditures. At the 50 percent level, on either measure, virtually all household types have an increase in their incidence of poverty. The only exceptions are on the expenditure measure for households with 2 adults and 2 children and for 3 or more adults (often these are families with an adult child still at home) where there are slight falls in the incidence. This links in with the fall in incidence for the 50-59 age group, and indicates it is a life-cycle phenomenon. The increase in poverty incidence for single adults at 50 percent income level after housing costs must relate to the under 65s as the over 65s do not show a comparable change (Tables 3&5), and probably relates to younger single people setting up separate households. At the 60 percent income level, the poverty incidence falls after housing costs, indicating the beneficial effect for the elderly of home-ownership without a mortgage.

The most spectacular increases in incidence are for sole parents, where on the 50 percent income measure, the poverty incidence quadruples to 43.8 percent, and at the 60 percent level, doubles to 74.8 percent. On the expenditure side, the increase from incorporating housing expenditures into the analysis is not so large, but the poverty incidence is still 31.5 percent at the 50 percent level and 46.6 percent at the 60 percent expenditure level. In addition to having both low income and expenditure, sole parents have relatively high housing costs. For this group, there is a substantial reduction in the extent to which social security payments reduce the incidence of poverty when housing costs are included, falling from 86 percent to 51 percent at the 50 percent income level, and from 58 percent to only 17.4 percent at the 60 percent level.

Families of 2 adults with 3 children also have a high incidence of poverty, especially after housing costs. At the 50 percent level, over 17 percent are poor on both measures, and over 28 percent at the 60 percent level. Although only constituting only 8-10 percent of households which are poor, they form over 20 percent of the number of people who are poor. The social welfare system is not very satisfactory in reducing their poverty, with only a 42 percent reduction at the 50 percent level, and 25 percent at the 60 percent level. The structure of the poverty gap is again very similar to the structure of poverty, using the expenditure measure in both cases.

Table 11
Structure and Incidence of Poverty, by Household Type
1990-91 (excluding housing expenditures)

Household Type	Incidence		50 Percent Level Structure			Incidence		60 Percent Level Structure		
	Inc	Exp	Inc	Exp	P Gap	Inc	Exp	Inc	Exp	P Gap
1 adult	10.3	27.4	22.9	41.4	43.4	22.5	37.4	27.5	37.4	41.1
1 adult+children	43.8	31.5	27.0	13.1	13.2	74.8	46.6	25.2	12.8	13.1
2 adults	3.7	10.0	11.7	21.7	20.6	6.5	15.0	11.5	21.6	20.9
2adults+1child	10.0	9.8	8.9	5.9	5.5	17.6	14.5	8.7	5.8	5.7
2adults+2child	8.9	6.1	8.8	4.1	3.6	16.7	15.3	9.0	6.8	5.0
2adults+3+child	17.8	17.3	11.3	7.5	8.3	28.9	28.3	10.1	8.1	8.2
3+adults	3.5	3.6	3.6	2.6	1.8	4.5	6.5	2.6	3.0	2.2
3+adults+child	7.4	6.8	5.8	3.7	3.6	12.4	12.6	5.4	4.5	3.8
Total	9.6	14.2	100.0	100.0	100	17.5	21.4	100.0	100.0	100.0

Source: Derived from HEIS (Department of Statistics, 1992).

4.4 Number of Children Aged 15 and Under

The analysis by household type (Table 9) indicated that the incidence of poverty was (on the income measure at least) highest for those households with children, with the incidence increasing with family size. This section extends that analysis, by looking at the incidence of poverty by number of children under 15 in the household, irrespective of number of adults. Table 12 presents the basic data on incidence and severity of poverty. The income measure shows that the mere presence of children increases the risk of poverty, but the substantial jump in the poverty incidence occurs with the fourth child, though at the 60 percent level, even two children give a poverty rate of 18.2 percent. As it is largely Maori and Pacific Island communities who have large families, some of the greater incidence of poverty shown here is a direct product of the lower average incomes in these groups. The

extent to which social security payments reduce the incidence of poverty falls as number of children increases (though there is a small anomaly at the 60 percent level for 5+ children).

The expenditure measure shows a relatively high incidence for those without children, with this being a direct result of the high poverty incidence of the elderly. The incidence does increase with number of children, though those with one child have a higher incidence and those with four or more children a lower incidence at the 50 percent level than the income measure. At the 60 percent level, the discrepancy between the incidence on the income and expenditure measures is not so marked.

Table 12
Structure and Incidence of Poverty, by Number of Children Aged 15 and Under: 1990-91 (including housing expenditures)

Household Type	50 Percent Level Incidence			Structure		60 Percent Level Incidence			Structure	
	Inc	%red	Exp	Inc	Exp	Inc	%Red	Exp	Inc	Exp
No children	1.7	95.6	13.5	29.0	70.0	11.4	73.0	21.0	51.8	65.5
1 child	3.9	88.0	6.9	16.8	9.1	12.3	67.1	13.0	14.1	10.3
2 children	6.0	77.3	9.1	22.4	10.5	18.2	41.7	16.8	18.3	11.6
3 children	9.0	64.0	14.2	14.4	7.0	21.1	39.3	29.0	9.1	8.6
4 children	25.2	44.6	14.8	11.4	2.1	39.6	24.1	31.2	4.9	2.6
5 + children	34.3	31.4	24.2	6.0	1.3	38.8	43.8	43.6	1.8	1.4
Total	3.7	89.6	9.9	100.0	100.0	13.7	65.6	19.9	100.0	100.0

Source: Derived from HEIS (Department of Statistics, 1992).

On the income measure, at the 50 percent level, 71 percent of poor households have children, but on the corresponding expenditure measure, only 30 percent. At the 60 percent level, half the poor families have children on the income measure, and 35 percent on the expenditure measure. Families with two children have the highest share of households with children who are poor, and because there are relatively few households with five or more children, they form a very small part of the total poor despite their high poverty incidence.

Poverty Gaps

The mean poverty gap varies substantially between household type. Those with no children have a far lower poverty gap on the income measure than the expenditure measure, in line with that found for the elderly. On the income measure, at 50 percent, those with three children had the largest average poverty gap, almost double that of the four-child

household, indicating that the higher incidence for that household type is due many falling just below the poverty line. The 5+ children household have a larger poverty gap, especially on the expenditure measure and at the 60 percent level. The result is that their share of the poverty gap is greater than their share of households by incidence, whilst those with no children have a smaller share of poverty gap than incidence.

Table 13
Mean and Total Poverty Gap, by Households with Children under 15
1990-91 (Including housing expenditures)

Household Type	50 Percent Level				60 Percent Level			
	Mean Poverty Gap		% Total Poverty Gap		Mean Poverty Gap		% Total Poverty Gap	
	Inc	Exp	Inc	Exp	Inc	Exp	Inc	Exp
No children	11.9	23.8	22.6	71.6	7.1	26.3	31.8	69.3
1 child	14.9	19.0	16.5	7.4	13.6	22.0	16.6	9.1
2 children	16.7	21.7	24.8	9.8	14.6	21.4	23.3	10.0
3 children	21.0	24.8	20.0	7.5	18.8	22.6	14.9	7.8
4 children	11.4	18.8	8.6	1.7	20.6	20.3	8.7	2.1
5+ children	18.9	35.2	7.5	2.0	29.8	30.3	4.7	1.7
Total	15.2	23.2	100.0	100.0	11.5	24.9	100.0	100.0

Source: Derived from HEIS (Department of Statistics, 1992).

Housing Costs

The exclusion of housing costs has the by-now familiar diverse patterns. Using income as the measure, at the 50 percent level, there were substantial increases in the poverty rate for households with nil to three children, but very little change for those with 4 and more children (Table 14), which may indicate that these families were in subsidised Housing Corporation homes, or living in rural areas and Marae based accommodation, or low quality housing. At the 60 percent income level, poverty incidence remains constant for those without children as well as the larger families. On the expenditure measure, poverty rates for those without children remained constant at both levels, and really only rose for those with one child, which corresponds with the sole parent result.

The structure of the poverty gap is very similar to the structure of the incidence of poverty, by households, and this applies equally to the income measure as well as the shown expenditure measure. All the same, there were some variations in the mean poverty gap, with, on the income measure, substantial increases for small families when housing costs

are excluded, but not so large a change for households with large numbers of children. As a result, at the 50 percent level, households without children have the largest mean poverty gap, and those with five children the smallest. At the 60 percent level, the mean poverty gap is a reasonably stable 25 percent of the poverty line, though rising to 33 percent for those with five children.

Table 14
Structure and Incidence of Poverty, by Number of Children Under 15
1990-91 (excluding housing expenditures)

Household Type	Incidence		50 Percent Level Structure			Incidence		60 Percent Level Structure		
	Inc	Exp	Inc	Exp	P Gap	Inc	Exp	Inc	Exp	P Gap
None	5.9	15.0	38.2	65.7	65.7	11.7	21.4	41.6	61.9	64.2
1 child	14.6	11.7	23.8	12.9	12.1	25.9	18.3	23.2	13.4	12.6
2 children	13.3	10.2	19.1	9.9	9.2	24.5	20.4	19.3	13.2	10.8
3 children	19.5	19.4	12.0	8.1	9.5	30.6	27.7	10.4	7.6	8.8
4 children	24.6	19.5	4.3	2.3	2.0	43.9	33.2	4.1	2.6	2.3
5+ children	38.8	23.9	2.6	1.1	1.5	38.8?	41.3	1.4	1.3	1.3
Total	9.6	14.2	100.0	100.0	100	17.5	21.4	100.0	100.0	100.0

Source: Derived from HEIS (Department of Statistics, 1992).

4.5 Number of Persons in Household

To date, the structure of poverty has been shown by the percent of households in each category which are poor, where small households are given the same weight as large households. The comparison by number of persons allows us to weight households by the number of occupants, and thus show a different structure of poverty. Equally, it allows us to check whether the analysis by number of children is the correct variable, or whether it is household size per se. Table 15A presents information at the 50 percent level with comparisons on the structure of poverty between households and persons.

The disparity between income and expenditure incidence for the elderly is immediately demonstrated in the poverty incidence for a single person, resulting in the poverty structure by households being weighted towards single people on the expenditure measure and larger households on the income measure. Looking at persons rather than households puts a slightly different perception on the structure of poverty. On the income measure, just over half of all poor people are in households with five or more people, though they only make up 32 percent of poor households. On the expenditure measure, one-quarter of people and

only 10 percent of households are in large poor households. The reverse happens with small households: 44 percent of households which are poor have one person, but they only constitute 20 percent of the population. This distinction between households and persons needs to be borne in mind in the interpretation of all other tables.

Table 15
INCIDENCE AND SEVERITY OF POVERTY, by NUMBER OF PERSONS
IN HOUSEHOLD,

A. 50 Percent Income and Expenditure.

Number of Persons	Incidence		Structure H'holds		Persons		Poverty Gap Mean		Total	
	Inc	Exp	Inc	Exp	Inc	Exp	Inc	Exp	Inc	Exp
1	2.1	24.8	12.0	44.3	3.3	20.2	9.8	23.6	7.7	44.9
2	2.1	9.0	19.5	25.4	10.8	23.2	14.9	24.8	19.1	27.1
3	3.1	7.6	14.5	10.8	12.0	14.8	12.7	15.6	12.1	7.3
4	4.8	7.0	20.9	9.4	23.2	17.2	20.4	22.5	28.0	9.1
5	7.7	10.0	15.8	6.4	21.9	14.5	15.1	27.8	15.7	7.6
6	15.8	10.8	17.3	3.7	28.8	10.1	16.1	25.3	17.2	4.0
Total	5.0	9.9	100.0	100.0	100.0	100.0	15.2	23.2	100.0	100.0

B 60 Percent Income and Expenditure.

Number of Persons	Incidence		Structure H'holds		Persons		Poverty Gap Mean		Total	
	Inc	Exp	Inc	Exp	Inc	Exp	Inc	Exp	Inc	Exp
1	25.9	34.8	40.5	37.5	15.7	15.7	4.7	28.2	16.6	42.4
2	5.3	16.4	13.0	27.7	10.0	23.2	15.4	24.3	17.4	27.1
3	12.0	13.6	15.0	11.7	17.3	14.7	11.1	20.1	14.8	9.4
4	13.8	12.7	16.1	10.2	24.8	17.1	16.6	22.8	23.3	9.4
5	15.6	20.3	8.7	7.8	16.7	16.2	18.8	23.5	14.1	7.3
6	22.8	25.5	6.7	5.1	15.5	13.1	23.4	21.1	13.7	4.4
Total	13.3	17.8	100.0	100.0	100.0	100.0	11.5	24.9	100.0	100.0

Source: Derived from HEIS (Department of Statistics, 1992).

The structure of poverty gaps follows reasonably closely the structure of poverty by household, not per person. Mean poverty gaps are low for single people on the income measure, but average on expenditure; while they are high for four person households on the income measure, with this being a product of the slightly higher rate for 2 adults and 2 children plus the very high rate for 3 adults with children (and probably a high poverty gap for sole parents with two children). On the income and expenditure measure, poverty gaps

are low for 3 person households, possibly a combination of 2 adults and one child and 3 adult households.

At the 60 percent level (Table 15B), the highest incidences of poverty are for single person households (the elderly) and large households. The two person household is much lower on the income measure, reflecting the lower poverty rate for two adults, which itself is due to National Superannuation providing a benefit above the poverty level. The structure of poverty, especially on the expenditure measure, is now far more heavily based around small households, although about 30 percent of poor people are in large households. For single people, the poverty gap on the income measure is very small, although they have a large expenditure poverty gap, leading to a structure of poverty gap which is out of line with the household incidence structure. On the expenditure measure, small households account for almost 70 percent of the total poverty gap, and large households only 12 percent. Using income, small households make up 34 percent of the total poverty gap, and large households 27 percent. It must be remembered that the total poverty gap on the expenditure measure (\$915.5m) is over three times that of the income measure (287.4m).

The incorporation of housing costs into the analysis has the same effect as for the elderly and children. One person households show a substantial increase in poverty incidence at the 50 percent income level, to 10.3 percent, but a slight reduction at the 60 percent level. The increase for three person households is also quite large, replicating the sole parent result. Large households have relatively small increases, commensurate with the results by number of children. After housing expenditures, a greater proportion of middle sized households, by number of persons, are poor, and fewer people in large households, compared to the analysis before housing expenditures. The expenditure measure varies relatively little in the before and after housing costs incidence and structure of poverty.

5. Work Force Status

The incidence and severity of poverty can also be shown by whether individuals in households are working full-time, part-time or are not working. The data are not totally comparable with the previous analysis because of a different number of households - for instance at the 50 percent income level, the number of households reported as poor by work force status is 55002 compared to 38188 in the sections above. Table 16 shows that those not working have a higher likelihood of being in poverty than those in either the part- or full-time work force, with this difference being most noticeable on the expenditure measure. However, being in the full-time work force does not eliminate poverty, with, at the 60 percent level, some 5.6 percent of households on the income measure and 8.6

percent on the expenditure measure being in poverty. As a result, some 20-25 percent of all poor households have one member in the full-time workforce (it is conjectured that many of these will have both low pay and a large family). About 70 percent of the poor are not working, though the two income measures after housing and the 50 percent income level are all closer to 60 percent.

Table 16
INCIDENCE AND SEVERITY OF POVERTY, by WORK FORCE STATUS

A. 50 Percent Income and Expenditure.

Workforce Status	Incidence			Structure		% red	Mean Inc	Poverty Gap Total		
	Inc	Exp before housing	Exp after housing	H'holds Inc	Exp			Exp	Inc	Exp
Not working	4.9	16.3	18.9	59.2	75.8	90.1	15.2	23.0	58.7	72.8
Part-time	3.9	4.0	4.5	15.2	6.0	79.4	16.4	31.1	16.3	7.8
Full-time	2.2	4.2	6.1	25.6	18.2	70.9	15.0	25.3	25.0	19.3

B 60 Percent Income and Expenditure.

Workforce Status	Incidence			Structure		% red	Mean Inc	Poverty Gap Total		
	Inc	Exp before housing	Exp after housing	H'holds Inc	Exp			Exp	Inc	Exp
Not working	18.8	27.3	28.5	70.8	72.2	66.5	11.1	24.6	61.8	73.6
Part-time	7.7	7.5	8.6	9.3	6.4	66.6	18.8	25.7	13.7	6.8
Full-time	5.6	8.6	10.2	19.9	21.4	53.9	15.8	22.1	24.5	19.6

Source: Derived from HEIS (Department of Statistics, 1992).

There are considerable differences in the extent to which social welfare payments reduce the incidence of poverty. When housing expenditures are included, at the 50 percent level, poverty amongst those not working was reduced by 90 percent, but 80 percent for part-time workers and only 70 percent for those in the workforce. At this stage, it can only be speculated that the low reduction is a combination of inadequacy of Family Support/GMFI and low take-up rates of this assistance². When housing costs are excluded, there is an overall lower degree of reduction in poverty by social welfare payments, but the difference is smallest for those not working (78 percent) compared to those in full-time work where the after housing cost reduction was only 48.7 percent. This tends to imply that those out of the work force were either in subsidised accommodation, or receiving the accommodation supplement. At the 60 percent level, social welfare benefits only lower poverty by 66 percent for those out of the workforce, and by 54 percent for those working, with the same changes occurring after housing expenditures have been deducted.

Part-time workers have a surprisingly low incidence of poverty, given that part-time workers would normally receive lower earnings than full-time. This may indicate that many are working part-time because of a high hourly rate, or substantial investments, or that earnings are small enough not to affect entitlement to social welfare payments. However, for those in poverty, their poverty gap is relatively large, especially after housing costs, implying that they are out of the normal channels of housing assistance as well.

6. Housing Status

The previous analysis has indicated that there can be significant changes in the incidence and severity of poverty for different types of households, before and after housing costs. However, information on why these changes occurred could only be surmised from the data. This section looks at poverty using first, tenure of dwelling, and second, landlord of dwelling, but no direct links can be made back to household type or work force status.

6.1 Tenure of Dwelling

Table 17 looks at the incidence and structure of poverty at both the 50 and 60 percent levels, with expenditure and income considered separately. There are considerable differences between the income and expenditure measures, at both levels, with the expenditure measure showing a higher incidence for both the 'rent free' and 'no mortgage' categories compared to the 'rent paid' and 'owned with a mortgage' categories. This difference is in part attributable to the elderly, as the group most likely to own a house without a mortgage, whilst it is speculated that the 'rent free' group may contain Maori living on marae based accommodation, or rural workers (farm labourers, forestry workers etc) with relatively low earnings and little opportunities for spending.

Both measures at both levels show the same relationship in terms of poverty incidence between the before- and after-housing costs analysis. Those paying rent had in all cases a substantial increase in their incidence of poverty, going for instance at the 60 percent level using expenditure from 27.9 percent to 37.3 percent, with a slightly greater change at the 60 percent income measure. The 'rent free' group had an equal fall in the incidence of poverty, with the 60 percent income level falling from 17.6 percent to 6.2 percent. Those owning a home but paying of a mortgage had an increase in poverty incidence, especially on the income measure, and this is likely to link in with the substantial change in incidence before and after housing for those with a head of household aged between 15 and 39; ie. in part, a lifecycle effect, with high mortgage repayments occurring when family income is

relatively low, with housing expenditures crowding out other expenditures. Those owning a home without a mortgage had a drop in their incidence of poverty, but the difference is only substantial at the 60 percent income measure.

Table 17
Incidence and Structure of Poverty, by Tenure of Dwelling, 1990-91
Before and After Deduction of Housing Expenditures

A Expenditure										
Tenure of Dwelling	Incidence				Percent of Households					
	50%		60%		50%		60%		60%	
	Before Housing	After Housing	Before Housing	After Housing	Before Housing	After Housing	Before Housing	After Housing	Before Housing	After Housing
Rent Paid	16.0	25.5	27.9	37.3	29.9	40.3			31.3	38.9
Rent Free	27.1	15.1	42.4	28.6	7.3	3.4			6.8	4.3
Owned Mort	3.8	8.4	8.5	13.9	11.1	20.9			15.1	22.9
No mortgage	15.9	12.9	23.9	18.6	51.7	35.4			46.8	33.9

B Income										
Tenure of Dwelling	Incidence				Percent of Households					
	50%		60%		50%		60%		60%	
	Before	%red	After	%red	Before	After	Before	After	Before	After
Rent Paid	7.2	84.4	19.7	62.0	25.6	38.8	43.7	45.9	41.9	49.6
Rent Free	4.8	88.0	3.4	90.5	17.6	6.2	4.2	1.1	4.1	1.1
Owned Mort	2.8	85.6	12.5	50.2	9.4	20.1	27.0	45.9	24.3	40.5
No mortgage	2.4	94.6	1.8	95.9	10.4	3.9	25.1	7.1	29.7	8.8

Source: Derived from HEIS (Department of Statistics, 1992).

Table 17B shows how the introduction of housing expenditures substantially alters the ability of the social welfare system to reduce the incidence of poverty. At the 50 percent income level before housing costs, the percentage reduction is high and very similar except for the 'no mortgage' group where the higher figure is a product of the large proportion of elderly in this category. Though not shown, a similar result occurs at the 60 percent level, though the 'rent paid' group only has a 50.2 percent reduction compared to the 'owned with mortgage' group of 57.6 percent and 'owned without mortgage' of 78.5 percent. When housing costs have been deducted, and the poverty line recalculated, the percent reduction at the 50 percent level for the 'rent free' category falls to 62 percent, and the 'owned with mortgage' to 50.2 percent, while the 'rent free' and 'no mortgage' groups have larger reductions. At the 60 percent level, the percent reduction for both rent and mortgage payers falls to 30 percent, whilst those without housing costs have reductions of around 90 percent. However, because the Accommodation Benefit is included in 'income before housing' rather than added to 'income after housing', the effect of housing costs to increase poverty is over-estimated.

The structure of poverty also changes in the before and after housing cost analysis. On the expenditure measure, at either level, about 50 percent of households who are poor before

housing costs are excluded, have no mortgage, compared to a quarter on the income measure. After housing costs, this group accounts for 35 percent on the expenditure measure, and 8 percent on income; these figures being commensurate with the proportions for the elderly. Rent payers account for 30 percent of the poor on the expenditure measure before housing costs, and 40 percent after, and just over 40 percent on the income measure at either level before housing costs, rising to almost 50 percent after housing costs (Table 17B). Poverty incidence for those with a mortgage almost doubles after housing costs have been considered, but their relative importance depends on whether income or expenditure is used as the measure of poverty.

Poverty Gaps

Table 18
Severity of Poverty, by Tenure of Dwelling, 1990-91
Before and After Deduction of Housing Expenditures

A Expenditure

Tenure of Dwelling	Mean Poverty Gap				Percent of Total Poverty Gap			
	50%		60%		50%		60%	
	Before Housing	After Housing	Before Housing	After Housing	Before Housing	After Housing	Before Housing	After Housing
Rent Paid	20.1	29.7	23.0	31.0	25.9	42.5	28.9	41.0
Rent Free	30.7	35.6	30.4	29.4	9.6	4.3	8.4	4.3
Owned Mort	16.5	25.1	17.1	26.1	7.9	18.6	10.4	20.3
No mortgage	25.4	27.5	27.9	29.9	56.6	34.6	52.3	34.4

B Income

Tenure of Dwelling	Mean Poverty Gap				Percent of Total Poverty Gap			
	50%		60%		50%		60%	
	Before Housing	After Housing	Before Housing	After Housing	Before Housing	After Housing	Before Housing	After Housing
Rent Paid	14.3	27.4	11.4	24.0	41.2	45.2	41.3	46.8
Rent Free	18.8	6.1	15.1	14.2	5.1	0.3	5.5	0.6
Owned Mort	12.3	30.1	12.5	29.0	21.9	49.7	26.5	46.4
No mortgage	19.2	18.7	10.4	17.8	31.8	4.8	26.7	6.2

Source: Derived from HEIS (Department of Statistics, 1992).

The severity of poverty, as measured by the poverty gap, and the share of the total poverty gap, is shown in Table 18. The data needs to be considered alongside the information provided in Table 17. For those in poverty, the largest poverty gaps before housing costs are deducted are for those with no housing expenditures (rent free and no mortgage), except at the 60 percent income level for those with no mortgage. However, this changes significantly after housing costs are deducted. In terms of expenditure, all tenure groups at the 50 percent level, and three at the 60 percent level, have an increase in their relative poverty gap, however the mean poverty gap, in absolute dollar terms, falls for both the 'rent free' (from \$4662 to \$4302 at the 50 percent level) and 'owned without mortgage' (from \$3782 to \$3392), while increasing for those paying for their housing (from \$2990 to

\$3659 for renters and from \$2449 to \$3052 for owners). For once, there is no longer a close correlation between the structure of poverty by incidence and by poverty gap, indicating that housing tenure is a significant variable in influencing the severity of poverty. Rent payers, at the 50 percent level, have a smaller share of poverty gap the number, with the reverse for those without mortgage before housing costs.

6.2 Landlord of Dwelling

Table 19 permits a deeper investigation into the 'Rent Paid' group of 6.1, with those owning, with and without mortgage, collapsed into the no landlord group. At both levels, on both measures, and before and after housing costs, those renting from the Housing Corporation have the highest incidence of poverty. However, the largest group in poverty are those owning their homes, being a product of New Zealand's home ownership rate, as their poverty incidence is less than average on all measures. Table 17 had indicated the rather divergent poverty incidence and impact of housing costs for those owning outright compared to those still paying off their dwelling, with the elderly's higher poverty incidence on the expenditure measure generally giving a relatively high incidence for those without a mortgage. This comes through in Table 19 with the higher incidence on the expenditure measure than income.

Table 19
Incidence and Structure of Poverty, by Landlord of Dwelling, 1990-91
Before and After Deduction of Housing Expenditures

A Expenditure

Tenure of Dwelling	Incidence				Percent of Households			
	50%		60%		50%		60%	
	Before Housing	After Housing	Before Housing	After Housing	Before Housing	After Housing	Before Housing	After Housing
None	10.1	10.7	16.6	16.4	62.8	56.3	61.9	56.8
Housing Comm	28.7	37.9	49.0	58.9	15.7	17.5	16.1	18.0
Employer	20.0	20.8	36.3	27.7	5.2	4.6	5.7	4.0
Private Individual	10.5	15.0	16.8	25.0	9.9	12.0	9.5	13.2
Other	16.6	29.4	29.4	37.1	6.4	9.6	6.8	8.0

B Income

Tenure of Dwelling	Incidence				Percent of Households					
	50%		60%		50%		60%			
	Before	%red After	%red Before	%red After	Before	After	Before	After		
None	2.6	92.1	6.9	80.2	9.9	11.6	52.2	53.0	54.0	49.3
Housing Comm	12.4	84.6	24.0	71.3	47.1	60.5	22.0	16.3	22.5	22.6
Employer	6.7	77.6	5.8	79.1	18.9	16.3	5.6	1.9	4.3	2.9
Private Individual	5.9	80.5	17.9	52.7	14.5	25.5	18.0	20.9	11.9	16.4
Other	1.7	96.0	16.2	65.2	21.4	33.0	2.2	7.9	7.3	8.8

Source: Derived from HEIS (Department of Statistics, 1992).

An interesting, and unexpected, result was the increase in poverty incidence, after housing costs, for those renting from the Housing Corporation. At the 60 percent expenditure measure, for instance, the poverty rate for those renting from the Housing Corporation was 49 percent before housing costs were deducted, an indication that the Housing Corporation generally caters for low-income households. But after housing costs, the poverty incidence rises to 58.9 percent (the 60 percent income measure shows a similar result), indicating that despite the rent at that stage being income related, Housing Corporation tenants had housing costs substantially above the average. Calculations from Department of Statistics (1992) indicate that the average expenditure on housing (rent, mortgage payments, and payment to local authorities) was \$88.20, or only 14.5 percent of total household expenditure. As a result, any Housing Corporation household with a weekly income above \$352.80 (or annual \$18500), and paying 25 percent of their income in rent, would have housing costs greater than average. The overall average is low because over 34 percent of dwellings are owned without mortgage (Department of Statistics, 1991).

Generally, those renting from employers had a lower poverty incidence after housing costs than before, indicating subsidised rentals. The significantly higher incidence on the expenditure measure than income possibly implies that expenditure opportunities for these groups are limited due to employer-provided housing being supplied in rural locations. Those renting from private individuals have a high poverty incidence, especially after housing costs, implying that rental costs in the private market are relatively high, and they form 15-20 percent of the poor.

The extent to which social welfare payments reduce poverty varies considerably by landlord status. In all cases, the greatest reduction was for home owners, and even at the 60 percent level, their reduction was 72.4 percent before housing and 68.9 percent after housing costs. Housing Corporation tenants have the next largest reduction at the 50 percent income level before housing costs, but after housing costs they are only third. The degree of reduction actually increases for employer-provided dwellings, with social welfare payments based on pre-housing cost income, and those in employer housing having relatively low housing costs. This same pattern is shown at the 60 percent income level, with the degree of reduction falling from 44.8 percent before housing for those in Housing Commission accommodation to 30.6 percent afterwards, while employer provided housing gives an increase from 44.6 percent to 47.9 percent. Those renting from private individuals have a far smaller reduction after housing costs: at the 60 percent income level it goes from 60.4 percent before housing to 40.0 percent after housing.

Poverty Gaps

Table 20 looks at poverty gaps. Probably the most important feature of the Table is the increase in mean poverty gap on all measures for private renters after housing costs, indicating their very high housing expenditures. As a result, their share of the poverty gap substantially increases after housing, and makes it large relative to the share of the poor. Those owning their home have an increase in poverty gap, especially on the income measure, with this result stemming from households with mortgages (Table 18). Housing Corporation tenants also have an increase in their poverty gap after housing costs, though their mean poverty gap after housing costs remains constant between the 50 and 60 percent levels on both measures.

Table 20
Severity of Poverty, by Landlord of Dwelling, 1990-91
Before and After Deduction of Housing Expenditures

A Expenditure

Landlord of Dwelling	Mean Poverty Gap				Percent of Total Poverty Gap			
	50%		60%		50%		60%	
	Before Housing	After Housing	Before Housing	After Housing	Before Housing	After Housing	Before Housing	After Housing
None	23.9	26.6	25.2	28.4	64.6	53.2	62.8	54.8
Housing Comm	22.0	28.8	23.7	28.7	14.8	17.9	15.3	17.5
Employer	39.4	40.3	31.3	40.3	8.8	6.5	7.1	5.5
PrivateIndividual	15.9	31.0	22.3	29.9	6.7	13.2	8.5	13.3
Other	18.5	26.8	22.7	32.6	5.1	9.2	6.3	8.9

B Income

Landlord of Dwelling	Mean Poverty Gap				Percent of Total Poverty Gap			
	50%		60%		50%		60%	
	Before Housing	After Housing	Before Housing	After Housing	Before Housing	After Housing	Before Housing	After Housing
None	15.6	28.8	11.3	27.0	53.6	54.6	53.2	52.5
Housing Comm	15.8	18.6	12.1	18.0	22.8	10.9	23.8	16.0
Employer	17.9	15.6	12.6	15.4	6.6	1.1	4.7	1.8
PrivateIndividual	12.4	35.2	14.8	34.5	14.8	26.5	15.3	22.3
Other	-	24.7	4.7	21.4	2.2	6.9	3.0	7.4

Source: Derived from HEIS (Department of Statistics, 1992).

7. Conclusions

New Zealand had a substantial problem of poverty, even prior to the April 1991 benefit cuts. On the preferred measure of poverty (60 percent of median equivalent expenditure), almost 20 percent of households and some 611,000 people who constitute 17.8 percent of the population, were poor. At this level, based on focus group interviews of different family and ethnic types and labour force status, households will be able to achieve an adequate minimum income, enabling them to survive adequately with minimal participation

in the wider community (Cody and Robinson 1993, Sawrey and Waldegrave, 1994). This is a substantially lower standard of living than that envisaged by the Royal Commission on Social Security (1972) in its 'belonging to and participating in' concept.

The poverty level is not generous, with the benefit level, as at 31 March, 1991, for most family types and benefit categories falling between the 50 and 60 percent levels. The 50 percent level thus provides a standard of living which is inadequate for survival for all but the shortest periods when stocks can be run down. All the same, some 3.7 percent of households, and 5.0 percent of the population had an income below this figure, and 12.0 percent of households and 9.9 percent of people had expenditure below this level. This difference in poverty incidence between the income and expenditure measures was mainly due to the elderly for whom HEIS recorded a widespread and substantial lower expenditure than income. This could be due to poor recording by the elderly, or greater bunching of their expenditures, both of which reasons led Statistics New Zealand to warn that expenditure was not a good poverty measure, or because the elderly were not spending out of fear due to further changes in National Superannuation and user charges in health care etc. With the latter explanation, the 28 percent of the elderly who were poor at the 50 percent expenditure level gives a good indication of how they are actually living, even though National Superannuation is sufficient to provide an income at almost the 60 percent income level.

The question then of who are the poor depends crucially on the interpretation placed on the elderly. If their expenditure patterns are regarded as an indication of their living standards, then the elderly, and especially the single elderly, make up the majority of the poor. Otherwise, those poor are households with children, with poverty incidence increasing with family size. Younger households also tend to be poor, especially after housing costs, indicating the reduction in living standards brought about high mortgage repayments. Whilst most of the poor are out of the full-time work force, roughly a quarter of poor households have one member in full-time work. Housing Corporation tenants have a high poverty incidence, which increases after housing costs, implying that despite the rents being income related, the housing costs of Housing Corporation tenants exceeds the average housing cost.

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¹ Mowbray (1994) includes 'outliers' in her analysis of mean equivalent household income; and while this and the use of income rather than expenditure may result in some discrepancies, the measures are close enough to report the information.

² Prebble and Rebstock (1992), using HEIS data, calculated a 30 percent take-up of Family Support, whereas Fourbister (1989), using a combination of tax and social welfare files, estimated a 70 percent take-up rate.

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