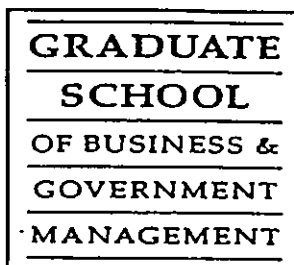


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**The impact of housing expenditure on  
the incidence and severity of poverty  
in New Zealand**

**Bob Stephens**



**VICTORIA UNIVERSITY  
OF WELLINGTON**



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**THE IMPACT OF HOUSING EXPENDITURE ON THE INCIDENCE AND  
SEVERITY OF POVERTY IN NEW ZEALAND**

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# THE IMPACT OF HOUSING EXPENDITURE ON THE INCIDENCE AND SEVERITY OF POVERTY IN NEW ZEALAND

BOB STEPHENS

## 1. INTRODUCTION

This paper represents a small part of a much larger project looking at the incidence and severity of poverty in New Zealand both for 1993, and for trends in poverty between 1984 and 1993. Eight interrelated measures of poverty have been developed, designed to show the level or incidence of poverty, who is poor as shown by a variety of different household characteristics, and the depth or severity of their poverty. Poverty measures can also be shown by tenure of dwelling and status of landlord, as well as before and after housing costs. When a time trend is taken, the data can provide a measure of the impact of policy change on poverty.

## 2. THE MEASURE OF POVERTY

Poverty is viewed here as an input or resource-based measure, based on both household income and expenditure, as compared to an outcome or relative deprivation indicator. This use of a resource-based measure is partly a function of a desire to have an historical sequence which can only be provided by Statistics New Zealand's Household Expenditure and Income Survey (HEIS) data base, partly because it is relatively inexpensive compared to the establishment of a separate relative deprivation survey, and partly because it would allow comparisons with international studies on poverty based on input measures. Information on the incidence and severity of poverty has been obtained through analysis of the HEIS unit record data (with the analysis undertaken by officers of Statistics New Zealand), and thus is subject to the restrictions of their sample frame (Stephens, 1994a).

The methods used for measuring poverty are variants upon two international standards. First, the Luxembourg Income Study (LIS) uses 40, 50 and 60 percent of median equivalent disposable household income for its comparative poverty studies, based on a relative generous per child equivalence scale (Mitchell, 1990). Second, the European Commission calculates poverty at both 40 and 50 percent of mean equivalent household expenditure for all EC countries, using the OECD equivalence scale (Eurostat, 1990). Both median equivalent disposable household income and median equivalent household expenditure have been used in the larger project, though only results on the income measure are being shown in this paper<sup>1</sup>. The project used the Jensen (1988) equivalence scales, which roughly conform with the OECD

expenditure must be met, often before other expenditures. Second, there is a significant variation in both the absolute and relative expenditure on housing between households, and this variation is a function of tenure of dwelling, age of householder and family size. Third, housing assistance to low income households has undergone radical change over the last three years, with one of its objectives being to lower the degree of hardship after housing expenditures. Measuring poverty before and after housing costs and housing assistance will hopefully provide an assessment of the policy of moving to market rentals and mortgage interest-rates in the state housing sector, with targeted housing assistance available to all low income households, compared to the previous policy of income-related rents and some subsidised home mortgages in the state sector, otherwise market rates applied (Brown, 1993).

There are a variety of different ways of adjusting the poverty measure for housing costs, with none of them being totally satisfactory. Henderson et al (1970) in Australia adjusted the equivalence scale, while in New Zealand, Brashares (1993) investigating poverty in 1988/89 when Housing Corporation rentals were income related and subsidised mortgages were available, added the subsidy which came from the difference between market rentals and home mortgage interest rates with Housing Corporation rentals/interest rates. She found that the incidence of poverty fell when this explicit subsidy was added to Housing Corporation tenants and mortgage borrowers. However, it is not a technically correct method as it ignores the implicit subsidy which accrues to home owners through imputed rents on owner-occupancy (less their mortgage interest charges).

The approach taken in this study differs because of the absence of adequate data on both implicit subsidies and imputed rents. Instead, the approach used is to exclude all housing related expenditures from household income (and expenditure) for each household, and recalculate the poverty line on an after housing costs basis. This will give 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 than before housing costs, while low income households with relatively low housing expenditures should have greater net income for expenditure on other goods and services, giving a lower incidence of poverty.

Housing costs have been defined as rent (HEIS number 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, at this stage, the Housing Benefit and new Accommodation Supplement can not be isolated out from other

The columns '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. 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 excluding housing percent reduction ratios are lower at both income levels, but these estimates include the Housing Benefit in pre-housing cost income.

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 (measured in equivalent dollars). At the 50 percent income level, before housing costs, the poverty gap is 15.2 percent of the poverty line, yet it falls to 11.5 percent at the 60 percent level, indicating that the majority of those who are poor at this higher level have incomes between the 50 and 60 percent levels. The mean poverty gap in \$ terms only falls slightly, whereas the total poverty gap rises from \$85m to \$287m, or roughly 0.4 percent of GDP and 3.3% of social security expenditure (ie, with no behavioural responses, the targeting of \$287m to the poor would eliminate their poverty).

When housing costs are excluded, there is a substantial increase in the size of all the poverty gap measures. This indicates those with low incomes tend to have above average housing expenditures, thereby worsening their incidence of poverty after housing costs. However, 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.

standard has notions of an absolute as well as a relative level. Using an absolute level means that the original method for setting the poverty level has been broken. An alternative, which maintains the relative method for setting the poverty standard, but incorporates notions of the absolute standard, is to use a moving average (in inflation-adjusted terms) of the last three years poverty lines. Short-term falls in the initial poverty level would have little impact on the final level, but long-term falls (and rises) will be incorporated into the poverty level. [At the time of writing, this adjustment had not been made, but if it had been, the 50 percent poverty level in 1992/3 would have been \$14449, or 2.6 percent greater than the actual level. As a consequence, the poverty rate in 1991/2 and 1992/3 would have been higher than that listed in Table 2.]

Despite the fall in the poverty level in 1991/2, the poverty rate for households rose from 3.7 percent to 5.6 percent at the 50 percent level, but fell at the 60 percent level, though increased for persons at both levels. The implications of this is that the benefit cuts resulted in a substantial number of households which were previously only in poverty at the 60 percent level falling below the 50 percent level, before housing costs. At the 60 percent level, the substantial reduction in the poverty level was the main factor behind the lower poverty rate. But there was also a compositional change in the households which were poor, with a substantial reduction in the incidence of poverty (especially at the 60 percent level) for single adult households (from 25.9 percent in 1990/1 to 9.0 percent for 1991/2) and an increase for larger households with dependent children (the incidence went from 21.8 percent for 2 adults with 3 children to 23.8 percent, and for sole parents, from 35.8 percent to 67.4 percent - see Table 9). As a result, the number of people in poverty increased. The before housing poverty incidence fell for both households and people at both levels in 1992/3, with this only being partly a reflection of the lower real poverty level.

The after housing cost poverty incidence shows a similar pattern to the before housing cost incidence in 1991/2, implying that little can be said about the independent effect of the first round of housing policy changes from the more general changes. [Note: this conclusion may alter when the Accommodation Benefit is separated out from the 'before housing costs' income.] However, except for the 50 percent level, for households, there is an increase in after housing costs poverty in 1992/3, when the before housing cost poverty incidence falls, implying that the increase in house rents to market rentals for state housing tenants has increased the incidence of poverty.

Table 3 also 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 reductions in excess of 90 percent. At the 60 percent level, the percent reduction for both rent and mortgage payers falls to 30 percent, whilst those without housing costs still 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. About 25 percent of households who are poor, before housing costs are excluded, have no mortgage, but after housing costs, this group accounts for only 8 percent of the poor. These figures are commensurate with the results for the elderly (Stephens, 1994b). Rent payers account for just over 40 percent of the poor at either level before housing costs, rising to almost 50 percent after housing costs. For those with a mortgage, almost twice as many are poor after housing costs have been considered, rising from 25 percent to over 40 percent (Table 3).

## Poverty Gaps

**Table 4**  
**Severity of Poverty, by Tenure of Dwelling, 1990-91**  
**Before and After Deduction of Housing Expenditures**  
**Income as Poverty Measure**

Tenure of Dwelling	Mean Poverty Gap				Structure 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, 1991.



\$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).

**Table 5**  
**Incidence and Structure of Poverty, by Landlord of Dwelling, 1990-91**  
**Before and After Deduction of Housing Expenditures**  
**Income as Poverty Measure**

Tenure of Dwelling	<u>Incidence</u>				<u>Structure of Poverty</u>					
	50%		60%		50%		60%		60%	
	Before	%red	After	%red	Before	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 Corp	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, 1991.

Generally, those renting from employers had a lower poverty incidence after housing costs than before, indicating subsidised rentals. 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 this group 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 Corporation 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.

with and without mortgages; but after housing costs, rent payers and mortgage payers dominate, with rent payers growing from 45 percent of the poor to 52 percent over the three year period.

At the 60 percent level, trends are far harder to discern. The before housing costs poverty incidence falls over the three years for renters, yet the after poverty incidence increases. This difference implies that the move to market rentals for state housing tenants, without any offsetting income support, has significantly worsened the likelihood of poverty among renters. Movements in poverty for the rent-free group are more in line with the 50 percent level results, though there is a significant reduction in pre-housing incidence in 1991/2, and this is mirrored by the no-mortgage households. Poverty rates for those with mortgages, after housing costs, remain high despite the significant fall in interest rates over this period. The fall in interest rates has led to a reduction in mean housing costs over this period - from \$3066 in 1990/1 to \$2674 in 1991/2 and \$2712 in 1992/3, partly explaining the continued high poverty rates among home owners. At this level, changes in the structure of poverty are very similar to the 50 percent level.

**TABLE 7**  
**TRENDS IN POVERTY INCIDENCE, by Tenure of Dwelling: 1990/1 - 1992/3**

	Before Housing Costs			After Housing Costs		
	1990/1	1991/2	1992/3	1990/1	1991/2	1992/3
<u>50 Percent Income Level</u>						
Rent Paid	7.2	11.6	7.7	19.7	27.5	25.5
Rent Free	4.8	6.0	14.2	3.4	3.7	7.5
Owned Mortgage	2.8	3.9	3.7	12.5	13.1	13.9
Owned No Mortgage	2.4	3.3	2.3	1.8	2.9	1.6
<u>60 Percent Income Level</u>						
Rent Paid	25.6	22.9	20.5	38.8	35.6	40.7
Rent Free	17.6	10.7	19.3	6.2	6.0	14.8
Owned Mortgage	9.4	11.8	10.2	20.1	19.7	20.0
Owned No Mortgage	10.4	5.9	6.4	3.9	4.0	3.9

Source: Derived from HEIS, 1991, 1992, 1993.

## 6.2 Landlord of Dwelling

Looking at the trends in the incidence of poverty based on the landlord of the dwelling largely mirrors the results above. In all three years, at both levels, those renting from the Housing

rate falling from 47 to 40 percent. Those renting from private individuals had a substantial jump in their poverty incidence after housing costs in 1992/3.

## 7. WHO ARE THE POOR

The larger study subdivides households by a variety of different categories: number of persons in a household, age of head of household, number of persons aged over 60, number of children aged under 15, work-force status, and household type. Unfortunately, the size of the HEIS data base is insufficient to enable cross-tabulations of these categories to be provided. In this section, only household type is being considered, and then only the effect of housing costs on poverty incidence.

**TABLE 9**  
**TRENDS IN POVERTY INCIDENCE, by Household Type: 1990/1 - 1992/3**

	Before Housing Costs			After Housing Costs		
	1990/1	1991/2	1992/3	1990/1	1991/2	1992/3
<u>50 Percent Income Level</u>						
1 Adult	2.1	5.3	4.5	10.3	9.3	9.2
1 Adult + children	11.7	20.9	14.7	43.8	66.4	51.9
2 Adults	1.7	2.0	1.2	3.7	4.9	4.4
2 Adults + 1 child	3.1	6.3	2.8	10.0	16.7	16.2
2 Adults + 2 children	4.1	10.1	4.1	8.9	17.3	13.2
2 Adults + 3+ children	12.7	11.4	14.0	17.8	19.1	22.9
3+ Adults	1.1	0.5	1.9	3.5	2.6	4.9
3+ Adults + children	6.5	5.6	6.1	7.4	7.8	12.6
Total	3.7	5.6	4.4	9.6	12.1	11.5
<u>60 Percent Income Level</u>						
1 Adult	25.9	9.0	10.0	22.5	12.8	16.5
1 Adult + children	35.8	67.4	46.6	74.8	79.3	72.8
2 Adults	4.0	3.8	4.2	6.5	7.1	7.9
2 Adults + 1 child	11.0	13.7	14.1	17.6	24.4	24.9
2 Adults + 2 children	13.3	16.0	12.7	16.7	23.6	22.5
2 Adults + 3+ children	21.8	23.8	24.1	28.9	31.2	31.6
3+ Adults	3.3	2.5	4.8	4.5	3.2	8.6
3+ Adults + children	12.3	11.0	13.7	12.4	13.9	18.9
Total	13.7	12.1	11.3	17.5	16.8	18.2

Source: Derived from HEIS, 1991, 1992, 1993.

the community. Estimates of poverty are also provided at the 50 percent level, providing information on the severity of poverty. The after housing costs poverty line has been recalculated after all housing related expenditures have been subtracted from each households income. Households likely to be poor after housing costs will require both low income and above average housing expenditures.

At the 60 percent level, 13.7 percent of households and 13.3 percent of the people were poor in 1990/91 before housing costs were subtracted. The incidence of poverty rose to 17.5 percent of households and 17.9 percent of people when housing costs were excluded. Those with low incomes were found to have above average housing expenditures, with those most likely to be poor were households in housing corporation dwellings or renting from private landlords. The incidence of poverty also increased significantly for those purchasing their own home with a mortgage, with much of this being an age-related phenomenon, with mortgage repayments being high when household income is relatively low. Sole parents, and families with children, had the highest incidence of poverty, with the effect of housing costs being most significant for sole parents.

With the poverty measure being calculated on a relative basis, the benefit cuts, coupled with increasing unemployment, lowered the poverty level. As a result, the expected increase in poverty did not eventuate at the 60 percent level, though it did force more households below the 50 percent (or 'minimal survival') level. After housing costs poverty incidence increased, with the increased difference between the before and after housing costs poverty incidence being a result of the move to market rents in Housing Corporation dwellings, with the largest increase in poverty incidence being for those renting from the Housing Corporation. However, this difference is partly overestimated at this stage because of the inability to separate out income assistance for housing from other income, thus underestimating the before housing costs poverty incidence. From 1993/4, the newly introduced Accommodation Supplement will be able to identified separately, and this should provide a more robust estimate of the impact of housing expenditures and benefits on poverty.

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<sup>1</sup> Statistics New Zealand warned the project team that whilst aggregate expenditure data was reasonably reliable, they were less confident of the reliability of individual household data (Stephens, 1994a). A matrix of household disposable income and expenditure showed a surprising low degree of correlation between the two measures. As a result, households declaring self-employed losses or with an expenditure three times their income were omitted from the analysis. All the same, McGregor and Borooah (1991) and Eurostat (1990) support Stephens et al's (1992) contention that expenditure is a better guide to the overall level of well-being of the household.

<sup>2</sup> The Focus Groups used to establish the level for the poverty line show that the Jensen (1988) equivalence scales underestimate the additional cost of children for those on low incomes. However, as this result has not been confirmed with a wider range of income levels, the 1988 equivalence scales have continued to be used. Increasing the equivalence scales for dependent children would raise the relative incidence of poverty among large families, but the impact on the overall incidence of poverty cannot be determined *a priori*.

<sup>3</sup> From 1972 to 1991, the basic benefit was adjusted in line with consumer prices, so that it maintained its real level (Stephens, 1992), but did not take into account changes in the average standard of living as the Royal Commission's method for setting the benefit level required. Moreover, even before 1991, there were a variety of different benefit levels for categories of beneficiaries.

<sup>4</sup> The HEIS data base contains very few households which reported receipt of housing assistance, so the degree of bias may not be large.

<sup>5</sup> Due to sampling error problems, percentages in poverty should be taken as approximate estimates only.

<sup>6</sup> This estimate excludes 'outliers', or those reporting self-employed losses, or who had an expenditure three times their income. If outliers are included, then the poverty rate at the 50 percent income level would have been 6.7 percent of households and 8.3 percent of people. In international comparisons, the with 'outliers' estimate should be used.

<sup>7</sup> Although some of this change may be due to sampling error, it is not a reflection of any changes in the relative importance of each household type in the HEIS sample.

<sup>8</sup> It is worth noting that the equivalent mean disposable income fell by only 3.1 percent, less than the median, in 1991/2 and rose by 3.6 percent, more than the median, in 1992/3, indicating a widening of the income distribution in those years.