**Household incomes in New Zealand:**

**Trends in indicators of inequality and hardship**

**1982 to 2011**

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**Changes since last report**

* The report is updated with findings based on the 2010–2011 Household Economic Survey (referred to as the 2011 HES).
* The international comparisons are updated with the latest available data (usually 2009).
* Information on international trends for very high incomes from the 1920s to 2010 (including New Zealand), adding another perspective to discussions and debate around income inequality.
* Findings on trends in material hardship using the non-monetary indicators included in the HES from 2006-07 to 2010-11.
* A new section on income mobility and poverty persistence drawing on a research report from the University of Otago (Wellington) based on data from the Survey of Families, Income and Employment (SoFIE), with international comparisons.

**Next report**

* The next report is scheduled for mid 2013 based on the 2011–2012 HES. (The timing is dependent on the availability of the HES data.)

**Availability on MSD website**

* This report and previous ones are available on the MSD website:

www.msd.govt.nz/about-msd-and-our-work/publications-resources/monitoring/index.html

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**Abbreviations**

AHC After (deducting) housing costs

AS Accommodation Supplement

BDL Benefit Datum Line

BHC Before (deducting) housing costs

CV Constant value (referring to low-income thresholds or ‘poverty lines’ kept constant in real terms) = ‘fixed lines’

DPB Domestic Purposes Benefit

EFU Economic family unit

EU European Union

Eurostat The Statistical Office of the EU

FT Full-time (30 hours or more per week)

GFC Global Financial Crisis

HES Household Economic Survey

HLFS Household Labour Force Survey

HH Household

HNZC Housing New Zealand Corporation

IB Invalid’s Benefit

MEDC More economically advanced country

NAOTWE Net average ordinary time weekly earnings

NMI Non-monetary indicator

NZPMP New Zealand Poverty Measurement Project

NZS New Zealand Superannuation

OECD Organisation for Economic Co-operation and Development

PMP Poverty Measurement Project

PT Part-time (less than 30 hours per week)

REL Relative-to-contemporary-median (referring to low-income thresholds or ‘poverty lines’ that are calculated as a proportion of the median for the survey year in question) = ‘moving lines’

SB Sickness Benefit

SP Sole parent

2P Two parent

Taxmod The NZ Treasury’s tax-benefit microsimulation model (up to HES 2004)

Taxwell The NZ Treasury’s tax-benefit microsimulation model (starting with HES 2007)

TPG Total poverty gap

UB Unemployment Benefit

UNICEF United Nations Children's Fund (formerly, the United Nations International Children's Emergency Fund)

WFF Working for Families

WL Workless (adult or HH)

* ‘Dependent children’ are all those under 18 years, except for those 16 and 17 year olds who are in receipt of a benefit in their own right or who are employed for 30 hours or more a week.
* When ‘child’ is used without qualification, it means ‘dependent child’.
* A household ‘with children’ always means a household with at least one dependent child – the household may or may not have adult children or other adults who are not the parents or caregivers.

# About this report

This report provides information on the material wellbeing of New Zealanders as indicated by their household incomes from all sources over the period 1982 to 2011. It updates the last report published in 2011 which covered 1982 to 2010.

The income measure used is household after-tax cash income for the previous twelve months, adjusted for household size and composition. This is referred to as equivalised disposable household income and is taken as an indicator of a household’s access to economic resources and of its (potential) living standards.

The major focus of the report is on trends in income-based indicators of inequality and hardship. These trends are set in the context of a description of the changing overall income distribution in the period. International comparisons are made where possible.

The report is about more than just the numbers. It also provides commentary, contextual information and technical notes to assist the reader with a better understanding of the indicators and the trend figures they produce.

All results are estimates, based in the main on data from Statistics New Zealand’s Household Economic Survey (HES) which is a sample survey of around 2800 to 3500 private households. The latest income information is from the 2010–2011 HES (Income) which had an achieved sample of 3500 private households.[[1]](#footnote-2) The interviews for the survey are conducted face to face and for the 2011 HES were carried out from July 2010 to June 2011. The income questions ask about incomes for the twelve months prior to the interview.

In addition to the updates using the latest HES data, the report also has two new sections:

* one using the non-monetary indicators (NMIs) available in the HES to track material hardship from 2006-07 to 2010-11
* the other summarising recent University of Otago (Wellington) research on income mobility and poverty persistence using Statistics New Zealand’s Survey of Family, Income and employment (SoFIE). [[2]](#footnote-3)

The report is published as part of the Ministry of Social Development’s work on monitoring social and economic wellbeing. It is designed as a consolidated and accessible resource for use by a wide range of individuals and groups (policy advisors, researchers, students, academics, community groups, commentators and citizens more generally), to inform policy development and public debate around poverty alleviation and redistribution policies. [[3]](#footnote-4)

This is the sixth issue in the series of income reports which will be updated in similar format as new HES datasets become available. The next update with new findings is expected in mid 2013 based on the data from the 2012 HES (Income).

The scope of the report is relatively narrow. Its focus is on the economic wellbeing of New Zealanders as indicated by the equivalised disposable income of their households. Although it has a short section on the extent of re-distribution of households’ market income through taxation and government spending, it does not seek to give an account of how household income comes together from individual market incomes, social assistance paid to benefit units, and New Zealand Superannuation paid to older New Zealanders. Nor does the report seek to give a comprehensive explanation of the reported trends by drawing on the usual mix of labour market, demographic and macro-economic and geo-political factors, and on changes in tax and social assistance policy settings. Some limited context is given to point to macro-level changes that impact on household income, but the report is essentially descriptive.

There are several Appendices which provide more detail on some of the concepts, definitions and assumptions used in the report, and how these impact on the reported levels and trends in inequality and poverty.

The Table of Contents and the List of Figures and Tables give comprehensive navigational assistance. A Summary of Findings is provided in the next section.

Summary inequality figures are available on pp 76-80, and trends in income poverty for the whole population and dependent children are on pp 97-105.

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

Copies of the report are available on the Ministry of Social Development’s website at:

[www.msd.govt.nz](http://www.msd.govt.nz)

Feedback on the report is welcomed, especially any suggestions for possible additional information or for the clarification or better presentation of what is already included.

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**Summary and Overview**

**Background**

**What is the Household Incomes Report and what period does it cover?**

* The Household Incomes Report (the ‘Incomes Report’) provides information on trends in the material wellbeing of New Zealanders as indicated by their after-tax household incomes from all sources, 1982 to 2011.
* The Incomes Report is an annual Ministry publication, prepared as part of its work on monitoring and understanding social and economic wellbeing.
* It is based in the main on data from Statistics New Zealand’s Household Economic Survey (HES).
* The interviews for the latest ‘2011’ figures were carried out by Statistics New Zealand from July 2010 to June 2011 (the ‘2011 HES’). The income questions ask about incomes in the twelve months prior to interview. This means that the income information comes from the two-year period from July 2009 to June 2011 – on average from mid 2010.
* The 2011 survey is the first HES that fully captures the impact on incomes of the global financial crisis and related economic slowdown in 2008 and 2009. The 2010 survey captured the early impact only. The delay in registering the full impact arises because (a) the incomes of the bulk of New Zealand households were not affected immediately by the recession – there is a lagged impact, especially for employment income and (b) even if there were no lag, many of those interviewed in the 2010 HES were reporting their incomes mainly for the pre-recession period.

**What types of information does the Incomes Report provide?**

* Long-run trends (usually 1982 to 2011) for:
* household incomes
* income inequality
* income poverty rates (proportions below various low-income thresholds)
* housing costs relative to incomes
* sources of income for older New Zealanders.
* Relativities between various population groups (eg by age, household type, hours worked)
* which groups are most at risk of being in poverty or hardship?
* which groups make up the largest proportions of those identified as ‘in poverty’?
* Short-run changes in income poverty and inequality
* some care is needed in drawing definitive conclusions from relatively small changes from one survey to the next, especially for smaller subgroups
* the findings are more robust for longer-run trends and for subgroup relativities.
* International comparisons which locate New Zealand relative to EU nations and other OECD nations on income-based poverty and inequality measures.
* The 2012 Incomes report has two new sections:
* using non-monetary indicators (HES data) to track material hardship from 2007 to 2011
* key findings on income mobility and poverty persistence based on recently released data from Statistics New Zealand’s Survey of Families, Incomes and Employment (SoFIE).

**Poverty and hardship are multi-dimensional: this report focuses on the incomes dimension**

Inequality, poverty and hardship are multi-faceted and multi-dimensional. The focus for the Household Incomes Report is primarily on the incomes dimension. Income matters, but it is the cumulative impact of multiple disadvantage across different domains that has the most significant negative impact on life chances and outcomes, especially for children.

**The income measure used in the report**

* The income measure used is household after-tax cash income from all sources for the previous twelve months, adjusted for household size and composition. This is referred to as equivalised disposable household income.
* A household’s after-tax income is affected by a range of factors: wage rates, total hours worked by the adults in the household, rates of social assistance, returns on investment, personal income tax rates and tax credits for families with children.
* Household income is used as an indicator of a household’s material wellbeing or living standards. The approach is well-established internationally and produces useful findings on trends in relative material wellbeing over time and between different subgroups.
* It is important to distinguish between the incomes of individuals, and the household incomes for individuals in those households. When there is more than one person in a household, individual income does not give a reliable indication of access to resources. Trends for individual incomes also follow different paths than those for household incomes.

Incomes before and after deducting housing costs (BHC and AHC)

* The report uses household incomes both before and after deducting housing costs (BHC and AHC respectively), especially for poverty measurement. All else equal, those with higher housing costs have less ‘residual income’ (AHC) for other necessities (food, clothing, transport, heating and health care). For households with lower incomes to start with, high housing costs place considerable constraints on their living standards.
* Housing costs are, in the short term at least, a fixed cost that households have to meet. The AHC income measure is therefore important for a central goal of the report, which is to assess and report on differences in material wellbeing across different groups, using household income as the indicator. The AHC measures allow more sensible comparisons between groups with quite different housing costs but similar BHC incomes.

**Income poverty measures used in the report**

* Poverty in the more economically developed nations is about relative disadvantage – it is about households and individuals who have a day-to-day standard of living or access to resources that fall below a minimum acceptable community standard, a definition officially used by the EU and adopted more widely.
* This report uses household income as an indicator of resources available to households.
* New Zealand does not have an official poverty measure. The low-income thresholds or poverty lines used in the report (50% and 60% of median household income) are however widely used in the EU and OECD nations.
* The report uses two quite different ways of updating the low-income thresholds or ‘poverty lines’ over time and reports trends using both approaches.
* The ‘fixed line’ approach anchors the poverty line in a reference year, then adjusts it each survey with the CPI. This gives a measure of change in relation to a benchmark held fixed in real terms. On this approach a household’s situation is considered to have improved if its income rises in real terms, irrespective of whether its rising income makes it any closer or further away from the middle or average household. The reference year has to be updated from time to time to reflect changing middle incomes and the associated changing notions of a minimum acceptable standard (currently 2007).
* The ‘moving line’ or ‘relative’ approach sets the poverty line as a proportion of the median income from each survey so that the threshold changes in step with the incomes of those in the middle of the income distribution. This gives a measure of change in relation to how other households are faring. On this approach the situation of a low-income household is considered to have improved if its income gets closer to that of the median household, irrespective of whether it is better or worse off in real terms.
* The report takes fixed line measures as the more fundamental in the sense that they reveal whether the incomes of low-income households are rising or falling in real terms. Whatever is happening to the incomes of the ‘non-poor’, if more and more people end up falling below a fixed line threshold, then in the population at large there is likely to be wide concern about increasing poverty and hardship.

* Moving line measures are also important as they provide an indication of trends showing the distance between low-income and middle-income households. This focus gives information relevant for better understanding social cohesion and inequality in the lower half of the income distribution.

**Using non-monetary indicators to measure material wellbeing and hardship (deprivation)**

* Non-monetary indicators (NMIs) are now widely used in EU and OECD nations to more directly measure the material wellbeing of households, especially at the low living standards or ‘hardship’ end of the spectrum.
* While current household income is a very important and influential factor in determining the material well-being of a household there are many other factors that also have an impact: examples are the level and quality of financial and physical assets, assistance from support networks outside the household and from government services, and special demands on the budget from health costs and high debt servicing.
* Household income can be viewed as one input into material wellbeing. Using NMIs is an outcome-focussed approach. The differences in material wellbeing indicated by the different NMI index scores reflect the overall impact of all the different input factors, not just income. Households with the same income can end up with different NMI scores because of the differing impact of the other factors on their living standards.
* The Ministry has developed an Economic Living Standards Index (ELSI) which ranks households from low to high living standards using NMIs. The NMI items that are used in the index are of two types: essentials that no one should have to go without, and desirable non-essentials that are commonly aspired to. To create the ELSI scores, the NMI items are scored from two different perspectives:
* from an ‘enforced lack’ perspective in which respondents do not have essential items because of the cost, or have to severely cut back on purchases because the money is needed for other essentials: for example, unable (because of the cost) to have regular good meals, two pairs of shoes in good repair for everyday activities, or visit the doctor; cutting back ‘a lot’ on fresh fruit and vegetables, putting up with the cold, and so on because money is needed for other basics)
* from the perspective of the degree of restriction/freedom reported for having or purchasing desirable non-essentials (and having the essentials) – a ‘freedoms enjoyed’ perspective, for short: for example, having all the essentials, and in addition not having to cut back on local trips, not having to put off replacing broken or worn out appliances, being able to take an overseas holiday every three years or so if desired, and not having any great restrictions on purchasing clothing.
* A state of hardship (unacceptably low material wellbeing) is characterised by having many ‘enforced lacks’ of essentials and few or no ‘freedoms’. Higher living standards are characterised by having all the essentials (no enforced lacks) and also having many freedoms and few restrictions in relation to the non-essential items asked about in the survey.
  + Just as when using household incomes, households can be ranked by their ELSI scores and grouped into deciles or in other ways.
  + In order to use an index like ELSI for measuring material wellbeing it needs to be calibrated so as to give some meaning to the different scores. A key element of the calibration (and deciding where to draw the hardship threshold) is to look at where the deprivations become very concentrated. The graph below shows how the different ELSI deciles fare in terms of the relative proportions of both enforced lacks of essentials and also of freedoms enjoyed, out of the list of calibration items (all of which are in the latest update of the index).

**Calibrating ELSI using ‘enforced lacks’ and ‘freedoms/non-essentials enjoyed’ (LSS 2008)**



* + For the purposes of the use of ELSI in the Incomes Report it is only the calibration at the hardship end of the spectrum that is of relevance. The ELSI hardship threshold is set at 6 or more deprivations out of 16 in the calibration list. This gave a population hardship rate of 12% in 2008, just a little above the top of the bottom decile, and close to the income poverty rate using the more stringent 50% of median AHC threshold (13%).
  + The essentials used in the calibration exercise includes such items as: having a meal with meat, fish or chicken (or vegetarian equivalent) at least each second day, buying adequate fresh fruit and vegetables, having suitable clothes for special or important occasions, visiting the doctor, paying the rates and electricity on time, repairing or replacing broken or damaged appliances, not having to put up with the cold or borrow from friends or family for everyday basics.
  + Those in hardship using the ELSI measure have on average 8 deprivations out of the 16 used in the calibration list. This compares with around 1 out of 16 deprivations on average for those in the middle of the distribution (deciles 4, 5 and 6). The level at which the hardship threshold is set is therefore consistent with the relative disadvantage notion in which the poor and those in hardship have ‘resources that are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary living patterns, customs and activities’ (Townsend 1979). It identifies living standards that are below a minimum acceptable standard for New Zealand today, in line with the definition used in the report, through the EU and more widely.
  + The HES includes a more limited set of NMIs than are used in the full ELSI, but the same ranking applies for the shorter form available from the HES data.

**Summary of Findings**

The overview and summary that follows draws out the main findings and key messages from the full report. All the figures and findings in this Summary are in the main report.

The reader is referred to the full report not only for more detailed findings but also for the full description and discussion of the technical and methodological matters that lie behind the figures.

**Glossary**

* **‘income’** in the Incomes Report refers to household income from all sources after income tax is paid and transfers received, and after adjustment for household size and composition (equivalised disposable household income), unless otherwise stated
* **AHC** income is household income after deducting housing costs

**BHC** income is household income before deducting housing costs

* when the income distribution is divided into 100 equal groups each group is called a **percentile** (P) – the top of the first decile is labelled P10 as it is also the top of the 10th percentile
* **poverty rates** are usually reported using AHC measures, for both fixed and moving line thresholds (60% of median) – the reference year for fixed line measures is 2007
* **OTI** is the ‘outgoings-to-income’ ratio for household spending on accommodation. When a household spends more than 30% of its income on accommodation it is said to have a **high OTI**
* income data from threeStatistics New Zealand surveysare used in the report:

**HES** = Household Economic Survey (most of the information is from this)

**NZIS** = New Zealand Income Survey, a supplement of the Household

Labour Force Survey

**SoFIE** = Survey of Family, Income and Employment

* **median** household income is the income of the middle household – for example, if there are nine households, the middle household is the one ranked #5

**mean** household income is the arithmetic average of the incomes of all households

* **2011 HES** is short for 2010-11 HES – interviews ask about income ‘from the previous 12 months’, so for households with interviews early in the cycle the reported income is for 2009-10, and on average it is for around December 2010
* **GFC** = global financial crisis
* **NMI** = non-monetary indicator (sometimes referred to as non-income measures)

**Household incomes**

**1 The impact of the GFC and the economic downturn on household incomes is very clear in the 2011 HES figures: median household income fell by 3% in real terms from 2009-10 to 2010-11.**

* After 15 years of steady growth in median household income (3% pa in real terms from 1993-94 to 2008-09), the impact of the economic downturn on household incomes began to be seen in the 2009-10 figures which showed that there was very little change in the median from 2008-09 to 2009-10. By the time of the 2011 HES, the potential existed for the market incomes of all interviewed households to be impacted, and the median fell for the first time since the early 1990s (-3% in real terms).

**Figure S.1**

**Real household income trends, 1982 to 2011 ($2011)**



* The slight rise in the mean from 2009-10 to 2010-11 compared with the fall for the median reflects the fact that changes in higher incomes (top quintile) have a large impact on the mean but none on the median: average income for the top quintile rose from 2009-10 to 2010-11, largely countering the effect on the overall mean of declines elsewhere.

**2 Median household income grew more quickly than average wages from 1994 to 2009.**

* Median household incomes grew 46% in real terms from the low point in 1994 to 2009. In the same period, average net (after tax) ordinary time wages grew 24% in real terms, and gross by 18%.
* Much of the difference between the growth of wages and the growth of household income is attributable to increased female labour force participation, especially in two parent families with dependent children. This increased the average hours of paid employment for these households and therefore their household income rose more quickly than wages. The incomes of two parent families are very significant in driving changes in the median.
* Just over two of every three two-parent families were dual-earner families from 2007 to 2011, up from one in two in the early 1980s, but down from nearly three in four in 2004.
* The most common arrangement in 2011 was for both parents to be working full-time (43%), whereas in 1982, the dominant pattern (52%) was one in full-time work and the other ‘workless’ (WL), with only 20% having both in full-time work.

**3 Different income groups have fared differently both in the longer run and in recent years.**

* From 1994 to 2004, incomes for middle- to higher-income households grew more quickly than the incomes of the bottom third (around 28% and 15% respectively, in real terms).
* From 2004 to 2007 the Working for Families (WFF) package led to incomes below the median growing more quickly than incomes above the median – the only time in the 25 year period 1982 to 2007 in which this has happened.
* From 2007 to 2009 the growth was relatively even across all income groups (7–9%).
* For the period in which the impact of the GFC and economic downturn is evident in the HES income data (2009 HES to 2011 HES):
* from the 2009 to 2010 HES, incomes for the lower deciles (1 to 4) continued to rise, deciles 5 to 8 remained almost unchanged, and incomes for deciles 9 and 10 fell in real terms – this reflects in the main a drop in self-employment income and investment returns for these high income groups
* from the 2010 to 2011 HES, incomes fell for deciles 3 to 6, and rose for deciles 7 to 10, changes that reflect in the main the impact of reduced employment income for deciles 3 to 6, and some restored investment and self-employment income for the higher-income households
* thus, inequality figures are volatile, falling from 2009 to 2010, then rising again sharply from 2010 to 2011 (see #4 below for more on inequality).

**Figure S.2**

**Real household income trends (BHC), 1982 to 2011 ($2011)**



* When looking at longer-run trends, the choice of starting point makes a difference. For example, when the early 1980s are used as the starting point, a quite different perspective emerges: after the fall from 1988 to 1994, it took until around 2000 for the median to return to what it was in the early 1980s, and it was only in 2007 (after WFF) that low incomes returned to what they were 25 years before. See the full report for detail.
* Household income data from the NZIS give a similar picture on recent trends. Furthermore the median income in the June 2011 quarter (latest available) was 5% lower than the June 2010 quarter, suggesting that there is a good chance of the next HES (2011-12) showing a further fall in median household income.

**Income inequality**

**4 Income inequality rose rapidly from the late 1980s through to the early 1990s, followed by a slower but steady rise through to the early 2000s. It fell from 2004 to 2007 largely as a result of the WFF package, but for HES 2009, 2010 and 2011 key indicators have shown some volatility, reflecting the differing size and timing of the impact of the global financial crisis and economic downturn on different components of market income.**

* The Gini coefficient is a common measure of inequality used internationally. It gives a summary of the income differences between each person in the population and every other person. A higher score indicates higher inequality. In OECD countries scores range from 25 (eg Denmark) to 38 (USA), and even higher (eg Chile 50).
* In the mid 1980s income inequality in New Zealand was low by OECD standards. It grew very rapidly from 1988 to 1992, with higher incomes increasing and lower incomes decreasing in real terms.
* This large change was followed by a slower but steady rise through to the early 2000s, with incomes rising for all income groups, but with greater proportionate rises for higher-income groups.
* From 2001 to 2007 inequality fell a little, reflecting improving employment, reducing unemployment and the impact of the WFF package which boosted incomes for low to middle income households with children.
* Inequality can also be measured using the 80:20 percentile ratio. This measure shows a similar long-run trend for New Zealand, increasing from 2.2 in the late 1980s to 2.6 in 2007.
* For the period in which the impact of the GFC and economic downturn is evident in the HES income data (HES 2009 to HES 2011), the inequality figures are volatile: from 2007 to 2009, the Gini increased a little but the 80:20 percentile ratio fell. From 2009 to 2010 there was a large fall in the Gini, followed by a large rise from 2010 to 2011.
* The volatility reflects the differing size and timing of the impact of the GFC and associated economic downturn on the various components of market income and different parts of the income distribution. For example, the lower figures in 2010 compared with 2007 reflect two changes: a small real gain for lower deciles, and a decline in real incomes for the top two deciles (mainly from lower self-employment income and lower investment returns).
* From the 2010 to the 2011 HES both the 80:20 ratio and the Gini rose significantly. This reflects the rise in incomes in the top third and the fall in incomes in the bottom two thirds of the income distribution described above (see Figure S.2). The rise for higher incomes reflects higher self-employment incomes and some gains in returns on investment, while the fall in income for the lower two thirds is mainly from lower employment income.
* As the graph shows, the Gini can sometimes fluctuate from year to year and the trend becomes clear only on looking back. It will take another survey or two to be able to see where the inequality trend will settle after the shocks from the GFC, the Christchurch earthquakes, and the economic downturn and recovery.
* On the latest OECD figures (c 2008), New Zealand’s Gini score of 33 was close to those of Australia and the UK (34), Japan (33) and Canada (32), and a little above the OECD-34 median (31). Countries such as Denmark, Norway and Sweden have lower than average inequality (Ginis of 25-26). The US score is 38. New Zealand’s Gini score in 2010 was 32 (31.8) and in 2011 it was 34 (34.3).

**5 The tax and transfer system significantly reduces the inequality that would otherwise exist.**

* The graph to the right shows the inequality-reducing impact of taxes and transfers by comparing the Gini scores for household market income and household disposable (after tax and transfer) income for working- age New Zealanders.
* For each HES from 2004 to 2011 the reduction was close to 21%, similar in 2009 to Ireland and Canada, a little less than Australia (23%) and the OECD median (24%). For countries such as Norway, Sweden and Austria, the reduction is in the 30 to 32% range.
* For half of households with dependent children the amount received through welfare benefits and tax credits is greater than or equal to the amount they pay in income tax.
* Single-earner two-child families with less than around $55,000 from wages pay no net income tax. They receive more from WFF tax credits than they pay in income tax and ACC.
* When all households are counted (working age with children, working age without children, and 65+ households), and looking at households grouped in deciles rather than looking at individual households, the total income tax paid by each of the bottom five deciles is less than the total transfers received (tax credits, welfare benefits, NZS and so on). It is only for each of the top five deciles that total income tax paid is greater than transfers received.

**6 Wealth is distributed more unequally than income.**

* Wealth Gini scores are typically two to three times those for income.
* In New Zealand, those in the top income decile receive 25% of gross income; those in the top wealth decile hold 50% of the total wealth.
* New Zealand’s top decile wealth share is similar to those found in many other OECD countries: Australia and the UK (45%), Germany (52%), Canada (53%) and Sweden (58%). For the US it is around 70%.

**7 The share of the total New Zealand income received by the top 1% roughly doubled from the mid 1980s to 2009, a similar trend to that reported in the US, the UK and Australia.**

* Another way of looking at inequality is to track the share of a country’s total income that is received by the top 1%. Such information is not reliably available in sample surveys like the HES, but data based mainly on tax returns has recently been published for many OECD countries by a consortium of academics from France, the UK and the US.
* From the 1920s through to around 2010, English-speaking countries have shown a U-shaped curve for the income share of the top 1% with a lower flattish period from 1950 to the mid 1980s. The proportions have roughly doubled since the mid 1980s, from 5% to 9% for New Zealand and Australia, and to higher levels for the UK (15%) and the US (18%).

**Accommodation costs relative to household income**

**8 The proportion of those in low-income households (the bottom quintile, Q1) with high OTIs remained steady at a little under 40% from 2004 to 2010, much lower than the peak of 52% in 1994. There is evidence of rising housing stress in the second and third quintiles from HES 2004 to HES 2009.**

* In HES 2009, 28% of the population lived in households with high OTIs, a little above the rate for the late 1990s (25%), but much higher than in 1988 (11%). In HES 2011, 25% had high OTIs.
* This rising long-run trend applies to all income groups, but high OTIs are of particular concern for low-income households as this can mean there is insufficient income left to properly meet other basic needs such as food, clothing, transport, medical care and education.
* **Figure S.2** shows that for the bottom quintile (Q1), the proportion with high OTIs steadily reduced from 52% in 1994 to 40% in 2004, as unemployment fell, employment and income rose, and income-related rental policies were introduced in 2000 for those in HNZC houses. It then remained steady at 40% or a little less through to 2011.
* For those in households with incomes in the second quintile (Q2) there has been a steady rise from the 1980s through to 2011, with a strong increase from 2004 to 2009. The rate more than doubled from 1988 (13%) to 2001 (31%), and peaked at 34% in 2009.
* The rise for the third quintile (Q3) from 2004 (18%) to 2010 and 2011 (29%) is the strongest rise for any quintile in recent years.

**Figure S.2**

**Proportion of individuals in HHs with housing cost OTIs greater than 30%, by income quintile**



* From the mid 1990s to 2011, around 12 to 14% of individuals lived in households with an even higher OTI – greater than 40% - up from 5% in the late 1980s. For those in Q1 (bottom quintile), the proportion with these very high OTIs peaked in the mid-1990s at 35% but was lower at 25 to 30% from 2004 to 2011. Over the last decade or so, 16 to 17% of those in Q2 have had an OTI of greater than 40%, compared with 6% in the late 1980s.

**Poverty and hardship trends**

**9 Both the incomes (AHC) and the NMI approaches identify the same population groups that have high and low poverty or hardship rates. However the actual overlap of the ‘income poor’ and ‘those in material hardship’ is only around 50%, a finding in line with international research. This has implications for comparing trends over time.**

* The limited overlap is not unexpected as day-to-day living standards for a household are determined by much more than just current income: for example past income, the state of repair and range of household goods and appliances in the household, the support in cash and kind from people outside the household, the extra demands on the budget from special health costs and high debt servicing commitments all have an impact over and above current income.[[4]](#footnote-5)
* The limited overlap means that only half of those in material hardship are in income poverty: the other half have incomes above the poverty line, but generally below the median. In other words, some of the ‘non-poor’ experience material hardship and some of the ‘poor’ do not. One consequence of this and of the different way each approach looks at disadvantage is that it is possible at times to have income poverty and material hardship moving in different directions.
* The findings reported below show that from the 2009 to the 2011 HES, the child poverty trend was flat, but the material hardship rate increased. One of the main reasons for this difference of trend is that families with children whose family incomes were above the poverty line reported increased hardship, thus increasing measured hardship irrespective of what the income poverty trend was. In addition, some of those with income below the poverty line but not previously in hardship will have experienced a decline in daily living standards as other resources dwindle. For those on very tight budgets it takes only a relatively small loss of income or other resource to tip the household from barely getting by into more serious hardship.

**10 The main feature of trends in income poverty rates from HES 2009 to HES 2011 for the population as a whole and for most population groups is that they remained much the same, despite the impact on incomes of the GFC and the economic downturn (see #11 and #12 below).**

* This is at first sight a counter-intuitive finding – why did poverty rates not increase from 2008-09 to 2010-11?
* Those identified as ‘in poverty’ on the standard measures used are all in households with incomes in the lower quintile, so it is the trends in incomes in this range that are of primary interest.
* The main source of income for around 65% of those in the lower quintile is a main benefit or NZS, and these all either had their incomes protected in real terms (working age) or raised in real terms (65+) as NZS increased as a result of the impact of the income tax changes on the after-tax wage benchmark.
* For the 60% BHC fixed line measure, the above factors explain why measured poverty remained steady at 14% from 2009 to 2011.
* On the 60% BHC moving line measure, there is an additional factor – the median fell a little from HES 2009 to HES 2011, thus lowering the poverty line a little which if anything would lead to a reduction in measured poverty (there was a slight fall but this is not statistically significant).
* The impact of the downturn and the GFC on incomes of low to middle income households is seen mainly in the fall of incomes of households in deciles 3 to 6 – ie those with low to middle incomes **above** the 60% poverty line threshold.

**11 Population poverty rates in 2010-11 HES were much the same as in the previous two years using the fixed line AHC measure (16%), the 60% AHC moving line measure (19%), and the more stringent 50% AHC moving line measure (13%).**

* Trends using fixed and moving line measures reflect different notions of poverty: for the fixed line measure, the focus is on how low-income households are faring relative to a fixed benchmark, whereas for the moving line measure the focus is on how well low-income households are faring relative to the median or middle household.
* Using the AHC fixed line measure (60% of median, 2007 reference year), the population poverty rate fell from 2007 (18%) to 2009 (15%), continuing the downward trend that began from 1994. The rate flattened out at 15-16% from 2009 to 2011.
* The lower rates from 2009 to 2011 using the fixed line measure reflect the fact that average AHC income for low-income households was higher in real terms in 2009 to 2011 than in 2007 and earlier years. The plateauing of the rate at 15-16% from 2009 to 2011 reflects the fact that there was no net improvement in average low incomes in that period, a consequence of the impact of both the economic downturn (no net improvement in AHC incomes) and the protection from the income support system for those in low-paid jobs or not in paid employment.
* Housing costs accounted on average for a much greater proportion of household income for low-income HHs in 2011 than in the 1980s. This increase cancelled out the gains in BHC incomes for low-income households, leaving AHC incomes for low-income households much the same in real terms in 2011 as in the 1980s.
* Using the 60% of median AHC moving line measure, the population poverty rate remained steady at 18-19% from 2007 to 2011, much the same as it was through the mid 1990s, but double what it was in the mid 1980s (9%). The more stringent 50% of median AHC measure shows a similar long-run change: steady at around 13% from the mid 1990s to 2011, double the rate of the mid 1980s (6%).
* Moving line AHC poverty rates remained steady from 1994 to 2011 because AHC incomes for low-income households changed at about the same rate as the change in the median.

**Table S.1:**

**Population poverty rates (%) on four measures**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **AHC** | | | **BHC** |
|  | AHC ‘fixed line’ 60% | AHC ‘moving line’ 60% | AHC ‘moving line’ 50% | BHC ‘moving line’ 60% |
| 1998 | - | 18 | 13 | 16 |
| 2001 | 25 | 20 | 13 | 18 |
| 2004 | 22 | 20 | 14 | 21 |
| 2007 | 18 | 18 | 13 | 18 |
| 2009 | 15 | 18 | 13 | 18 |
| 2010 | 15 | 18 | 11 | 18 |
| 2011 | 16 | 19 | 13 | 17 |

Notes: (1) The reference year for the fixed line figures is 2007.

(2) The BHC 60% moving line measure is the one used by the EU – the median EU population poverty rate in 2010 was 16% on this measure.

(3) The rising rate from 1998 to 2004 on the BHC measure reflects the fact that median household income increased much more rapidly than low incomes did in the period. Without WFF the population poverty rate on this measure would have continued to rise from 2004 to 2009.

* In 2011, the total population figure was 4.31m – on the measures in Table S.1, between 550,000 and 800,000 people were in households with incomes below the low-income thresholds (ie ‘in poverty’).
* In 2011, on the AHC ‘fixed line’ 60% measure, there were 690,000 (16%) below the low-income threshold (ie ‘in poverty’), down from 930,000 (25%) in 2001.

**12 Poverty rates for children in 2010-11 HES were much the same as in the previous two years using the fixed line AHC measure (21%), the 60% AHC moving line measure (25%), and the more stringent 50% AHC moving line measure (16%).**

* Trends using fixed and moving line measures reflect different notions of poverty: for the fixed line measure, the focus is on how low-income households are faring relative to a fixed benchmark, whereas for the moving line measure the focus is on how well low-income households are faring relative to the median or middle household.
* Using the AHC fixed line measure, the child poverty rate fell strongly from 1994 to 2007, but plateaued from 2007 to 2011 at 21-22%. This is around the rate that prevailed in the 1980s if the same 2007 reference year standard is used.
* BHC incomes in 2011 were higher than in 2007 for low-income households with children, but so were housing costs – these two factors cancelled each other out to give the ‘no change’ outcome on the fixed line AHC measure.
* On the AHC moving line measure, the child poverty rate increased from 22% in 2007 to 25-26% for 2009 to 2011, reflecting the rise in the proportion of households with children which had high housing costs relative to income.
* On this moving line measure, the 2011 child poverty rate (25%) is around double the rate that prevailed in the mid 1980s (13%). On the more stringent 50% of median AHC measure a similar long-run change has occurred: steady at around 16% from 2007 to 2011, also double the rate of the mid 1980s (8%).
* The longer-run findings on child poverty reflect the fact that AHC incomes in 2011 for low-income households were around the same as they were in the early 1980s in real terms, but that relative to the median the incomes of lower-income households with children had fallen away (ie higher inequality in 2011 than in the mid 1980s).

**Table S.2:**

**Child poverty rates (%) on four measures**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **AHC** | | | **BHC** |
|  | AHC ‘fixed line’ 60% | AHC ‘moving line’ 60% | AHC ‘moving line’ 50% | BHC ‘moving line’ 60% |
| 1998 | - | 28 | 20 | 20 |
| 2001 | 37 | 30 | 21 | 24 |
| 2004 | 31 | 28 | 19 | 26 |
| 2007 | 22 | 22 | 16 | 20 |
| 2009 | 22 | 25 | 18 | 19 |
| 2010 | 22 | 26 | 16 | 20 |
| 2011 | 21 | 25 | 16 | 19 |

Notes: (1) The reference year for the fixed line figures is 2007.

(2) The BHC 60% moving line measure is the one used by the EU – the median EU child poverty rate in 2010 was 21% on this measure.

(2) The rising rate from 1998 to 2004 on the BHC measure reflects the fact that median household income increased much more rapidly than low incomes did in the period – without WFF the child poverty rate on this measure would have continued to climb to around 30% by 2009.

* In 2011, there were 1.07m dependent children (under 18) – on the measures in Table S.2, between 170,000 and 270,000 children were in households with incomes below the low-income thresholds (ie ‘in poverty’).
* In 2011, on the AHC ‘fixed line’ 60% measure, there were 230,000 children (21%) in households below the low-income threshold (ie ‘in poverty’), down from 380,000 (37%) in 2001.

**13 The incomes approach for assessing relative material wellbeing has much to offer, but cannot on its own give a full picture – a more comprehensive perspective is made possible by using information from non-monetary indicators (NMIs) as well.**

* The incomes approach has some well-known limitations for assessing material wellbeing of households:
* it does not take into account the impact of household assets and financial savings which can buffer against fluctuations in household income
* it does not capture the impact of unusual costs (such as high health costs or high debt servicing costs), nor of assistance in cash or kind from outside the household
* international poverty comparisons are especially limited because of differing average incomes across the countries being compared – see #24 below
* A non-income approach using NMIs can provide supplementary information to give a more complete picture as well as providing more robust findings where the incomes approach is especially limited. This information can be used in its own right or together with income data to monitor the material wellbeing of New Zealanders.
* Three types of findings using NMIs are relevant to the central themes of this report. The first two are summarised below (#14 and #15). For the third and other findings, see the main report:
* trends in material hardship, using NMIs on their own
* trends in material hardship for those with low household incomes
* the different living conditions for those in the lowest income quintile compared with those for the majority of households.

**14 Material hardship rates increased for some groups from 2007 to 2011, notably for children and older working age adults living on their own.**

* The hardship threshold for the measure used in Figure S.3 is a relatively stringent one, giving a 2007 population hardship rate of 10%. The income poverty rate using the 50% of median AHC poverty threshold was 13% in 2007.
* **Figure S.3** shows the trends in material hardship rates from 2007 to 2011 for selected population groups and for the population overall (up from 10% to 13%). The overall rise is not unexpected given the impact of the GFC and the economic downturn.

**Figure S.3**

**Rising material hardship for children and older one-person households, 2007 to 2011**



* For some groups, hardship rates remained much the same in 2011 as in 2007, but for others hardship rates increased:
* The hardship rate for older New Zealanders remained relatively low and flat at 4 to 5%, while for children it rose from 15% in 2007 to 21% in 2011.
* Hardship rates for older working-age adults living on their own (45 to 64 yrs) also increased, from 10% in 2007 to an average of 15% in 2010 and 2011, while for working age couples without dependent children, the hardship rate was low and steady at 3 to 4%.
* In #11 above it is noted that income poverty rates for children remained much the same from 2009 to 2011, yet here material hardship rates are reported as rising. One of the main reasons for this difference of trend is that families with children with family incomes above the poverty line reported increased hardship, thus increasing measured hardship irrespective of what the income poverty trend was. This is discussed further in #8 above. In addition, material hardship rates are affected by many more factors than just current income, as discussed in the Background section of this Summary.
* The same sort of hardship trends shown in Figure S.3 are found when using higher and lower thresholds, and also when using a quite differently configured index. The actual estimates of levels of hardship in 2011 are of course dependent on the thresholds used but the trend directions (whether upwards or flat) are robust to the choice of threshold and index. For example, using a lower threshold (more stringent), the hardship rate for children increased from 13% to 18% from HES 2007 to 2011, and using a different index the rise was from 16% to 22%.

**15 The proportion of those who live in households whose incomes are below the AHC 60% of median poverty line and who are also experiencing material hardship (as described in #14 above) was much the same for the population as a whole from 2007 to 2011, but increased for children.**

* **Figure S.4** shows the trend in the size of the overlap group from 2007 to 2011 for the population as a whole and for children (up from 7% to 11%).
* In times of economic growth where the rising standard of living is to some degree shared across the population, the trend can be expected to be unambiguously downwards. The upward trend reflects above all the impact of the shock of the GFC and the economic downturn.

**Figure S.4**

**Trends in the proportion of those who are both income poor and materially deprived, 2007 to 2011**



* For those in hardship but with incomes reasonably above the poverty line there are grounds for expecting living standards to improve over time provided their incomes do not decline and that there are no ongoing special demands on the budget. However for those in hardship who also have low incomes, there is very little chance of improvement of living standards until incomes rise and stay up.

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[From here on the poverty measure used is the Social Report’s AHC 60% of median fixed line measure, unless otherwise stated.]

**More on income poverty for population groups, especially children and older New Zealanders**

**16 Poverty rates for children in beneficiary families are consistently around 65-75%, much higher than for children in families with at least one adult in full-time employment (9% in 2011).**

* Since the benefit cuts in 1991, 65-75% of children in beneficiary families have been identified as ‘poor’ in each HES. The figure was close to 70% for 2004 to 2009, and 65% in 2011.
* For beneficiary families with children, AHC incomes from main benefits, the Family Tax Credit and the Accommodation Supplement are almost always below the AHC 60% fixed line threshold.
* Why is the reported poverty rate for beneficiary children not therefore 100%? There are typically 20 to 30% of beneficiary children living in households in which over the 12 months before the HES interview there is market income as well, either from their parent(s) or from other employed adults. This extra income is enough to take total household income ‘over the line’.
* In June 2011 there were 234,000 children in beneficiary families (22% of all dependent children). Around 25% of children live in households in which there is no adult in full-time employment.

**17 Nevertheless, on average from 2007 to 2011, two in five poor children (40%) were from households where at least one adult was in full-time employment or was self-employed, down from around one in two (50%) before WFF (2004).**

* The WFF package had little impact on poverty rates for children in beneficiary families (around 70% from 2004 to 2009), but halved child poverty rates for those in working families (21% in 2004 to 11% in 2007 and close to the same since then).
* Because there are many more children in working families than in workless or beneficiary families, the proportion of poor children who come from working families is much higher than the poverty rates themselves at first sight suggest.
* On average from 2007 to 2011, two in five poor children came from working families where at least one adult was in full-time employment or was self-employed, down from just over one in two before WFF.
* The New Zealand proportion is not unusual. In OECD countries (on average), around half of poor children come from working families.

**18 Children in sole-parent families have a higher risk of hardship (46%) than those in two- parent families (12%):on average in 2010 and 2011 around half of poor children lived in sole-parent families and half in two-parent families.**

* Around 90% of sole-parent families had incomes below the overall median in 2011 and 2010, compared with 55% for two-parent families with dependent children.
* The higher poverty rate and low family incomes for sole-parent families reflects two things: (a) there is only one potential income earner in the family, and (b) the full-time employment rate for sole parents is relatively low (35% in 2009). 73% of sole parents were in receipt of a main benefit in June 2009.
* From 2007 to 2011 around half of poor children were from sole-parent families, higher than in the early 1990s (40%) and much higher than the late 1980s (20%). This long-run change reflects first of all the cutting of benefit rates in 1991, but also both the higher proportion of children living in sole parent families in 2007-2011, and the higher proportion of two parent families which are dual-earner families in 2007-2011.
* Around one in three sole-parent families live in households with other adults. Child poverty rates for children living in these sole-parent families (22%) are much lower than for those in sole-parent families living on their own (60%) because of the wider household financial resources available to them, both directly and indirectly.

**19 Poverty rates for Maori and Pacific children are consistently higher than for European/Pakeha children: on average from 2009 to 2011, just under half of poor children were Maori or Pacific.**

* On average over 2007 to 2011, around one in six European/Pakeha children lived in poor households**,** one in four Pacific children**,** and one in three Maori children (double the rate for European/Pakeha children).
* The higher poverty rate for Maori children is consistent with the relatively high proportion of Maori children living in sole-parent beneficiary families and households (eg around 43% of DPB recipients were Maori in the 2007 to 2011 period).
* On average from 2009 to 2011, just under half (47%) of poor children were Maori or Pacific: for children overall, around 34% were Maori or Pacific.
* The sample size is too small to allow more precise poverty rates to be given for the smaller ethnic groupings.

**20 Seven out of ten poor children live in rental accommodation.**

* Around 40% of children live in private rental or HNZC accommodation, and 60% in privately owned homes (80% of which have mortgage payments).
* In both 2010 and 2011 the poverty rate for children in HNZC accommodation was around 50%, around 30% for those in private rental accommodation, and 11% for those in privately owned homes.
* 70% of poor children live in rental accommodation (50% private rental, 20% from HNZC).

**21 Poverty rates for working-age adults living on their own trebled from 1984 to 2007 on the AHC fixed line measure, and remained high in 2011 (35%)**

* In 2011, one-person working-age households had the second highest poverty rate by household type (after sole-parent households) – the rate was high in itself (35%) and high relative to the population as a whole (16%), using the AHC fixed line measure.
* The poverty rate for this group trebled from 1984 (10%) to 2007 (30%).
* Within this group, those aged 45 to 64 years have a higher income poverty rate than the younger group (aged 18 to 44 years).Based on a measure which uses the non-monetary indicators in the HES the hardship rate increased from 14% to 24% for this older group who live on their own. See #23 below for more on this.

**22** **While the value of New Zealand Superannuation (NZS) relative to wages was steady from 2004 to 2011, its value relative to median household income declined to a low of 48% in the 2008-09 HES before rising to 53% in the 2010-11 HES.**

* While NZS for a couple remained steady at close to 66% of net average ordinary time earnings from 2004 to 2011, its value relative to median household income declined from 58% in 2001 to 48% in 2009.
* This relative decline reflects the fact that median household income rose quite strongly in real terms from 2001 to 2009 (+23%), while NZS increased only modestly in real terms.
* From HES 2009 to HES 2011 the value of NZS recovered to around 53% of the median. The turnaround reflects (a) the real decline (-2%) in median household income, and (b) the increase in net NZS from the tax cuts in 2008, 2009 and 2010.
* The vast majority of older New Zealanders remain heavily dependent on NZS for their income:
* 40% have next to no other income, and the next 20%, those in the middle quintile, receive 85% of their income from NZS
* around half of older New Zealanders receive less than $100 pw from non-government sources (eg employment, private superannuation, other investment returns).
* If a 50% of median BHC poverty measure is used (as the OECD does), then the reported poverty rate for older New Zealanders shows a sudden and large increase from close to zero in 2001 to 22% in HES 2009, followed by a similarly large decrease to 13% for 2010 and 11% for 2011.
* This sudden rise and fall of the income poverty rate for older New Zealanders on this measure can easily leave the misleading impression that there has been a very large and sudden change for the worse in the actual living conditions of many older New Zealanders, followed by an equally sudden improvement. Neither conclusion is warranted. The rapid changes simply reflect the strong clustering of household incomes for older New Zealanders at and just above the level of NZS (the ‘pensioner spike’) in the New Zealand income distribution.
* This sort of anomaly is one of the reasons behind the Incomes Report’s advocacy for giving priority to AHC incomes and NMIs for assessing the material wellbeing of households, especially for monitoring changes over time, and for comparing the relative positions of different population groups.

**23 Income poverty rates for older New Zealanders still remain lower than those for other age groups when using incomes after deducting housing costs.**

* In 2011, the 60% AHC fixed line poverty rate for the 65+ age group was 7%, compared with 14% for 45-64 year olds, 15% for 18-44 year olds, and 21% for children (aged 0-17 years).
* Similar relativities are shown using the more stringent 50% of median moving line AHC measure: 5%, 12%, 12% and 16% respectively.
* Hardship rates among the 65+ group are higher for those on their own than for couples. For example in HES 2011 the rates were 11% and 5% respectively.
* These relativities are not new, although the gap between children and older New Zealanders is smaller in 2011 than it was in 1990s and is more like what it was in the 1980s.
* The lower hardship rate for older New Zealanders reflects the mix of universal public provision (mainly NZS) and the private provision built up by most of the current cohort over their lifetime. A key component of this private provision is mortgage-free home ownership which is relatively high among the current cohort.

**24 International comparisons**

* The OECD and EU publish international league tables that rank countries on their income poverty rates using 50% and 60% of median poverty lines respectively.
*  On the latest available figures (OECD, 2008-09 and EU, 2009-10), New Zealand’s population and child poverty rates are close to the overall medians for both measures.
* These league tables in effect compare how far low-income households are from the median for each country. They can be seen as comparing inequality levels in the lower half of the income distribution.
* The information is however often used as if the rankings indicate the extent of material hardship assessed against a common absolute international standard. Thus a country like the Czech Republic with a child poverty rate of 10% is considered to be ‘doing better for its children’ than, say, Canada (15%), whereas in daily living the ‘poor’ in Canada are much better off than many ‘non-poor’ in the Czech Republic.
* For meaningful international comparisons of material hardship it is better to use non-monetary indicators (NMIs). Using the official 2008 NMI-based EU deprivation index, New Zealand ranked well for older people (65+) and not so well for children – a finding consistent with that produced using the AHC income measure.

**Income mobility and poverty persistence**

**25 Longitudinal data have recently become available from Statistics New Zealand’s Survey of Families, Income and Employment (SoFIE). This allows us to track the household income of the same group of individuals over several years rather than having a new group of people each survey as happens for the HES and other repeated cross-sectional surveys.**

* Interviews for the first wave of data collection for SoFIE began in October 2002. Seven waves of SoFIE data became available in late 2011 and University of Otago (Wellington) researchers published a descriptive report in June 2012.[[5]](#footnote-6)
* The research tracks individuals and reports how the income of their households changes over time.
* There are two ways that the household income of individuals can change over time:
* their own income or that of other adults in the household changes
* the composition of the household changes (eg a new child is added, a partner moves out or dies, an adult child moves back in with a parent, a cousin and her young child move in).
* Two sets of findings of relevance to the central themes of the Incomes Report are those about income mobility and low income (poverty) persistence.
* This is the first time that findings of this sort have been available for New Zealand.

**26 Income mobility**

* A common way to look at income mobility is to rank individuals by their household incomes, group them into deciles or quintiles, and then see how many move from their original position in the first wave to another position in a later wave. Some go up, some go down, and others remain in much the same place.
* Over the seven SoFIE waves (six years) there is considerable relative movement. While some move quite a distance, much of the movement is relatively short-range. Patterns for New Zealand are much the same as for countries like Australia, Canada, the UK, Germany, France, Belgium and Ireland.
* For example, after seven waves, just over half the population (54%) were still in either the same decile they started in or in one either side. The figure for the UK was 53%.
* Looking just at those aged 0-57 years in wave one:[[6]](#footnote-7)
* of those starting in deciles 1-3, just over half were still there in wave 7, a quarter had moved up to deciles 4 and 5, and a quarter into the top half (deciles 6-10)
* of those starting in the middle of the income distribution (deciles 4-6), 43% were still there in wave 7, 35% had moved up to deciles 7-10, and 23% had moved down
* of those starting in the top decile, 63% were still there or were in decile 9 in wave 7.
* Income mobility can also be looked at in terms of changes in real (CPI-adjusted) income. On this basis it was found that (during a period when cross-sectional incomes were growing on average for all deciles):
* 20% of those starting in the lowest quintile experienced a net decrease in real income over the 7 waves, 30% doubled their income, and the remaining 50% all experienced real increases of substance, albeit less than double
* overall, 38% experienced real declines, and for a third of these the decline was significant (40%+).
* All of this serves as a reminder of the great variety of income trajectories that different individuals have, a perspective not available when using cross-sectional surveys.

**27 Poverty persistence**

* Cross-sectional income surveys (like the HES) can tell us how many people are in low income (income poverty) at a point in time. They cannot tell us how long people have been in low income nor how much movement in and out of low income there is over time. Longitudinal data can do that.
* Using the 50% of median gross household income threshold produces a cross-sectional population poverty rate of around 15% in each wave. The longitudinal SoFIE research found that:
* 39% experienced income poverty in at least one wave out of seven
* 17% were in low income for at least three out of seven waves
* 2% were in low income for all seven waves.
* Counting the number of waves for which people are below a given poverty line is a straightforward approach. One of its limitations is that it cannot distinguish between those on the one hand who move out of low income and go well above the line and those on the other hand who go from just below to just above the line and vice versa.
* One way to get a better understanding of these movements and to deal with the issue of ‘boundary hoppers’ is to look at people’s average income over the seven waves and to compare that with the average poverty line over the seven waves. People whose average income is below the average poverty line over the seven waves are said to be in chronic poverty.
* By examining the relationship between those in chronic poverty and those in current poverty in each wave, a useful set of findings emerges that allows us to look at cross-sectional income poverty findings with longitudinal eyes.
* The chronic poverty rate is typically around 80% of the current poverty rate, a little higher for children and Maori. However, the overlap between the two groups is not 100%. Some who are in current low income in a particular wave are not in chronic low income. Similarly, some who are in chronic low income are not in current low income in every wave.
* **Figure S.5** summarises the relationship between current and chronic low-income. It shows the overlap between the two groups (the ovals), and also the full compositional and rate picture (chronic and current) in the rectangles.

**Figure S.5**

**Current and chronic poverty rates, and overlap: population, 50% gross threshold**

**current and chronic**

**current only**

**chronic only**

**composition, (current = 100%)**

**50% 50% +20%**

**rate**

Current income poverty rate = **15% +4%**

* Using the 50% of median gross income threshold gives an average population poverty rate of around 15%. In any given wave, half of those in current low-income are also in chronic low-income. In addition, around 20% (of the number in current low income) are in chronic low-income only and are not picked up in the traditional current figure.
* Thus, looking at cross-sectional rates with longitudinal eyes:
* in any wave, around half are in both chronic poverty and current poverty, the other half being only in current poverty (ie more temporary or transient poverty)
* the people in this more transient group change a lot over seven waves which is why it turns out that the number in low income at least once in seven waves is more than double the number in low income at any one time (see above)
* in addition to those identified as being in current poverty in a wave there is another one in five (ie 3% of the whole population (20% of 15%)) who are in chronic but not current poverty
* for children, 60% of those in current poverty are also in chronic poverty, and there are another one in five in chronic but not current poverty at each wave
* very similar findings have been produced for the UK and Australia.
* This picture is in some ways similar to the one we have for the beneficiary population. At any given time, a majority of those on benefit will have been on benefit for many years. A smaller number are new entrants or fairly temporary recipients. Over several years the number who have been on benefit at any time is much greater than the number on benefit at a particular point in time because of the cumulative effect of these temporary recipients.

**Next update**

* Mid 2013, using the 2011-2012 HES.

**Section A**

# Introduction

This introduction outlines the core concepts and assumptions used in the report. More detail is provided on selected issues in the Appendices as indicated. The matters covered in this section are:

* gross and disposable household income
* equivalised disposable household income and (potential) living standards
* equivalisation: comparing incomes across different household and family types
* the income sharing unit and the unit of analysis for the presentation of results
* the bottom income decile: income not a reliable indicator of economic wellbeing
* housing costs
* data source: the Household Economic Survey (HES)
* convention for naming HES years
* HES years used in the report
* treatment of negative incomes
* adjusting for inflation
* ethnicity
* household and family types
* reliability of results
* summary of key measures used for reporting on income inequality and poverty.

**Gross and disposable household incomes**

Gross household income is the total of all income before tax for the previous 12 months from all sources for all household members aged 15 years or over. Gross household income is calculated directly from the income information given by respondents in the survey.[[7]](#footnote-8)

Disposable household income is the total of all after-tax income for all household members. To calculate disposable income Statistics New Zealand uses the Treasury’s tax-benefit microsimulation model (Taxwell[[8]](#footnote-9)) to estimate tax liabilities for individuals and benefit units. The resulting personal disposable incomes are summed to give disposable household income. Disposable household income is sometimes referred to as net income or after-tax cash income.

This report provides only limited information on gross household income and (unequivalised) disposable household income.

**Equivalised disposable household income and (potential) living standards**

The primary income measure used in the report is disposable household income for the twelve months prior to interview, adjusted for household size and composition. This is referred to as equivalised disposable household income and is the international standard income measure for reports of this type. The measure is usually taken as an indicator of a household’s access to economic resources or of its consumption possibilities, and therefore as *a proxy measure of a household’s material wellbeing or living standards*.

While current household income is a very significant contributor to household living standards and material wellbeing, other factors are important too. Some of these can be taken account (eg household size and composition through an equivalising process), but there are others where a simple compensating adjustment between households is not feasible.

**Figure A.1** shows at a high level the different factors that can impact on living standards. The level and quality of financial and physical assets, assistance from support networks and government services, and special demands on the household budget can all have significant positive or negative effects on living standards, over and above the effect of current income. As these factors fall differently across different households, households with the same or similar equivalised incomes can have different living standards. For these reasons, current household income, even when adjusted for household size and composition, can only be a rough indicator of actual household living standards. [[9]](#footnote-10) [[10]](#footnote-11)

**Figure A.1**

**Same current income – different living standards (material wellbeing)**

Govt services and subsidies

Budgeting knowledge, skills and commitment

**Current HH income**

**(last 12 months)**

- adjusted for HH size andcomposition

+

+

+

**Living standards**

(material wellbeing)

+

Financial

and

physical

assets

Income, gifts, etc received in earlier years

–

Contributions to assets and current budget not picked up by ‘income’

eg - HH production

- help from outside the HH

±

Special demands on the budget (especially for those with low current incomes and limited financial assets)

eg - health/disability costs

- high accommodation costs

- high debt servicing

- unexpected bills

+

Differences in prices for different geographical areas

Another way of looking at the relationship between household income and living standards is to understand equivalised disposable income to be *an indicator* that allows comparisons *of the* *potential living standards* of different households – that is, comparison of the relative levels of consumption of goods and services that individuals could attain given the disposable income of the household in which they live, *all else being equal*. This recognises that equivalisation takes (reasonable) account of two major differences between households (size and composition), but not of other special demands on the budget, differences in wealth and assistance from outside the household, and so on. All else is in fact not equal.

Whether understood as a rough but readily available proxy for actual household living standards or as a measure of potential living standards (all else being equal), equivalised household disposable income is an important measure to understand and report on. For modern governments, direct income support is one of the most straightforward policy levers available for poverty alleviation. Changes over time in the overall distribution of household income and in the relative position of subgroups can give insight into changes in the social and economic fabric of the country and inform policy evaluation and development. Income information is regularly collected, easily manipulable and relatively easy to understand.[[11]](#footnote-12)

## Equivalisation: comparing incomes across different household and family types

Equivalisation reflects the two common sense notions that:

* a larger household needs more income than a smaller household for the two households to have similar standards of living (all else being equal), and
* there are economies of scale as household size increases.

Most sets of equivalence ratios also assume that children cost less than adults.

Equivalising is a means of standardising household incomes in terms of household size and composition so that the relative material wellbeing of households of different sizes and compositions can be more sensibly compared. The adjustment also makes comparisons over time more realistic because it takes into account the changes over time in the composition and average size of households.

While considerable research has been undertaken to try to estimate appropriate values for equivalence scales, no universally accepted ‘correct’ set of equivalence ratios has emerged, even when household size and composition are the only factors being considered.[[12]](#footnote-13)

The primary equivalence scale used in the analysis in this paper, the 1988 Revised Jensen Scale, is a scale that (by design) sits in the middle of the range of scales in the literature of that time. It is very close to what has come to be known as ‘the modified OECD scale’ which is now used by Eurostat, Australia, the United Kingdom and others. Different equivalence scales are used for the international comparison sections, in line with the conventions of the sources. Further discussion of the effect of the choice of equivalence scale is provided in **Appendix 3**.

This paper uses the single person household as the reference household – ie a single person unit has an equivalence scale value of 1.0. A household of a couple and no children (2,0) is rated at 1.54, meaning that such a household is considered to have 1.54 equivalent adults. A two adult, two child household is rated as 2.17. This means that this household type (2,2) is rated as having 2.17 equivalent adults: it requires 2.17 times the income of a single person household to have the same purchasing power or to achieve a comparable material wellbeing, all else being equal.

Other commonly used reference households are the couple, the couple with one child and the couple with two children. The choice of reference household affects the numerical value of equivalised income but makes no difference to any of the distributional, inequality and hardship analysis that follows.

**Table A.1** provides a look-up chart to convert equivalised dollars (dollars per equivalent adult) to ordinary dollars and vice versa for selected households.

The first row of figures identifies the family or household type: (1,2) is a one adult, two child household, and so on. The second row gives the values of the equivalence ratios used. The body of the table indicates, for example, that a (2,2) household needs around $28,000 to have the same purchasing power as a (1,1) household with an income of around $18,000. Each has an equivalised income of $13,000 (or, to put it another way, each household has an income of $13,000 per equivalent adult).

**Table A.1**

**Conversion of equivalised dollars to ordinary dollars for low-to-middle-income households**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Equiv income** | | **Income for families and households of various types**  **in ‘ordinary dollars’** | | | | | | | | | | | | | | | | | | | |
|  | | **(1,0)** | | **(1,1)** | | **(1,2)** | | **(1,3)** | | **(2,0)** | | **(2,1)** | | **(2,2)** | | **(2,3)** | | **(2,4)** | | **(3,0)** | |
|  | | 1.00 | | 1.40 | | 1.75 | | 2.06 | | 1.54 | | 1.86 | | 2.17 | | 2.43 | | 2.69 | | 1.98 | |
| **$10,000** | | 10,000 | | 14,000 | | 17,500 | | 20,600 | | 15,400 | | 18,600 | | 21,700 | | 24,300 | | 26,900 | | 19,800 | |
| **$11,000** | | 11,000 | | 15,400 | | 19,300 | | 22,700 | | 16,900 | | 20,500 | | 23,900 | | 26,730 | | 29,600 | | 21,800 | |
| **$12,000** | | 12,000 | | 16,900 | | 21,000 | | 24,700 | | 18,500 | | 22,300 | | 26,000 | | 29,160 | | 32,300 | | 23,800 | |
| **$13,000** | | 13,000 | | **18,300** | | 22,800 | | 26,800 | | 20,000 | | 24,200 | | **28,100** | | 31,600 | | 35,000 | | 25,800 | |
| **$14,000** | | 14,000 | | 19,700 | | 24,500 | | 28,800 | | 21,600 | | 26,000 | | 30,400 | | 34,000 | | 37,700 | | 27,700 | |
| **$15,000** | | 15,000 | | 21,100 | | 26,300 | | 30,900 | | 23,100 | | 27,900 | | 32,600 | | 36,500 | | 40,400 | | 29,700 | |
| **$20,000** | | 20,000 | | 28,100 | | 35,000 | | 41,200 | | 30,800 | | 37,200 | | 43,400 | | 48,600 | | 53,800 | | 39,600 | |
| **$25,000** | | 25,000 | | 35,100 | | 43,800 | | 51,500 | | 38,500 | | 46,500 | | 54,000 | | 60,800 | | 67,100 | | 49,400 | |
| **$30,000** | | 30,000 | | 42,100 | | 52,400 | | 61,600 | | 46,100 | | 55,900 | | 64,800 | | 72,900 | | 80,600 | | 59,300 | |
| **$35,000** | | 35,000 | | 49,200 | | 61,200 | | 71,800 | | 53,800 | | 65,200 | | 75,600 | | 85,100 | | 94,000 | | 69,200 | |
| **$40,000** | | 40,000 | | 56,200 | | 69,900 | | 82,100 | | 61,500 | | 103,700 | | 74,600 | | 86,400 | | 97,200 | | 79,000 | |
| **$45,000** | | 45,000 | | 63,200 | | 78,600 | | 92,400 | | 69,200 | | 83,900 | | 97,100 | | 109,400 | | 120,800 | | 88,900 | |
| **$50,000** | | 50,000 | | 70,236 | | 87,367 | | 102,641 | | 76,844 | | 93,200 | | 107,900 | | 121,500 | | 134,300 | | 98,800 | |

## This table uses the 1988 Revised Jensen equivalence scale, as does the rest of the report, except where it is stated otherwise.

## A (2,3) household is one comprising 2 adults and 3 children (aged under 18 years), and so on.

## Income sharing unit and the unit of analysis for the presentation of results

The household is used as the income sharing unit (or unit of income aggregation). All individuals in the household are assumed to benefit reasonably equally from the combined income of the household and to share a similar standard of living. Clearly this is not always the case but it is “defensible as [an approximation] to a very complicated reality of intra- and inter-household patterns of sharing” (Bradbury, 2003:25).

The use of the household as the income sharing unit is in line with international standard practice.[[13]](#footnote-14)

The unit of analysis for reporting purposes is the individual. The household’s equivalised disposable income is attributed to each household member as an indicator of the individual’s (potential) living standards and is used for ranking purposes.[[14]](#footnote-15)

For subgroup analysis individuals are grouped by their own characteristics (eg age), or by the characteristics of their household or family type (eg two-parent, ‘workless’, and so on). In all cases the individual is ranked or classified according to the income of their household as this gives the best income-based indication of their economic wellbeing, in line with the central purpose of this report.

A key subgroup in this report is dependent children. Dependent children are all those under 18 years, except for those 16 and 17 year olds who are in receipt of a benefit in their own right or who are employed for 30 hours or more a week.

For international comparisons using OECD data, children are taken as all those under 18 years. The use of ‘0 to17 years’ rather than ‘dependent children’ makes virtually no difference to the reported results.

The economic family unit (EFU)

An alternative income sharing unit that has sometimes been used is the benefit eligibility unit, often referred to in New Zealand as the economic family unit or EFU. The EFU approach allows for only three ways to group individuals when it comes to income sharing: couple only, two parent with dependent children, and sole parent with dependent children. All other individuals are treated as if they are ‘on their own’ even when they share (to varying degrees) in the general resources of a larger household. The Ministry of Social Development used the EFU approach in incomes analysis from 2002 to 2006 but reverted to the household approach in 2007 as fewer anomalies are created by this approach. It also brought New Zealand back into line with international practice.[[15]](#footnote-16)

## Rules for determining household membership

## A household for the HES relates to a ‘private household’ which is defined as:

## either a single individual living in a dwelling who makes his or her own housekeeping arrangements

## or a group of people living in or sharing a dwelling for four or more days a week, who participate in some measure at least in consumption of food purchased for joint use by members (or who, if not dependent upon a household member, contribute some portion of income towards the provision of essentials of living for the household as a whole).

## The following are included in the household for survey purposes:

## any person who, because of the nature of his or her occupation cannot spend as many as four nights a week in the household but who makes a financial contribution to the running of the household and is not currently a member of another New Zealand resident private household in a permanent dwelling

## any person at boarding school or other non-private institution who usually spends holidays or other continuous periods at home, and whose living costs are subsidised by at least 50 percent by the household

## any child whose custody is shared between two households but who spends more than half their time in the sampled household – where custody or care is shared equally between two households, the child should be included in the sampled household only if they are there the night the household questionnaire is completed.

## The bottom income decile: income not a reliable indicator of material wellbeing

While household income is far from perfect as a measure of material wellbeing it is generally a useful enough indicator. There are however some households for whom it would clearly be very misleading to take their incomes as even a rough and ready indicator of their material living standards. This assessment is based on comparisons with income information from other surveys and known benefit levels, and from HES expenditure information: some households have implausibly low incomes, well below the minimum social support levels; some have reported expenditures well above their reported incomes.

Some of these households will be declaring income from self-employment which can legitimately be much lower than reported expenditure – the declared income may even be negative. Others will have accurately reported their incomes but will have had access to loans, gifts or ‘savings’ in one form or other which have been used for purchasing goods and services. Others will have intentionally or unintentionally under-reported their incomes.

Households with implausibly low incomes per se are of course found only in the bottom decile (bottom 10% of the income distribution). The reported incomes of many at the bottom are less than the incomes provided by government cash benefits or New Zealand Superannuation. This points to mis-reporting or data entry errors.

Those reporting expenditure much higher than reported income are found in most parts of the income distribution but the bulk of them are found in the bottom decile. For example, of all those in households reporting expenditure which is more than three times their income, around 70% to 80% are in the bottom income decile in any survey year.

This noise in the lower end of the income distribution has only a limited impact on most of the indicators used in this report. For example, it does not impact greatly on the medians as the bulk of households in question would remain below the median even if their expenditures were taken as better estimates of their actual income than what was reported as such. Nor does it impact significantly on trends over time for either poverty or inequality indicators.

In general the impact is significant where the indicator is highly dependent on the incomes of those in the bottom decile or a little above it. This means, for example, that point-in-time poverty levels are noticeably affected when poverty lines are set at levels lower than the 50% of median line (eg 40% of median). In addition, the level and trend of the P10 (10th percentile) line and measures of poverty depth (see Section E) are also significantly affected.

As appropriate, the report makes comment on the likely impact of the noise at the bottom end of the income distribution in the text associated with affected indicators.

**Appendices 8 and 9** provide a fuller discussion of the issue.

## 

## Housing costs

The report provides information based on household income both before deducting housing costs (BHC) and after deducting housing costs (AHC).[[16]](#footnote-17)

Housing costs include all mortgage outgoings (principal and interest) together with rent and rates for all household members.[[17]](#footnote-18) Repairs and maintenance and dwelling insurance are not included. Any housing-related cash assistance from the state (eg Accommodation Supplement) is included in household income. These housing costs make up on average around a quarter of the budget for working-age low-income households. For many with low incomes, housing costs make up much more than a quarter of the budget.

For reporting on overall trends in household income and on income inequality, there is value in seeing the similarities and differences between the two measures (BHC and AHC) and in understanding the differing stories they tell. For reporting on trends in income poverty over time and for comparing hardship across subgroups of the population, the report recommends the use of AHC measures, although both BHC and AHC are reported.

The use of BHC measures is generally taken as the self-evident starting point. They are important for assessing the adequacy of market and social assistance incomes for delivering a minimum acceptable standard of living. Their use also ensures that the material wellbeing of those on low incomes who choose to live where accommodation is less expensive (eg some rural areas) or who live in ‘cheap’ substandard accommodation is not left overstated (relatively) as the use of an AHC approach on its own can do.

The rationale for the report’s position that AHC analysis should also be reported, and that the AHC approach is preferable for subgroup comparisons in New Zealand is that:

* First, variations in housing costs do not necessarily correspond to similar variations in housing quality. This is most significant when comparing the material wellbeing of age groups. Many older individuals are in households that have good accommodation and relatively low housing costs (eg those living in mortgage-free homes). Many in an earlier part of the life cycle have a similar standard of accommodation but relatively high accommodation costs. Ideally, the value of imputed rent for homeowners would be added to income to even up the comparisons (ie the BHC approach has limitations in this regard), but the practical difficulties are considerable. As an approximation for the purposes of comparing material wellbeing, the AHC approach deducts housing costs from after-tax cash income for all households.
* Once a household is committed to a particular residence, outgoings on housing costs cannot easily be adjusted or put off in ‘tight times’ as they can for other expenses like entertainment and recreation, and even to some degree for basics like food and clothing. When the primary focus is on trends in income poverty and hardship, it is important to understand trends in ‘residual income’, taking housing costs as a given fixed cost in effect. Housing costs represent a very significant proportion of the total spending for many low-income households.
* Third, a unique characteristic of the New Zealand BHC income distribution is the very large ‘pensioner spike’ at around the value of New Zealand Superannuation. In recent years, the spike has been located close to a 50% of median poverty line (BHC). In the late 1990s it was around a 60% of median poverty line. The presence of the spike can lead to large variations in reported poverty rates for the 65+ group over time, leaving the misleading impression that there are significant changes in material wellbeing occurring for this group. In addition, the same issue can lead to similarly misleading comparisons with the relative wellbeing of other age groups. An AHC approach largely avoids these issues and is more suitable as the primary measure (for New Zealand at least). Section I has more on this.

Further discussion on the relative merits of the BHC and AHC approaches is in **Appendix 5.**

**Main data source: the Household Economic Survey (HES)**

The report draws on data from Statistics New Zealand’s Household Economic Survey (HES). The HES was an annual survey from 1982 to 1998, using March years, then three-yearly from 1998 to 2007, using June years from 2001 on. The 2007–2008 and 2008–2009 surveys are the new HES (Income) Surveys which makes income, housing cost and living standard indicator data available in each of the two years between the full HES surveys. The HES (Income) collects the same information on these domains as the full HES does. The full HES (including full expenditure information) is still on a three-yearly cycle. The 2009–2010 HES is the latest available.[[18]](#footnote-19)

A sample of approximately 3000 private households is achieved each survey (see **Table A.2** below for details). Interviews are conducted face to face. For the full HES, contact with each participating household extends for a period of just over two weeks. During that time, each household member aged 15 years or over keeps an expenditure diary for 14 consecutive days, recalls major purchases made in the previous 12 months, and provides income and employment data. The income information is also for the 12 months prior to interview.

The target population for the HES is New Zealand resident private households living in permanent dwellings. This means, for example, that those in institutions and those in non-permanent dwellings are not included.

**Table A.2**

**Achieved sample sizes and response rates for recent HES (for data held by MSD)**

|  |  |  |
| --- | --- | --- |
| **HES year** | **Achieved sample size** | **Response rate** |
| 2000-01 | 2808 | 73% |
| 2003-04 | 2854 | 73% |
| 2006-07 | 2550 | 62% |
| 2007-08 | 3295 | 77% |
| 2008-09 | 3210 | 74% |
| 2009-10 | 3126 | 69% |
| 2010-11 | 3536 | 81% |

Note: The response rate for 2009-10 and later is the post-imputation response rate. For other years it is the pre-imputation response rate. See the text below.

Imputation was introduced into HES for the 2009-10 survey. Imputation is a data set enhancing process that replaces missing values with actual values from similar respondents.[[19]](#footnote-20) At that time, imputation was also applied to the data for the 2006-07, 2007-08 and 2008-09 surveys, and Statistics New Zealand has updated its Hot Off the Press tables and Table Builder information accordingly. Unfortunately, the data used for this Incomes Report cannot be updated for those three surveys as this would require a full re-run of the base HES data through Taxwell, re-calibrated backwards for the parameter settings for those three years, all of which are different.

The report also uses some net worth and income mobility information from Statistics New Zealand’s longitudinal Survey of Families, Income and Employment (SoFIE).

**Population weighting**

The preparation of the HES weights provided by Statistics New Zealand to enable population estimates to be produced from the HES sample follow a two stage process:

* the sample design weight (the inverse of the selection probability) is calculated for each private household, along with an adjustment for non-response
* the weight of each household is adjusted using integrated weighting, calibrating to independent benchmarks of the number of people by age, sex, ethnicity and region and the number of households by household size (from estimates based on the 2006 Census for the 2010-11 HES).

The HES weights do not calibrate to the number of people receiving income-tested benefits or New Zealand Superannuation payments. The HES underestimates these numbers by around a third in each survey.

The Treasury has also developed a set of weights for use with its HES-based tax-benefit microsimulation model, Taxwell. The Taxwell weights include the number of beneficiaries as one of the key benchmarks, in accordance with Treasury’s primary use for the HES in the Taxwell model. Treasury’s Taxwell weights therefore provide a better estimate, for example, of the number of children in beneficiary families, although to achieve this there has been a trade-off with achieving other benchmarks. This report almost always uses Statistics New Zealand’s HES weights. Where the Taxwell weights are used, this is made clear in the text.[[20]](#footnote-21)

**Convention for naming HES years**

This report adopts a common short-hand convention for describing HES years. For example, ‘the 2007 HES’ is short for ‘the 2006-07 HES’. The 2007 survey is for the year ending 30 June 2007 with its midpoint in December 2006. For the 1998 HES and earlier ones the survey period was for March years. The 1998 HES therefore has a midpoint of September 1997. There is therefore a good case to be made for the 2006–2007 HES being labelled the ‘2006 HES’. While logic and clarity support this, it would unfortunately fly in the face of common custom and possibly lead to confusion. This report therefore (reluctantly) follows the custom.

The income values, inequality figures, poverty rates, and so on for specified HES years are best interpreted as being for the middle of the respective survey years unless noted otherwise. Particular care is required in establishing which survey year will pick up the implications of policy changes or of significant labour market or GDP changes, or of other major events, when some or all of these changes occur during a survey year.

**HES years used in the report**

The tables and graphs report for each second HES year from 1982 to 1998 and every three years to 2007, then each year for 2009 to 2011. Key changes in the income distribution occurred in the years from 1988 and again from 1994. The loss of information that arises from using every second year only does not impact on the overall trends reported as these key years are included in the reporting.

The points on the graphs are all joined by straight or smoothed lines. This is done for presentational purposes only to give the general trends, and should not be taken to mean that the data points in the intervening years would all lie on the interpolated lines.

**Special note on the data for the 2008 HES (Income)**

The income poverty and inequality figures for 2008 published in the 2009 report are not included in subsequent reports as a significant issue was discovered with the calculated disposable income variable in the Taxwell data in Statistics New Zealand’s 2007–2008 HES dataset. Initial investigations suggest the issue arose from the modeled Accommodation Supplement amounts used in calculating the household income variable. This led to household disposable incomes for the 2007–2008 year being understated for many low-income households. The poverty and inequality figures reported in the 2009 report were therefore inflated for the 2008 year.

**Treatment of negative incomes**

In each HES survey there are a few records showing negative incomes. For this report these negative incomes are re-assigned a value of zero before analysis is undertaken. This is done to reasonably approximate the treatment of negatives asked for by the OECD in the data sent to them by statistical agencies such as Statistics New Zealand and it therefore assists with international comparisons. This treatment of negatives has no effect on medians, no impact on reported trends over time for the approaches used in this report, nor on poverty rates at any point in time, nor on the composition of the poor. It has a very small impact on means and income shares for quintiles.

Note that negatives are deleted for calculating the Gini coefficient when using the Revised Jensen scale to maintain consistency with the approach taken by Statistics New Zealand in their longer-run New Zealand time series. This different adjustment has no impact on trends and only a minor impact on the figure for a particular survey.

**Adjusting for inflation**

Household incomes and low-income thresholds are adjusted for inflation at various places in the report. Household incomes are converted to 2011 dollars for reporting on income trends in real terms. For the reporting on trends in income poverty based on an ‘absolute’ or ‘fixed line’ approach, thresholds are based on proportions of the 2007 median and are held constant in real terms over other years.[[21]](#footnote-22)

The adjustments for inflation are carried out using CPI full-year averages for a March year up to and including the 1998 survey and a June year from 2001. For BHC incomes Statistics New Zealand’s CPIQ.SE9A series is used, with the annual figure being the average of the four quarters for the period. AHC incomes and thresholds from 1989 to 2011 are adjusted using the index from the ‘All Groups less Housing’ series (CPIQ.SE9NS1010) for the survey’s midpoint quarter. For 1982 to 1988 the AHC adjustments are based on the author’s extrapolation of the series. The reported trends in AHC incomes and the size of low-income populations are not greatly sensitive to different assumptions within a plausible range for the index in the estimated years. See **Appendix 7** for the indices used.

**Ethnicity**

Ethnicity of individuals aged 15 and over is as reported by the individual. Children under 15 are attributed with the ethnicity of the survey respondent in years to HES 2004. Starting with HES 2007, ethnicity for children is provided in the survey data, with the information coming from either the children themselves or from their parents. No analysis is carried out based on household or family ethnicity as ethnicity is a characteristic of individuals.

If a respondent reports more than one ethnicity, the ethnicity attributed is determined according to a prioritised classification of Māori, Pacific Island, Other and then European/Pākehā. Using a ‘total counts ethnicity’ approach makes no noticeable difference to the findings in this report.

Only limited analysis by ethnicity is reported because of the relatively small sample sizes for Maori, Pacific and Other (especially for Pacific). See the discussion below under ‘Reliability of results’.

**Household and family types**

The report uses the following household types for subgroup analysis.

|  |  |
| --- | --- |
| **Household type** | **Definition** |
| One person HH, 65+ | one person aged 65+ |
| Couple HH, 65+ | at least one partner is 65+ |
| One person HH, under 65 | one person aged under 65 |
| Couple HH, under 65 | both partners are under 65 |
| SP with children | SP with children, at least one of whom is dependent |
| 2P with children | 2P with children, at least one of whom is dependent |
| Other family HHs with children | Family HHs (other than SP or 2P HHs) where there is at least one dependent child |
| Other family HHs, adults only | Family HHs (other than couples) where there are no dependent children |
| Non-family HHs | Unrelated individuals |

For family types, the report uses the ‘economic family unit’ (EFU). There are four types of EFU:

* couple only
* two parent with dependent children
* sole parent with dependent children
* everyone else (ie unattached individuals who are not dependent children).

In each case the EFU may be living in their own separate household or with others in a wider household:

Note that the household is always used as the income sharing unit. Individuals are attributed with their household’s equivalised income, then assigned to a particular household or family type, carrying their household’s equivalised income with them as an indicator of economic wellbeing.

**Reliability of results**

As the figures in this report are estimates taken from a sample survey, they are subject to variation as a result of both sampling error and bias due to non-sampling error, especially non-response.

In addition, there are assumptions made in the use of equivalised income as an indicator of (potential) living standards and in constructing the measures of inequality and hardship.

All these factors raise the question of the reliability of the results.

## Sampling error

Sampling error is about the variability that occurs by chance because a sample rather than an entire population is surveyed. For example, for both HES 2009, 2010 and 2011, the relative sampling error for average household income was 4% at the 95% confidence level. This means that there is a 95 percent chance that the true value lies within 4% of the survey mean.

The sampling error is larger the greater is the degree of disaggregation at which results are presented. Special care is therefore needed when interpreting results applying to smaller subgroups. Care is also needed when comparing estimates from one survey to the next as both estimates are subject to sampling error.

Three examples are discussed below to illustrate the issues.

People living in sole parent households are a relatively small subgroup, making up only 8% of the population. In Table B.7 the distribution of the population across household income quintiles is reported by various household types. Only 3% of those in sole parent households are found in the top income quintile. On the other hand, a high proportion have incomes in the lower end of the income distribution. When reading Table B.7 for the distribution of those in this household type across the quintiles, it is reasonable to conclude that ‘around three in four are found in the bottom two quintiles’, and ‘there are very few in the top quintile’, but to claim that ‘10,400 (3% of 347,000) are in the top quintile’ would be spurious precision.

Another example is reporting on poverty trends by ethnicity. The example uses changes from HES 2004 to 2007. The Pacific, Maori and Other groups made up 6%, 15%, and 13% respectively of the population in 2007, using the HES weights. Between the 2004 HES and the 2007 HES, the estimated poverty rates using the AHC 60% fixed line measure fell dramatically for those classified as Pacific (29% to 12%), while for Maori there was very little change (22% to 24%). The large change for Pacific is inconsistent with independent information for the period from the Income Supplement (IS) of the Household Labour Force Survey (HLFS) which has a larger sample than the HES. It would be misleading to report on the basis of these two HES surveys that ‘poverty has reduced significantly for Pacific people’ – or, if it went to, say, 25% in HES 2008 that ‘Pacific poverty rose sharply from 2007 to 2008’.

For those classified as Other for ethnicity the estimated poverty rate fell from 38% (2004) to 21% (2007). Again, this is inconsistent with HLFS-IS information for the period. In this case, the size of the subgroup is itself probably not the only issue. The volatility for those classified as of Other ethnicity is likely to be driven to a large degree by the considerable heterogeneity in this group, and its changing composition over recent years.[[22]](#footnote-23) This heterogeneity adds another source of potential sampling error when using smaller subgroups. It applies much more to a subgroup like those classified as of Other ethnicity than to a similar sized group such as sole parent households discussed above which is more homogeneous in relation to household incomes and factors which impact on these. Those in one person 65+ households are a smaller still subgroup (4%), but are even more homogeneous (eg they are all in the same household type, in the same age group, and are mainly European/Pakeha).

For these reasons, poverty trends by ethnicity are not reported. Instead, trends in median household incomes are provided, and the distribution across quintiles is given to provide an indication of the relative spread of incomes. The median incomes are still subject to sampling error but as they use information from the whole sample rather than just from those at the low end, the trends are more reliable.[[23]](#footnote-24)

The third example is from the reporting on trends in income inequality using the Gini coefficient. From 2008-09 to 2009-10 there was a sizeable decrease in the Gini, and from 2009-10 to 2010-11, an even larger increase. Both these changes are statistically significant. However, the more modest net change from 2008-09 to 2010-11 is not statistically significant. This example illustrates why this report cautions against reading too much too soon into year on year changes, and generally encourages the taking of a longer run perspective on trends. (See also the more detailed discussion of the impact on household incomes of the global financial crisis and economic downturn in Section D).

Non-response

The reliability of the results is also affected by any bias due to differential non-response from households chosen for interview. To go some way to correct for this, when weights are being assigned to households to produce population estimates, those households that are under-represented in the sample are given larger weights to compensate. The weights are chosen so that grossed-up population estimates accord with key control variables such as the age, gender and household type distributions from the latest census or census-based projections.

There is, however, no guarantee that such weighting procedures will deliver accurate population estimates for all variables of interest. One area where this is an issue affecting reliability of results using the HES is in the estimates of the number of beneficiaries. The HES typically underestimates beneficiary numbers by around one-third.[[24]](#footnote-25) The total value of the Accommodation Supplement (AS) reported in the HES is around 40% to 50% of that recorded in the Ministry of Social Development’s administrative data. This may not necessarily mean that half the AS income is missed, as some of the ‘missing’ amount may be counted in the reported benefit income. Nevertheless it is such a large difference that some doubt must remain.

Income as an indicator of material wellbeing

There is a general question as to how well income performs as an indicator of access to resources or as a proxy for living standards, but the most pressing issue, as noted above, is that there are particular problems in the bottom decile where the incomes of many households cannot be taken even as a rough and ready indication of resources. Where the noise in the bottom decile significantly impacts on reported results, the associated text notes and describes the impact. This issue is further discussed in **Appendices 8 and 9**.

Avoiding unwarranted impressions of precision

The use of too many significant figures or decimal places in reporting results can imply a spurious precision that is inconsistent with the considerations noted above. This applies particularly to poverty rates, and especially for figures relating to subgroups of the whole population. Poverty rates and poverty structure are therefore generally reported to the nearest whole number rather than to one decimal place as is common elsewhere.

Longer-term trends over several surveys and significant differences between subgroups within a year can be counted as providing robust and reliable information. Smaller changes between surveys and small differences between subgroups in the one survey year should not be used to support definitive conclusions about change or differences.

**Summary of key measures used for reporting on income inequality and poverty**

The table below gives a high-level outline of the measures used in the report for the inequality and poverty analysis. Issues around each decision point are discussed in the main sections that follow and in the Appendices.

|  |  |
| --- | --- |
| **Decision point** | **Option used in this report** |
| income sharing unit | household (HH) |
| income concept | equivalised disposable HH income (ie after-tax cash income, adjusted for HH size and composition)   * before deducting housing costs (BHC) * after deducting housing costs (AHC) |
| equivalence scale | revised Jensen 1988 (except for Section J, the international section, in which the ‘square root’ scale is used for OECD comparisons, and the ‘modified OECD scale’ for EU comparisons |
| inequality measures | percentile ratios (90/10 and 80/20)  Gini coefficient |
| types of low-income thresholds or ‘poverty lines’ | ‘moving line’ thresholds – set relative to the median for the survey year (REL)  ‘fixed line’ thresholds – set in a base year (2007) and kept at a constant value in real terms (CV) |
| setting of low-income thresholds or ‘poverty lines’ | REL thresholds set at 50% and 60% of the median HH income (BHC)  CV thresholds set at 50% and 60% of the 2007 median HH income (BHC), and adjusted forward and back by the CPI  AHC thresholds are set at 25% less than the corresponding BHC threshold, as an allowance for average housing costs |
| primary measure for income poverty | AHC ‘fixed line’ (60%) – the rationale for this is noted earlier in this Section and is further discussed in Section E. |

**Section B**

**Household incomes in 2010-11**

This section provides general information on the distribution of household income using the 2011 HES. The following are reported:

* means and medians for gross, disposable and equivalised disposable income
* medians for different household types
* graphs of the income distribution for the whole population
* a table to assist households to identify where they fall in the distribution
* distribution of individuals across household income quintiles by various household and individual characteristics
* income shares for income deciles
* the extent of re-distribution of market income through taxes and cash benefits.

## Means and medians

**Table B.1** reports median and mean household incomes on gross, disposable (after-tax), and equivalised disposable bases using the 2011 HES, and the changes in real terms from the 2010 to 2011 HES and from the 2009 to 2010 HES. Longer term trends are reported in Section D.

The impact of the international financial crisis and economic slowdown is reflected in the changes shown in the table. For example, the early impact is shown in the small fall in gross median income from 2008-09 to 2009-10 (~1%), and the fuller impact in the decline from 2009-10 to 2010-11 (~4%). The gross mean on the other hand rose from 2009-10 to 2010-11 after a fall from 2008-09 to 2009-10. Changes in the mean are strongly influenced by what happens to higher incomes and these rose from 2009-10 to 2010-11 after a fall in the previous year.

**Table B.1**

**Gross, disposable and equivalised disposable household incomes:**

**annual medians and means (HES 2011), with changes from recent years**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Median** | | | **Mean** | | |
|  | **2010-11 HES** | **Real changes** | | **2010-11 HES** | **Real changes** | |
| 2009-10 to 2010-11 | 2008-09 to 2009-10 | 2009-10 to 2010-11 | 2008-09 to 2009-10 |
| Gross | $75,400 | -4.1% | -1.4% | $94,100 | +1.0% | -4.1% |
| Disposable (BHC) | $63,200 | -1.8% | -0.2% | $76,400 | +2.0% | -1.3% |
| Disposable (AHC) | $49,700 | -4.1% | +2.5% | $62,700 | +0.9% | +0.1% |
| **Equiv disposable (BHC)** | **$31,900** | **-3.0%** | **-+1.1%** | **$39,000** | **+1.3%** | **-1.3%** |
| **Equiv disposable (AHC)** | **$24,900** | **-3.8%** | **+2.0%** | **$31,900** | **+0.1%** | **+0.2%** |

Note: The equivalised income rows in the table (the bottom two) use the one person household as the reference. The unit is ‘dollars per equivalent adult’.

Medians are calculated by assigning individuals the income of their household, ranking the individuals and finding the middle one. This person-weighted approach is different from the household-weighted approach which simply ranks households by their income and finds the middle household. The person-weighted approach is the international standard for the sort of analysis carried out for this report. See **Appendix 4** for further information.

Mean incomes are higher than median incomes because of the skew of the income distribution towards the lower end. The relatively few households with incomes at the very upper ranges of the income distribution have a disproportionately large upward impact on the mean compared with their impact on the median, and therefore pull the mean up above the median. The varying number of very high income households in different years can also lead to the mean being less stable than the median.

**Medians for households of different types**

The overall median BHC household disposable income in the 2011 HES was $63,200 (ordinary dollars). In equivalised terms this is 31,600 dollars per equivalent adult.

Different household types have different median incomes, some above and some below the overall median. For example, the median household income for households comprising a couple plus one dependent child was $69,700 in ordinary dollars and $33,200 when the ranking is done by equivalised household incomes (ie 33,200 dollars per equivalent adult).

**Table B.2** shows the median disposable incomes (BHC) of different household types using incomes before equivalising (centre column) and after equivalising the household incomes (right hand column).

**Table B.3** shows the same information for AHC incomes.

Tables B.2 and B.3 show that the median equivalised household incomes for older one-person and couple households, sole-parent households, larger two-parent households and for other family households with children are all below the overall median. This means that these households are all more concentrated in the lower half of the equivalised income distribution.

On the other hand, ‘working age’ couple-only households, two parent with one dependent child households and family households with no dependent children have equivalised medians above the overall median and are therefore more concentrated in the upper half of the equivalised income distribution.

**Reconciling Table A.1 with Tables B.2 and B.3**

This report uses the one person HH as the reference for the equivalising process. The unit is dollars per equivalent adult. To convert ordinary disposable income to equivalised incomes for a particular HH type, the ordinary incomes need to be divided by the appropriate equivalence ratio listed in Table A.1 in the Introduction. For example for a (2,1) household, divide by 1.86. This means that a (2,1) HH with a disposable income of $65,500 has an equivalised disposable income of $35,200 (ie 35,200 dollars per equivalent adult). (65,500 / 1.86 = 35,200)

This relatively simple conversion can be applied to any individual HH. It cannot however be generally applied to medians of the population as a whole or of any subgroup of the population. There are three reasons for this:

* For the population as a whole, the concept of equivalence ratio is meaningless as individuals come from a range of different HH types, and different equivalence ratios apply to each of these.
* For some subgroups (eg ‘other family households with children’), no equivalence ratio is defined as there are unknown numbers of children and adults in each HH in this group.
* For any subgroup of HHs which have children, children of different ages are assigned a slightly different equivalence ratio when using the 1988 Revised Jensen scale. This means that the ranking of individuals using equivalised incomes can end up slightly different than the ranking of individuals using ordinary household incomes for the same HH type (eg couple plus one dependent child). This leads to the equivalised median being not quite the same as the ‘ordinary’ income divided by the appropriate equivalence ratio. Note that for couple HHs without children, the simple conversion does work. See Tables B.2 and B.3.

**Table B.2**

**Median disposable income (BHC) for different household types (HES 2011)**

**in ordinary and equivalised dollars**

|  |  |  |
| --- | --- | --- |
| **HH type** | Median disposable income for the HH type **(ordinary $)** | Median disposable income for the HH type($ per equivalent adult) |
| One person, 65+ | 19,100 | 19,100 |
| Couple, 65+ | 40,100 | 26,000 |
| One person, under 65 | 29,600 | 29,600 |
| Couple, under 65 | 70,200 | 45,600 |
| SP, 1 child | 37,400 | 24,300 |
| SP, 2 children | 35,400 | 20,900 |
| SP, 3 or more children | 39,000 | 17,000 |
| 2P, 1 child | 69,700 | 33,200 |
| 2P, 2 children | 70,300 | 31,800 |
| 2P, 3 or more children | 64,100 | 25,300 |
| Other family HHs with children | 85,500 | 33,500 |
| Family HHs, all < 65 – no children | 92,600 | 44,100 |
| Family HHs, at least one 65+ – no children | 83,600 | 39,900 |
| Whole population | 63,200 | 31,900 |

**Table B.3**

**Median disposable income (AHC) for different household types (HES 2011)**

**in ordinary and equivalised dollars**

|  |  |  |
| --- | --- | --- |
| **HH type** | Median disposable income for the HH type **(ordinary $)** | Median disposable income for the HH type($ per equivalent adult) |
| One person, 65+ | 16,800 | 16,800 |
| Couple, 65+ | 36,000 | 23,400 |
| One person, under 65 | 22,100 | 22,100 |
| Couple, under 65 | 55,000 | 35,700 |
| SP, 1 child | 24,200 | 15,200 |
| SP, 2 children | 23,300 | 13,400 |
| SP, 3 or more children | 25,500 | 11,800 |
| 2P, 1 child | 50,900 | 25,700 |
| 2P, 2 children | 55,800 | 25,100 |
| 2P, 3 or more children | 52,100 | 20,000 |
| Other family HHs with children | 71,200 | 26,200 |
| Family HHs, all < 65 – no children | 79,100 | 37,100 |
| Family HHs, at least one 65+ – no children | 73,300 | 35,300 |
| Whole population | 49,700 | 24,900 |

## Note: See the box on previous page for further information about the relationship between the two columns of figures in these tables.

## Income distribution for the whole population, HES 2010

## Figures B.1 and B.2 (next page) show the general shape of the income distribution for the whole population, with the 65+ age-group distinguished from the rest.

The graphs also show two of the main low-income thresholds (‘poverty lines’) that are used later in the report: 50% and 60% of the (current survey) median for BHC incomes, and these less 25% for AHC incomes.

Apart from the skew to the left with a long right-hand tail of higher household incomes, the distinctive feature of the BHC distribution is the ‘pensioner spike’ just above the 50% threshold, and the strong bunching of those aged 65+ in households with incomes in the 50% to 70% of median range. The pensioner spike arises because:

* New Zealand has a universal pension for those aged 65 and over[[25]](#footnote-26) that is neither income nor asset tested (New Zealand Superannuation (NZS))
* there is no mandatory second tier employment-related component
* in 2010, 50% of those aged 65+ report household incomes of less than $100pw (per capita) from sources other than NZS, and around 40% report less than $50pw from other sources
* the value of NZS was around 51% of the BHC median in the 2010 HES and 53% in the 2010-11 HES (between 51% and 67% from 1988-2008, 48% in 2009).[[26]](#footnote-27)

This strong bunching of incomes for older New Zealanders in the 50% to 70% of median range has implications for the reporting of poverty rates for this group. When using thresholds set as a proportion of the current median, a small shift in the median from one year to the next can lead to a very large change in reported income poverty for the 65+ even though there has been little or no change in their income or living standards. Similarly, using a 50% of median income threshold gives a very different picture than when a 60% threshold is used.

For the AHC distribution, there is still a reasonably strong bunching of incomes between the median and the 60% threshold used with AHC incomes, but the pensioner ‘spike’ is broadened out and in the main lies above the 50% and 60% thresholds. This happens because of the high proportion of older New Zealanders with mortgage-free homes and very low housing costs. Small shifts in the median or the threshold do not therefore have the same disproportionate and misleading effects on (trends in) poverty rates as they do when using BHC incomes. In addition, differing housing costs among some lower-income 65+ households spread their AHC incomes over a wider range than their BHC incomes. These two factors combined form part of the rationale for this report’s position that using AHC incomes is more useful for monitoring poverty trends for older New Zealanders and for making comparisons with the rest of the population. This is discussed further in **Section E** and in **Appendix 5**.

**Figure B.1**

**BHC household income distribution for all individuals: HES 2011**



**Figure B.2**

**AHC household income distribution for all individuals: HES 2011**



Notes: 1 For both graphs, individuals are grouped by their household incomes in multiples of $1500 pa ($30 pw). This is a rough and ready way of showing the shape of the income distribution and the number of people in different income bands.

2 Figure B.1 draws attention to the pensioner spike in the BHC distribution. In 2010 the pensioner spike is just above the 50% of median line.

3 The AHC low-income thresholds (‘poverty lines’) are set at the 50% and 60% BHC thresholds, less 25% to allow for housing costs. See Appendix 6.

## Income distribution for sole-parent and two-parent families, HES 2010

## Figure B.3 shows the distribution of family incomes for sole parent and two parent families. In 2011, around 90% of sole-parent families had incomes below the median household income for all households, with or without children.[[27]](#footnote-28) For two-parent families the proportion was 55%.

The relatively low incomes of sole-parent families reflects in the main two factors: (a) there is only one potential earner in a sole parent family, and (b) the low full-time employment rate for sole parents (around 35% in 2009). In June 2009, 73% of working-age sole parents were receiving a main benefit. Only 15% of these sole parents had declared earnings. Sole-parent beneficiary families are clustered in the lower part of the income distribution.

**Figure B.3**

**Distribution of sole parent and two parent family income, HES 2010**



Notes: 1 Individuals are grouped by their family incomes in multiples of $3000 pa ($60 pw).

2 ‘Family’ here means ‘Economic Family Unit’.

3 Treasury’s Taxwell weights are used as they give a better population estimate of the number of beneficiary families.

Although New Zealand does not have an official income poverty measure, it is clear from Figure B.3 that whatever measure is used, the proportion of those in sole parent families with incomes below the selected threshold (ie the income poverty rate for sole parent families) will be high in itself, and also higher than for those in two parent families.

**Where does your household fit?**

Many people do not have an accurate idea as to where they (and their household) fit in the income distribution.[[28]](#footnote-29) **Table B.4** gives the annual (unequivalised) disposable income levels (BHC) of some different household types in each (equivalised) income decile. From this table, many people will be able to locate where they and their households fit on the income distribution. To calculate decile ranges for other household types, the equivalence ratios listed in Table A.1 can be used.[[29]](#footnote-30)

To use this table, select the column heading that best describes your household or family situation. Go down the column until you find your household’s disposable income range (ie annual after-tax income, including all social assistance from the state). The row gives the equivalised income decile for your household income. For example, a household comprising a couple with two children with a disposable income of $55,600 pa is in decile 4.[[30]](#footnote-31)

**Table B.4**

## Where does your household fit in the overall household income distribution (BHC)?

**HES 2011**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Equivalised income decile | One person,no children **(reference HH)** | Sole parent, one child | Couple or 2 adults sharing | Couple,one child | Couple,two children | Couple,three children |
| Bottom decile | < $16,600 | < $23,300 | < $25,600 | < $31,000 | < $36,100 | < $40,400 |
| Decile 2 | 16,600 - 19,900 | 23,300 - 27,900 | 25,600 - 30,700 | 31,000 - 37,100 | 36,100 - 43,200 | 40,400 - 48,400 |
| Decile 3 | 19,900 - 23,800 | 27,900 - 33,300 | 30,700 - 36,600 | 37,100 - 44,200 | 43,200 - 51,500 | 48,400 - 57,700 |
| Decile 4 | 23,800 - 27,900 | 33,300 - 39,100 | 36,600 - 43,000 | 44,200 - 51,900 | 51,500 - 60,600 | 57,700 - 67,800 |
| Decile 5 | 27,900 - 31,900 | 39,100 - 44,600 | 43,000 - 49,100 | 51,900 - 59,300 | 60,600 - 69,200 | 67,800 - 77,400 |
| Decile 6 | 31,900 - 36,700 | 44,600 - 51,400 | 49,100 - 56,500 | 59,300 - 68,200 | 69,200 - 79,600 | 77,400 - 89,100 |
| Decile 7 | 36,700 - 43,500 | 51,400 - 60,900 | 56,500 - 67,000 | 68,200 - 81,000 | 79,600 - 94,500 | 89,100 - 105,800 |
| Decile 8 | 43,500 - 51,400 | 60,900 - 72,000 | 67,000 - 79,200 | 81,000 - 95,600 | 94,500 - 111,600 | 105,800 - 124,900 |
| Decile 9 | 51,400 - 66,000 | 72,000 - 92,400 | 79,200 - 101,600 | 95,600 - 122,800 | 111,600 - 143,200 | 124,900 - 160,400 |
| Top decile | > $66,000 | > $92,400 | > $101,600 | > $122,800 | > $143,200 | > $160,400 |

## Note: use disposable household income when using this table – that is, household income from all sources after paying personal income tax and after receiving all tax credits (from Working for Families) and other state transfers (eg NZS, AS, main benefits)

## Distribution of individuals across income quintiles by various household and individual characteristics

When the population is ranked on their household incomes and divided into five equal groups, each group is called a quintile. A quintile contains 20% of the population.

**Table B.5** shows the position of groups of individuals in the household income distribution (BHC) according to various household and individual characteristics. The proportions sum to 100% across the quintiles.

The numbers in each quintile can be obtained by using the information in the right-hand column which gives the number of individuals in the various subgroups. For example, in the lowest quintile (Q1), there are around 163,000 individuals in sole-parent households where there are dependent children (47% of 347,000), and 200,000 in two-parent households with dependent children (13% of 1,540,000).

**Table B.6** shows the composition of each income quintile (BHC) according to various household and individual characteristics. The proportions sum to 100% down the columns for each set of characteristics.

**Tables B.7 and B.8** repeat the analysis for AHC incomes.

**Caution**

When using the figures for smaller sub-groups, the proportions in each quintile should be taken as indicative rather than precise.

For example, in Table B.8 those living in one person 65+ households are reported as making up only 4% of the population. When reading Table B.7 for the distribution of those in this HH type across the quintiles, it is reasonable to conclude that ‘around three quarters are found in the bottom two quintiles’, but to claim that 15,800 (10% of 158,000) are in the top quintile is spurious precision.

Another example is the distribution across the quintiles by ethnicity. With the Pacific group making up only 7% of the population, the same sort of caution applies as for the one person 65+ households noted above. The ‘Other’ group is larger (12%) but is very diverse, so results for each quintile can be volatile from year to year. An example of what it is reasonable to conclude from the analysis in the tables which follow is that household incomes for those of Maori and Pacific ethnicity are similarly distributed across the quintiles (around half are in the lower two quintiles), and are each quite differently distributed than are household incomes for European/Pakeha (for whom around one third are in the lower two quintiles).

See further comments in Section A under ‘Reliability of results’.

**Table B.5**

**Distribution of individuals across income quintiles (BHC)**

**by various household and individual characteristics (%)**

(sum to 100% across rows)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **HES 2009** | **Equivalised disposable household income** | | | | | **All individuals (000s)** |
| **Q1** | **Q2** | **Q3** | **Q4** | **Q5** |
| **Age** |  |  |  |  |  |  |
| 0-17 | 22 | 28 | 24 | 16 | 11 | 1090 |
| 18-24 | 14 | 18 | 18 | 28 | 22 | 404 |
| 25-44 | 14 | 19 | 22 | 21 | 25 | 1156 |
| 45-64 | 17 | 15 | 17 | 22 | 29 | 1052 |
| 65+ | 42 | 19 | 16 | 14 | 10 | 511 |
| All | 20 | 20 | 20 | 20 | 20 | 4213 |
| **Household type** |  |  |  |  |  |  |
| One person 65+ | 56 | 19 | 11 | 9 | 6 | 158 |
| Couple 65+ | 36 | 18 | 12 | 20 | 14 | 324 |
| One person under 65 | 32 | 11 | 16 | 20 | 21 | 201 |
| Couple under 65 | 10 | 9 | 11 | 25 | 45 | 550 |
| SP with dependent children | 47 | 27 | 18 | 6 | 2 | 347 |
| 2P with dependent children | 13 | 26 | 25 | 20 | 16 | 1540 |
| Other family HHs with dependent children | 12 | 26 | 29 | 20 | 12 | 371 |
| Family HHs with no dependent children | 14 | 11 | 20 | 26 | 29 | 473 |
| Non-family HHs | 16 | 14 | 18 | 22 | 30 | 249 |
| All | 20 | 20 | 20 | 20 | 20 | 4213 |
| **Ethnicity** |  |  |  |  |  |  |
| European/Pākehā | 17 | 17 | 20 | 22 | 25 | 2811 |
| NZ Māori | 27 | 29 | 18 | 15 | 11 | 615 |
| Pacific | 28 | 23 | 21 | 16 | 12 | 274 |
| Other | 25 | 25 | 21 | 19 | 10 | 513 |
| All | 20 | 20 | 20 | 20 | 20 | 4213 |
| **Main source of income** |  |  |  |  |  |  |
| Market | 9 | 19 | 24 | 25 | 25 | 3413 |
| Government transfer | 69 | 27 | 4 | 0 | 0 | 800 |
| All | 20 | 20 | 20 | 20 | 20 | 4213 |
| **Children by household type** |  |  |  |  |  |  |
| Children in SP HHs | 51 | 27 | 16 | 4 | 2 | 209 |
| Children in 2P HHs | 15 | 27 | 25 | 19 | 14 | 716 |
| Children in other family HHs | 15 | 29 | 25 | 21 | 10 | 132 |
| Children in non-family households | \* | \* | \* | \* | \* | 13 |
| All children | 23 | 26 | 23 | 16 | 12 | 1070 |

Notes:

1 See note on page 29 for the need for caution in interpreting results for smaller sub-groups.

2 The sample numbers for children in non-family households are too small to give reliable estimates of their distribution across the quintiles.

**Interpreting Tables B.5 and B.6: an example**

Consider the 0-17 year old group (children).

* Table B.5 (distribution of each group across the quintiles) shows that 50% children are in households in the bottom two income quintiles.
* Table B.6 (composition of each quintile) shows that children make up 29% of all people in households with incomes in the bottom quintile.

**Table B.6**

**Composition of income quintiles (BHC)**

**by various household and individual characteristics (%)**

(sum to 100% down columns)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **HES 2009** | **Equivalised disposable household income** | | | | | **Overall composition** |
| **Q1** | **Q2** | **Q3** | **Q4** | **Q5** |
| **Age** |  |  |  |  |  |  |
| 0-17 | 29 | 36 | 31 | 21 | 14 | 26 |
| 18-24 | 7 | 9 | 9 | 13 | 11 | 10 |
| 25-44 | 19 | 26 | 30 | 29 | 34 | 27 |
| 45-64 | 21 | 19 | 21 | 28 | 36 | 25 |
| 65+ | 25 | 11 | 10 | 9 | 6 | 12 |
| All | 100 | 100 | 100 | 100 | 100 | 100 |
| **Household type** |  |  |  |  |  |  |
| One person 65+ | 11 | 4 | 2 | 2 | 1 | 4 |
| Couple 65+ | 14 | 7 | 5 | 9 | 5 | 8 |
| One person under 65 | 8 | 3 | 4 | 5 | 5 | 5 |
| Couple under 65 | 7 | 6 | 7 | 16 | 29 | 13 |
| SP with dependent children | 20 | 11 | 7 | 3 | 1 | 8 |
| 2P with dependent children | 24 | 48 | 46 | 37 | 28 | 37 |
| Other family HHs with dependent children | 6 | 12 | 13 | 9 | 5 | 9 |
| Family HHs with no dependent children | 8 | 6 | 11 | 15 | 16 | 11 |
| Non-family HHs | 5 | 4 | 5 | 7 | 9 | 6 |
| All | 100 | 100 | 100 | 100 | 100 | 100 |
| **Ethnicity** |  |  |  |  |  |  |
| European/Pākehā | 56 | 56 | 67 | 72 | 82 | 67 |
| NZ Māori | 20 | 21 | 13 | 11 | 8 | 15 |
| Pacific | 9 | 7 | 7 | 5 | 4 | 7 |
| Other | 15 | 15 | 13 | 12 | 6 | 12 |
| All | 100 | 100 | 100 | 100 | 100 | 100 |
| **Main source of income** |  |  |  |  |  |  |
| Market | 35 | 75 | 96 | 100 | 100 | 81 |
| Government transfer | 65 | 25 | 4 | 0 | 0 | 19 |
| All | 100 | 100 | 100 | 100 | 100 | 100 |
| **Children by household type** |  |  |  |  |  |  |
| Children in SP HHs | 45 | 19 | 13 | 5 | 3 | 20 |
| Children in 2P HHs | 45 | 67 | 72 | 78 | 85 | 67 |
| Children in other family HHs | 9 | 13 | 13 | 16 | 11 | 12 |
| Children in non-family HHs | 1 | 1 | 2 | 0 | 1 | 1 |
| All children | 100 | 100 | 100 | 100 | 100 | 100 |

Notes:

1 See note on page 29 for the need for caution in interpreting results for smaller sub-groups.

**Table B.7**

**Interpreting Tables B.5 and B.6: an example**

Consider the 0-17 year old group (children).

* Table B.5 (distribution of children across the quintiles) shows that 50% of this group are in households in the bottom two income quintiles.
* Table B.6 (composition of each quintile) shows that children make up 29% of all people in households with incomes in the bottom quintile.

**Distribution of individuals across income quintiles (AHC)**

**by various household and individual characteristics (%)**

(sum to 100% across rows)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **HES 2009** | **Equivalised disposable household income** | | | | | **All individuals (000s)** |
| **Q1** | **Q2** | **Q3** | **Q4** | **Q5** |
| **Age** |  |  |  |  |  |  |
| 0-17 | 27 | 24 | 23 | 17 | 10 | 1090 |
| 18-24 | 17 | 15 | 20 | 27 | 21 | 404 |
| 25-44 | 18 | 18 | 22 | 20 | 22 | 1156 |
| 45-64 | 17 | 14 | 16 | 23 | 30 | 1052 |
| 65+ | 21 | 32 | 18 | 14 | 16 | 511 |
| All | 20 | 20 | 20 | 20 | 20 | 4213 |
| **Household type** |  |  |  |  |  |  |
| One person 65+ | 34 | 35 | 14 | 7 | 10 | 158 |
| Couple 65+ | 14 | 30 | 17 | 16 | 23 | 324 |
| One person under 65 | 35 | 12 | 17 | 16 | 20 | 201 |
| Couple under 65 | 11 | 9 | 13 | 28 | 40 | 550 |
| SP with dependent children | 57 | 19 | 18 | 4 | 3 | 347 |
| 2P with dependent children | 17 | 24 | 25 | 21 | 14 | 1540 |
| Other family HHs with dependent children | 15 | 21 | 30 | 20 | 14 | 371 |
| Family HHs with no dependent children | 12 | 13 | 17 | 27 | 31 | 473 |
| Non-family HHs | 14 | 19 | 11 | 25 | 31 | 249 |
| All | 20 | 20 | 20 | 20 | 20 | 4213 |
| **Ethnicity** |  |  |  |  |  |  |
| European/Pākehā | 15 | 19 | 20 | 22 | 24 | 2811 |
| NZ Māori | 29 | 23 | 20 | 17 | 12 | 615 |
| Pacific | 33 | 21 | 18 | 15 | 12 | 274 |
| Other | 29 | 20 | 24 | 17 | 10 | 513 |
| All | 20 | 20 | 20 | 20 | 20 | 4213 |
| **Main source of income** |  |  |  |  |  |  |
| Market | 12 | 17 | 23 | 24 | 25 | 3413 |
| Government transfer | 56 | 33 | 9 | 2 | 0 | 800 |
| All | 20 | 20 | 20 | 20 | 20 | 4213 |
| **Children by household type** |  |  |  |  |  |  |
| Children in SP HHs | 61 | 18 | 15 | 3 | 2 | 209 |
| Children in 2P HHs | 19 | 26 | 24 | 20 | 12 | 716 |
| Children in other family HHs | 17 | 24 | 28 | 18 | 13 | 132 |
| Children in non-family households | \* | \* | \* | \* | \* | 13 |
| All children | 27 | 23 | 21 | 17 | 11 | 1070 |

Notes:

1 See note on page 29 for the need for caution in interpreting results for smaller sub-groups.

2 The sample numbers for children in non-family households are too small to give reliable estimates of their distribution across the quintiles.

**Table B.8**

**Interpreting Tables B.7 and B.8: an example**

Consider the 0-17 year old group (children).

* Table B.7 (distribution of children across the quintiles) shows that 51% of this group are in households in the bottom two income quintiles.
* Table B.8 (composition of each quintile) shows that children make up 34% of all people in households with incomes in the bottom quintile.

**Composition of income quintiles (AHC)**

**by various household and individual characteristics (%)**

(sum to 100% down columns)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **HES 2009** | **Equivalised disposable household income** | | | | | **Overall composition** |
| **Q1** | **Q2** | **Q3** | **Q4** | **Q5** |
| **Age** |  |  |  |  |  |  |
| 0-17 | 34 | 32 | 29 | 21 | 13 | 26 |
| 18-24 | 8 | 7 | 10 | 13 | 10 | 10 |
| 25-44 | 24 | 25 | 30 | 28 | 30 | 27 |
| 45-64 | 21 | 18 | 20 | 29 | 38 | 25 |
| 65+ | 13 | 19 | 11 | 9 | 10 | 12 |
| All | 100 | 100 | 100 | 100 | 100 | 100 |
| **Household type** |  |  |  |  |  |  |
| One person 65+ | 7 | 7 | 3 | 1 | 2 | 4 |
| Couple 65+ | 6 | 11 | 6 | 6 | 9 | 8 |
| One person under 65 | 8 | 3 | 4 | 4 | 5 | 5 |
| Couple under 65 | 7 | 6 | 9 | 18 | 26 | 13 |
| SP with dependent children | 23 | 8 | 7 | 2 | 1 | 8 |
| 2P with dependent children | 31 | 44 | 45 | 38 | 25 | 37 |
| Family HHs with dependent children | 7 | 9 | 13 | 9 | 6 | 9 |
| Other family HHs with no dependent children | 7 | 7 | 10 | 15 | 17 | 11 |
| Non-family HHs | 4 | 6 | 3 | 8 | 9 | 6 |
| All | 100 | 100 | 100 | 100 | 100 | 100 |
| **Ethnicity** |  |  |  |  |  |  |
| European/Pākehā | 51 | 64 | 65 | 72 | 81 | 67 |
| NZ Māori | 21 | 17 | 14 | 13 | 8 | 15 |
| Pacific | 11 | 7 | 6 | 5 | 4 | 7 |
| Other | 18 | 12 | 14 | 10 | 6 | 12 |
| All | 100 | 100 | 100 | 100 | 100 | 100 |
| **Main source of income** |  |  |  |  |  |  |
| Market | 52 | 69 | 91 | 99 | 100 | 81 |
| Government transfer | 48 | 31 | 9 | 1 | 0 | 19 |
| All | 100 | 100 | 100 | 100 | 100 | 100 |
| **Children by household type** |  |  |  |  |  |  |
| Children in SP HHs | 45 | 15 | 13 | 4 | 5 | 20 |
| Children in 2P HHs | 47 | 71 | 72 | 81 | 78 | 67 |
| Children in other family HHs | 8 | 12 | 15 | 13 | 16 | 12 |
| Children in non-family HHs | 1 | 2 | 0 | 2 | 2 | 1 |
| All children | 100 | 100 | 100 | 100 | 100 | 100 |

Notes:

1 See note on page 29 for the need for caution in interpreting results for smaller sub-groups.

## Income shares across the distribution

**Interpreting Tables B.7 and B.8: an example**

Consider the 0-17 year old group (children).

* Table B.7 (distribution of children across the quintiles) shows that 51% of this group are in households in the bottom two income quintiles.
* Table B.8 (composition of each quintile) shows that children make up 34% of all people in households with incomes in the bottom quintile.

Figures B.1 and B.2 above show that income is not distributed evenly across the population even after taxes and transfers have been taken into account. **Figure B.4** presents the same information in a different way by showing the share of the total income that is received by the different income deciles (BHC).[[31]](#footnote-32) Because the income concept is *equivalised* household disposable income, the information in the graph needs to be interpreted as comparisons of the consumption capabilities for those in the various deciles, having adjusted for household size and composition.

**Figure B.4**

**Shares of total income by deciles: HES 2011**



The top 10% receive just over a quarter and the top 30% receive just over a half of the total population (equivalised) income. This is much the same as in the 2010 HES year, except that the share for the top decile has risen by around two percentage points, after falling one percentage point from 2008-09 to 2009-10.

**Table B.9** shows that the distribution of household income in New Zealand is broadly similar to that in the UK, Australia and Canada.

**Table B.9**

**Shares of total income by quintiles of equivalised disposable household income (%):**

**international comparisons for c 2008 to 2011**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Bottom quintile | Q2 | Q3 | Q4 | Top quintile |
| New Zealand | 8 | 12 | 16 | 22 | 41 |
| UK | 8 | 12 | 16 | 22 | 42 |
| Australia | 7 | 12 | 17 | 23 | 40 |
| Canada | 7 | 12 | 17 | 24 | 40 |

## Sources: UK (Table 2.2ts in DWP (2011) for 2010); Australia (Table 1 in ABS (2011) for 2010); Canada (Table 202-0606 in Statistics Canada (2011) for 2009).

## The re-distribution of income: market income, government cash benefits, income tax, consumption tax and publicly provided services

The income that households receive from wages and salaries, from investments and from people running their own businesses (market income) is redistributed through government intervention via taxation and social expenditure. This reduces the income inequality that would otherwise exist. This section provides an indication of the extent of the redistribution and the impact on inequality.

**The extent of the redistribution of income**

In interpreting the findings in this section it is important to note that market income is not the counterfactual or ‘natural state’ that would exist if there was no government intervention. The existence of taxes, government expenditure and the apparatus of the welfare state influences citizens’ behaviour in relation to labour market participation, living arrangements, and so on. The analysis can be taken as an indication of the extent of redistribution given that we live in a redistributive welfare state.

A useful way of looking at the extent of redistribution is to look at the difference between income taxes paid and transfers received for households in different income deciles. ‘Transfers’ refers to tax credits and government cash benefits such as the Accommodation Supplement, New Zealand Superannuation, working age welfare benefits, special needs grants, and so on.

For many households, the amount they receive in transfers is greater than what they pay in income tax. They have a negative net tax liability.

One group with negative net tax liability is low- to middle-income households with dependent children. For example, single-earner families with two children can earn up to around $55,000 pa before they pay any net tax. Around half of all households with children receive more in welfare benefits and tax credits than they pay in income tax.

‘Working-age’ working households without dependent children have a positive income tax liability whatever their income. The vast majority of older New Zealanders (aged 65+) live in households where there is a negative income tax liability – the income tax they pay is less than the value of New Zealand Superannuation (NZS) they receive.

**Figure B.5**

**Income tax less govt cash transfers: HES 2010**

When all households are counted (working age with children, working age without children, and 65+ households), and looking at households grouped in deciles rather than looking at individual households, the total income tax paid by each of the bottom five deciles is less than the total transfers received (tax credits, welfare benefits, NZS and so on). See **Figure B.5.** It is only for each of the top five deciles that total income tax paid is greater than transfers received.[[32]](#footnote-33)

At an individual level in 2009, the top 10% of earners paid 44% of all income tax. When transfers are taken into account, the top 10% of earners paid around 76% of net income tax.[[33]](#footnote-34) The October 2010 tax changes will have reduced these figures a little, but the high-level story remains unchanged.

**The inequality-reducing impact of taxes and transfers**

**Figure B.6** and **Table B.10** show the inequality-reducing impact of taxes and transfers by comparing the Gini scores for household market income and household disposable income – that is for incomes before and after taxes and transfers.

**Figure B.6**

**Gini scores (x100) for market and disposable household income, 1986 to 2011 (18-64 yrs)**



**Table B.10**

**Gini scores (x100) for market and disposable household income, 1986 to 2011 (18-64 yrs)**

|  |  |  |  |
| --- | --- | --- | --- |
| **HES year** | **Before taxes and transfers (market income)** | **After taxes and transfers (disposable income)** | **Reduction (%)** |
| 1986 | 36.4 | 26.4 | 27 |
| 1991 | 42.4 | 31.3 | 26 |
| 1996 | 43.1 | 32.9 | 24 |
| 2001 | 43.1 | 33.1 | 23 |
| 2004 | 41.7 | 32.9 | 21 |
| 2009 | 40.3 | 32.3 | 20 |
| 2010 | 38.3 | 30.2 | 21 |
| 2011 | 42.2 | 33.5 | 21 |

Source: HES-based analysis sent to OECD by Statistics New Zealand for the 2010 OECD Incomes Questionnaire.

For working-age New Zealanders (aged 18 to 64 years) in 2009, the household market income Gini was 40.3, reducing to 32.3 after taxes and transfers. This 20% reduction is similar to Ireland (19%) and Canada (21%), a little less than Australia (23%) and the UK (24%), and much lower than many European countries such as Sweden, Norway, France and Austria (30-32% reductions). The average OECD reduction is 24%.

**‘Final household income’**

Figure B.5 tells only a part of the government transfer story. Households also receive government-funded health and education services which means that they do not have to pay for them directly from their own income. These services can be seen as a form of income or in-kind government benefit to be counted along with any cash benefits received. Households also pay consumption taxes (mainly the goods and services tax (GST)) when they spend money on goods and services.

In this broader framework the concept of ‘final household income’ is sometimes used as a means of taking into account cash and in-kind income from the market and the government and consumption taxes as well as income taxes. Crawford and Johnston (2004) have shown that, using a ‘final household income’ approach, there is further redistribution from more well-off households to less well-off households because households in the higher income deciles pay more consumption tax and also receive less in the way of in-kind benefits from education and health spending combined. They conclude that ‘final incomes are more equally distributed than disposable incomes’ (p29).

**Figure B.7**

**Redistribution of market income: HES 1998**

This finding is illustrated in **Figure B.7** which compares the redistribution using both the narrower and broader frameworks for 1998.

The large additional transfer to low- to middle-income households through the Working for Families package in 2005 to 2007 and the tax switch changes in October 2010 are not captured in their analysis, and the base data is now a decade out of date. Their general point remains valid however, and is consistent with other similar research from other OECD countries.[[34]](#footnote-35)

Source: Crawford and Johnston (2004), Appendix Tables 17-20.

A recent example is an OECD study[[35]](#footnote-36) on the equality-enhancing impact of taxes and cash transfers and of government services. The study found that:

* public expenditure on the provision of social services (mainly health and education) significantly reduces inequality within countries and reduces the range of inequality otherwise found across countries
* the size of the reduction in inequality from government in-kind services is on average less than that achieved by income taxes and transfers, but is still significant – it is around a quarter when using the inter-quintile share and a half when using the Gini coefficient[[36]](#footnote-37)
* the inequality-reducing impact of the countries’ tax and transfer systems is more variable across countries than the impact of public services
* the ranking of countries on inequality does not change very much when moving from a household disposable income measure to the broader measure that includes public services (correlation ~ 0.95).

**Section C**

# Trends in key labour market, demographic, housing costs and social assistance variables

This report is essentially descriptive. It does not attempt, for example, to give a detailed explanation of changes in the income distribution by drawing on what we know about the impacts of key labour market, demographic, macro-economic and geo-political factors and of tax and social assistance policy settings. [[37]](#footnote-38)

This section however goes a little beyond description by providing information on trends in some key variables which clearly impact on the income distribution. These trends provide the basis for a high-level account of changes in the middle and at the lower end of the distribution in line with the main themes and focus of this paper.

At a high level, the trend in real GDP per capita sets the context, although the relationship of the GDP trend to that of disposable household income is not simple or direct. There are many mediating and modifying factors that impact on how the cake is divided up across households, independent of the size of the cake itself.

From a distributional perspective a rough rule of thumb is that median household incomes for the population as a whole generally follow the trend for incomes of two-parent-with-dependent-children households. This group made up around half of those in both the second and middle quintiles from the mid 1990s to 2010 and an even greater proportion during the 1980s. In other words, this group dominates the income distribution from P20 to P60, and changes for this group impact quite significantly on overall household income trends. The median income of this household type is very close to the overall median income in the 1982-2010 period (see Figure D.8 in the next section).

The two factors that impact the most on the incomes of two parent with dependent children households are average wage rates and the total hours worked by the two parents. The total number of hours worked is in turn related to the overall employment rate and to social norms, especially in relation to labour force participation for mothers of dependent children. This section therefore reports on the employment rate (by sex), net average ordinary time weekly earnings (NAOTWE), and the hours worked in two parent with children households. The trend in median household income is strongly influenced by trends in these factors.[[38]](#footnote-39)

The lower part of the income distribution includes those from households whose main income is from paid employment (‘the working poor’) and those from households whose main income is from income-tested benefits or New Zealand Superannuation (NZS). Trends in the numbers below typical low-income thresholds (ie trends in poverty rates) are therefore strongly influenced by three sets of factors: (a) average wage levels and employment rates; (b) (trends in) the levels of social assistance; and (c) trends in the numbers in receipt of social assistance. Social assistance is taken here to refer to the main income-tested benefits for those under 65, together with the Family Tax Credit (FTC) (formerly Family Support (FS)) and In-Work Tax Credit where there are dependent children, and NZS for those aged 65+.

This section therefore also reports on trends in the total number receiving a main benefit, the real value of the main benefits plus FTC/FS where relevant, and the unemployment rate. Section I reports on trends in the value of NZS relative to the median.

This report promotes the value of using household incomes after deducting housing costs (AHC) as the preferred approach for comparing the material wellbeing of different subgroups of the population. This section therefore also reports on trends in gross expenditure on accommodation as proportion of household income.

**Trends in GDP, employment, unemployment and weekly earnings**

**Figure C.1** shows the pattern of the business cycle from 1982 to 2011 in terms of annual GDP growth and the HLFS unemployment rate. The 2011 HES interviews were carried out from July 2010 to June 2011. The incomes reported by households in the survey are for the twelve months prior to the interview. Those interviewed in July 2010 would therefore be reporting on incomes in the period from August 2009 to July 2010, and so on. The 2011 HES is the first in the HES series in which the incomes could be expected to fully reflect the impact of the global financial crisis and the economic downturn.

**Figure C.1**

**Real GDP annual changes and unemployment rates, 1990 to 2011**



## 

**Figure C.2**

**Employment rate (15-64yrs), 1986 to 2010**



**Figure C.3** shows the trend in after-tax wages in real terms. They grew 24% in real terms from 1994 to 2011. Gross (before tax wages grew only by 18% in the period. In contrast median household incomes grew 46% in real terms.

**Figure C.3**

**Net average ordinary time weekly earnings ($ Dec 2011)**



**Incomes around the median: the longer-term trend**

Figure C.2shows the trend in the proportion of the population aged 15-64 who are in paid employment for at least one hour per week (the ‘employment rate’). After falling to a low in 1992 the employment rate rose through to 1996, faltered for two years then rose each year through to 2007, with a slower growth rate from 2004 to 2007. Employment fell from 2007 to 2010, returning to 2002 levels. The female employment rate was considerably higher in 2010 (67%) compared with the mid 1980s (60%) whereas male employment in 2010 (78%) was below what it was in the mid 1980s (85%).

**Figure C.4** shows the increasing work intensity in two-parent plus dependent children households, especially since the mid 1990s. The two-earner proportion in 2011 (68%) is a little above average for OECD countries (around 60%).[[39]](#footnote-40)

**Figure C.4**

**Proportion of two parent HHs by hours of paid employment (where at least one is FT)**



These factors together with the rising average wage point to median household incomes falling away in the early 1990s as employment declined, and rising from the mid 1990s through to 2004, with reasonably strong growth from 2001 to 2004 when all three factors lined up together to drive up income of two parent with dependent children households. From 2004 to 2007, the median incomes of two-parent households could be expected not to change as greatly as their employment hours remained steady overall (Figure C.4), and the WFF package had only an negligible impact on the median.

The movement of the median from 2007 to 2009 is not readily predictable from this high level model, especially given the volatility of the working hour arrangements for two parent families reported in recent years (more detailed figures behind Figure C.4), and the personal tax changes introduced in October 2008 and April 2009. For 2009 to 2010, the flat average wages (Figure C.3) and steady proportion of dual-earner two-parent households (Figure C.4) point to a ‘no change’ finding for the median.

See Figures D.1 and D.7 in the next section for the trends in median household incomes.

**Incomes at the lower end of the income distribution**

Incomes at the lower end of the distribution are significantly affected by trends in the levels of social assistance delivered through income-tested benefits and child-related support, and trends in the numbers for whom social assistance income is their primary source of income.

**Figure C.5** shows the rise in the total number of people receiving a main benefit through to 1994, the further rise through to 1999, the steady decline to June 2008, and the rise through to June 2011 reflecting the recession and the global financial crisis. Numbers in receipt of the unemployment benefit follow a trend that is a rough mirror image of the employment rate (Figure C.2).

**Figure C.5**

**Number of families / benefit units in receipt of working age income-tested benefits, 1986 to 2011:**

**(30 June figures)**

## 

Figure C.5 is based on the number of EFUs receiving an income-tested benefit. **Table C.1** (next page) shows the total number of individuals in beneficiary families (EFUs) and the number of individuals receiving NZS.

**Table C.1**

**Individuals in EFUs in receipt of an income-tested benefit or NZS (30 June)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Total working age EFUs in receipt of an income-tested benefit (000s) | All people (adults and children) where prime recipient of an income-tested benefit is under 65  (000s) | Children (<18) dependent on a recipient of an income-tested benefit, (000s) | NZS/VP recipients  (000s) | Proportion of children (<18) dependent on a recipient of an income-tested benefit  (%) | Proportion of all people under 65 dependent on benefit receipt  (%) | Proportion of whole popln dependent on an income-tested benefit or NZS/VP  (%) |
| 1998 | 368 | 701 | 281 | 477 | 30 | 21 | 31 |
| 1999 | 372 | 701 | 277 | 468 | 28 | 21 | 30 |
| 2000 | 364 | 684 | 271 | 461 | 27 | 20 | 30 |
| 2001 | 354 | 662 | 263 | 454 | 26 | 19 | 29 |
| 2002 | 343 | 638 | 256 | 458 | 25 | 18 | 28 |
| 2003 | 334 | 622 | 253 | 467 | 24 | 18 | 27 |
| 2004 | 309 | 584 | 245 | 473 | 24 | 16 | 26 |
| 2005 | 290 | 548 | 233 | 484 | 22 | 15 | 25 |
| 2006 | 280 | 523 | 221 | 498 | 21 | 14 | 24 |
| 2007 | 261 | 485 | 205 | 513 | 19 | 13 | 24 |
| 2008 | 258 | 482 | 201 | 525 | 19 | 13 | 24 |
| 2009 | 310 | 554 | 221 | 542 | 21 | 15 | 25 |
| 2010 | 333 | 591 | 234 | 561 | 22 | 15 | 26 |
| 2011 | 331 | 594 | 233 | 576 | 22 | 16 | 27 |

Sources: Columns 1-4, MSD Statistical Reports and Information Analysis Platform

Columns 5-7 use population estimates from Statistics New Zealand for the denominator

**Figure C.6** shows the trend in real terms of average earnings and of income-tested benefits for the period, and **Figure C.7** uses the same data to show how benefit levels have moved relative to average earnings. The earnings measure is net average ordinary time weekly earnings (NAOTWE) and the income-tested benefit measure is the value of the main benefit plus the Family Tax Credit (or Family Support prior to 2007) for which the respective families are eligible in relation to the dependent children in their care.[[40]](#footnote-41) In Figures C.6 and C.7:

IB+2 means: a couple in receipt of the Invalid’s Benefit, with two children

UB+2 means: a couple in receipt of the Unemployment Benefit, with two children

DPB+2 means: a sole parent in receipt of the Domestic Purposes Benefit, with two children

DPB+1 means: a sole parent in receipt of the Domestic Purposes Benefit, with one child

**Figure C.6**

**Income-tested benefits (plus FTC) and average earnings in real terms for selected HH types**



**Figure C.7**

**Income-tested benefits (plus FTC) relative to average earnings**

## 

## Source for Figures C.6 and C.7: Information and Monitoring Unit, MSD

# Taken together, the trends in the three key factors of numbers in receipt of a benefit, the real value of benefits and employment rates point to a rising poverty rate in the late 1980s through to the mid 1990s, using a ‘fixed line’ threshold. From 1994, the improved opportunities for employment and from 1998 the reduction in benefit numbers while benefit levels stayed reasonably steady in real terms together point to a reducing poverty rate from the mid 1990s through to 2007.

**Housing costs**

High housing costs relative to income are often associated with financial stress for low- to middle-income households. Low-income households especially can be left with insufficient income to meet other basic needs such as food, clothing, transport, medical care and education for household members.

**Figure C.8** and **Table C.2** show the trends by income quintiles for individuals in households with high ‘outgoing-to-income ratios’ (OTIs), using 30% as the benchmark for high OTIs

In 2011, just over one in four people were in households with high housing OTIs (>30%), compared with one in five in the mid 1990s, and only one in ten in the late 1980s.

For the bottom quintile, the proportion with high OTIs steadily reduced from 52% in 1994 to 40% in 2004, as unemployment fell, employment and income rose, and income-related rental policies were introduced in 2000 for those in HNZC houses. It then remained steady at 40% or a little less through to 2011.

For those in the second quintile there has been a steady rise from the 1980s through to 2011, with a strong increase from 2004 to 2009. The rate more than doubled from 1988 (13%) to 2001 (31%), and peaked at 34% in 2009.

The rise for the third quintile from 2004 (18%) to 2010 and 2011 (29%) is the strongest rise for any quintile in recent years.

**Figure C.8**

**Proportion of individuals in households with housing cost OTIs greater than 30%, by income quintile**



.

**Table C.2**

**Proportion of individuals in households with housing cost OTIs greater than 30%, by income quintile**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** | **ALL** |
| 1988 | 17 | 13 | 8 | 8 | 8 | 11 |
| 1990 | 24 | 16 | 12 | 9 | 8 | 14 |
| 1992 | 33 | 18 | 15 | 13 | 10 | 18 |
| 1994 | 52 | 21 | 12 | 11 | 10 | 22 |
| 1996 | 49 | 28 | 19 | 14 | 9 | 24 |
| 1998 | 48 | 29 | 21 | 15 | 12 | 26 |
| 2001 | 44 | 31 | 20 | 16 | 11 | 25 |
| 2004 | 39 | 28 | 18 | 12 | 9 | 22 |
| 2007 | 39 | 32 | 27 | 19 | 14 | 27 |
| 2009 | 40 | 34 | 30 | 19 | 16 | 28 |
| 2011 | 37 | 33 | 29 | 16 | 14 | 25 |

**Table C.3** provides a breakdown by age group. The proportion with high OTIs increased markedly from the 1980s to the early 2000’s for all age groups (doubling or even tripling for some), although still remaining relatively low for older New Zealanders.

**Table C.3**

**Proportion of individuals in households with housing cost OTIs greater than 30%, by age group**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **0-17** | **18-24** | **25-44** | **45-64** | **65+** | **ALL** |
| 1988 | 12 | 12 | 15 | 5 | 3 | 11 |
| 1990 | 16 | 16 | 18 | 7 | 2 | 14 |
| 1992 | 22 | 21 | 24 | 8 | 3 | 18 |
| 1994 | 27 | 22 | 28 | 10 | 5 | 22 |
| 1996 | 32 | 24 | 28 | 14 | 6 | 24 |
| 1998 | 33 | 26 | 31 | 14 | 7 | 26 |
| 2001 | 32 | 29 | 28 | 16 | 7 | 25 |
| 2004 | 26 | 28 | 25 | 15 | 6 | 22 |
| 2007 | 32 | 29 | 33 | 19 | 9 | 27 |
| 2009 | 37 | 24 | 35 | 21 | 8 | 28 |
| 2011 | 30 | 33 | 32 | 21 | 7 | 25 |

From the mid 1990s to 2011, around 12 to 14% of individuals lived in households with an even higher OTI – greater than 40% - up from 5% in the late 1980s. For those in Q1 (lower quintile), the proportion with these very high OTIs peaked in the mid-1990s at 35% but was lower at 25 to 30% from 2004 to 2011. **Figure C9** compares the trend in proportions of individuals in Q2 who have OTIs greater than 30% with those with OTIs greater than 40%, showing the rise of the latter from 6% in the 1980s to 17% in recent years.

**Figure C.9**

**Proportion of individuals in Q2 households with high housing cost OTIs greater than 30%, and 40%**



**Section D**

# Household incomes and income inequality,

# 1982 – 2011

This section reports on:

* changes in equivalised household incomes overall
* changes in medians for different household types
* changes for different parts of the distribution
* the changing shape of the household income distribution
* trends in inequality using percentile ratios[[41]](#footnote-42) and the Gini coefficient.

## Income changes in real terms, 1982 to 2011

**Whole population, overall trends**

**Figure D.1** shows the trends in real equivalised household disposable income (BHC and AHC) from 1982 to 2011.

After 15 years of steady growth in median household income (3% pa in real terms from 1993-94 to 2008-09), the impact of the economic downturn on household incomes began to be seen in the 2009-10 figures which showed only a small change in the median from 2008-09 to 2009-10. By the time of the 2010-11 HES, the potential existed for all interviewed households to be impacted, and the median fell for the first time since the early 1990s (-3% in real terms).

The BHC median fell 15% from 1988 to 1994, and it took until 2001 to restore it to its 1988 level.

The general trend for AHC medians is similar to that for BHC medians, although the AHC median fell from 90% of the BHC median in 1982, to 86% in 1988, and 80% in 1998. Since then the relativity has been steady at 78% to 79%. This reflects how accommodation costs have risen as a proportion of household income for low- to middle-income households since the 1980s.

**Figure D.1**

**Real equivalised household disposable incomes, 1982 to 2011 (2011 dollars)**



**Table D.1**

**Real equivalised household disposable incomes, 1982 to 2011 (2011 dollars)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1982** | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| **BHC mean** | 29,300 | 28,800 | 27,800 | 28,300 | 30,000 | 26,900 | 26,400 | 28,400 | 30,600 | 31,900 | 33,300 | 35,400 | 39,000 | 38,500 | 39,000 |
| **BHC median** | 26,600 | 25,900 | 25,300 | 26,100 | 25,500 | 23,000 | 22,300 | 23,600 | 25,600 | 26,300 | 28,300 | 29,900 | 32,500 | 32,800 | 31,900 |
| **AHC median** | 21,000 | 20,200 | 21,300 | 20,900 | 20,500 | 18,200 | 17,700 | 18,500 | 20,000 | 20,600 | 22,400 | 23,700 | 25,400 | 25,900 | 24,900 |

The mean and median generally move in the same direction. Until 2009-2010 the most notable exception was for the period 1988 to 1990 during which the mean rose but the median fell. In this period, average incomes for households in the top quintile of the income distribution rose in real terms but those in the other four quintiles fell (see Figure D.3). This lowered the median but raised the mean as the impact of the rises of those with higher incomes was the dominant effect. From 2009 to 2010 the mean fell while the median rose. This happened because of the fall in real incomes for the top income quintile which has a sizeable impact on the mean but no impact on the median. The slight rise in the mean from 2010 to 2011 compared with the fall for the median reflects the fact that average income for the top quintile rose a little, largely countering the effect on the overall mean of declines elsewhere.

### Differing trends for different parts of the distribution (BHC)

Reporting on trends in the overall median or mean household income provides useful high-level summaries, but they tell only a part of the story as different parts of the income distribution (can) show quite different relative movements over time.

One way to show these differing changes is todivide the population into ten equal groups (deciles) and show the trends in real incomes for the median, mean or top of each decile. This part of the analysis uses the latter as it fits well with the use of percentile ratios[[42]](#footnote-43) for summarising trends in inequality, which is done later in this section. Changes for incomes at P95 (the median of the top decile) are also included. Decile means are reported in **Appendix 9**.

Recent changes (2007 HES to 2011 HES)

**Figures D.2** and **D.3** show the changes for the decile boundaries from the 2007 HES to 2009 and the 2009 HES to 2011. The impact of the economic downturn and global financial crisis is clearly evident in the 2009 to 2011 graph (the bottom one), with incomes generally flat or slightly negative across the distribution, in contrast with previous solid growth in incomes from the 2007 to 2009 HES.

**Figure D.2**

**Real equivalised household incomes (BHC): changes for top of deciles, 2007 HES to 2009**



**Figure D.3**

**Real equivalised household incomes (BHC): changes for top of deciles, 2009 HES to 2011**



The Working for Families impact (2004 HES to 2007 HES)

The changes from 2004 to 2007 reflected the major part of the impact of the Working for Families package (**Figure D.4**). The transfer of an extra approximately $1.6b pa to low- to middle-income households with children made a tangible difference to the income distribution.[[43]](#footnote-44) The general pattern up to 2004 had been for the income of higher-income households to rise more quickly than those of lower- to middle-income households. The 2004 to 2007 period was the only one in the previous 25 years in which the incomes of low- to middle-income households grew more quickly than those of households above the median.

**Figure D.4**

**Real equivalised household incomes (BHC): changes for top of deciles, 2004 to 2007**



Longer term trends

**Figure D.5** shows the differing changes for different parts of the income distribution (top of deciles 1 to 9, plus P95) from 1988 to 2004. The period is divided at 1994 when incomes were at their lowest in real terms.

The graphs show the very large falls in real household income from 1988 to 1994 for all but the very highest income group, followed from 1994 to 2004 by steady and fairly even income growth across the whole income distribution, although the growth for lower income households (bottom 20 to 30%) was not as strong as for the rest.

**Figure D.5**

 **Real equivalised household incomes (BHC): changes for top of deciles, 1988-94, and 1994-04**

The net effect of the changes from 1988 to 2004 is captured in **Figure D.6** which shows the large increase in inequality that took place in that relatively short period, based on the deterioration of incomes for the lower deciles and the gains for higher deciles.

**Figure D.6**

**Real equivalised household incomes (BHC): changes for top of deciles,1988 to 2004**



**Figure D.7** shows the net changes for the full period from 1982 to 2011. All income groups gained in real terms, with the highest income group gaining much more than deciles 3-8, and the lowest income decile gaining the least. The different growth rates show not only that income inequality is higher in 2011 than in 1982, but also that what has driven the net rise is what has happened at the top and bottom rather than in the middle 60% to 70% of incomes.

**Figure D.7**

**Real equivalised household incomes (BHC): changes for top of deciles,1982 to 2011**



**Static and dynamic analysis**

In interpreting the time series analysis that is based on the HES data (as above), it is important to understand that the HES provides repeat cross-sectional data with different people interviewed each survey. The HES does not follow the same households or individuals across time. Some individuals do stay in roughly the same income band for many years, some move up and some move down. **The degree of income mobility in New Zealand is discussed in** **new Section L** using longitudinal data from Statistics New Zealand’s survey of Family, Income and Employment (SoFIE).

**Figure D.8 and Table D.2** show the above analysis in a different way. The increased dispersion of household incomes in 2011 compared with the 1980s is clear. For the period as a whole, incomes for households in the top quintile increased proportionately much more than did the incomes of households in the lower-income deciles.

**Figure D.8**

**Real equivalised household incomes (BHC): decile boundaries, 1982 to 2011**



**Table D.2**

**Real equivalised household incomes (BHC): decile boundaries (2011 dollars)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1982** | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| **P90** | 47,900 | 48,000 | 45,900 | 46,200 | 50,200 | 47,100 | 45,900 | 49,300 | 52,300 | 55,200 | 58,000 | 60,500 | 66,100 | 64,000 | 66,000 |
| **P80** | 40,300 | 39,500 | 37,400 | 39,000 | 40,900 | 37,700 | 36,900 | 39,100 | 42,200 | 43,500 | 45,900 | 47,900 | 51,300 | 50,600 | 51,400 |
| **P70** | 35,000 | 34,100 | 31,800 | 34,100 | 33,600 | 31,400 | 30,700 | 32,200 | 34,900 | 36,200 | 39,200 | 39,900 | 42,800 | 43,000 | 43,500 |
| **P60** | 30,600 | 29,700 | 28,100 | 30,000 | 29,500 | 30,000 | 26,200 | 27,600 | 29,900 | 31,100 | 33,800 | 34,400 | 37,600 | 37,500 | 36,700 |
| **P50** | 26,600 | 25,900 | 25,300 | 26,100 | 25,500 | 23,000 | 22,300 | 23,600 | 25,600 | 26,300 | 28,300 | 29,900 | 32,400 | 32,800 | 31,900 |
| **P40** | 23,400 | 22,700 | 22,300 | 22,800 | 22,200 | 19,700 | 18,700 | 20,000 | 21,800 | 22,100 | 23,500 | 26,300 | 28,400 | 29,100 | 27,900 |
| **P30** | 20,400 | 19,900 | 19,900 | 20,000 | 19,400 | 16,700 | 16,300 | 17,300 | 18,400 | 18,800 | 19,700 | 22,800 | 24,500 | 25,200 | 23,800 |
| **P20** | 17,400 | 17,300 | 17,000 | 17,400 | 16,800 | 14,900 | 14,700 | 15,300 | 16,300 | 16,200 | 16,700 | 18,700 | 20,400 | 20,900 | 19,900 |
| **P10** | 14,700 | 14,500 | 14,400 | 14,900 | 14,600 | 12,400 | 11,800 | 13,000 | 14,200 | 14,100 | 13,900 | 14,900 | 16,400 | 16,800 | 16,600 |

**Table D.3** translates the income information in Table D.2 into index form using various base years. The numbers in the body of the table indicate the percentage gains or losses over a given period (119 means a 19% rise; 84 means a 16% fall, and so on).

A disadvantage of using upper decile boundaries is that the top of decile 10 (P100) is very volatile and it is not sensible to report that trend. In line with the graphs above, Table D.3 incorporates information on changes for P95 to give some indication of trends for the top decile, while avoiding the misleading picture that reporting on P100 would give.

**Table D.3**

**Changes in real equivalised household incomes (BHC) relative to selected base years:**

**index = 100 in base year**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **period** | base HES year | P10 | P20 | P30 | P40 | P50 | P60 | P70 | P80 | P90 | P95 |
| **1982-2011: overall** | | | | | |  |  |  |  |  |  |
| 1982 - 2011 | 1982 | 113 | 115 | 117 | 119 | 120 | 120 | 125 | 128 | 138 | 150 |
| **Relative to low point in 1994** | |  |  |  |  |  |  |  |  |  |  |
| 1988 - 1994 | 1988 | 80 | 84 | 81 | 82 | 85 | 87 | 90 | 95 | 99 | 103 |
| 1994 - 2009 | 1994 | 139 | 139 | 151 | 151 | 146 | 143 | 139 | 139 | 144 | 149 |
| **Relative to 2001, the year the median returned to what it had been in the late 1980s** | | | | | | | | |  |  |  |
| 1988 - 2001 | 1988 | 95 | 93 | 94 | 97 | 101 | 104 | 106 | 111 | 120 | 124 |
| 2001 - 2010 | 2001 | 119 | 129 | 134 | 132 | 125 | 120 | 119 | 116 | 116 | 124 |
| **The Working for Families impact (as seen in the greater gains for low to middle income HHs)** | | | | | | | | | | | |
| 2004 - 2007 | 2004 | 113 | 115 | 117 | 115 | 109 | 105 | 109 | 108 | 109 | 112 |
| **After the WFF implementation through to impact of recession on incomes from HES 2009 to HES 2011** | | | | | | | | | | | |
| 2007 - 2009 | 2007 | 110 | 108 | 107 | 107 | 108 | 108 | 107 | 106 | 109 | 110 |
| 2009 - 2011 | 2009 | 101 | 98 | 97 | 98 | 98 | 98 | 102 | 100 | 100 | 100 |

Notes 1 P10 = top of decile 1, and so on.

2 2008 would have been a better year to take as the end of the WFF implementation (ie 2007-08 HES), as the final tranche was rolled out in 2006-07, but the limitations identified in the 2008 data mean that 2007 has to be used (see Introduction for more information on the 2008 data issues). Almost all the WFF impact was however captured by the time of the 2007 HES, so not using 2008 HES as the boundary does not compromise the pattern of findings reflected in Table D.3.

**Differing trends for different parts of the distribution (AHC**)

**Figure D.9 and Table D.4** divide the population into ten equal groups (deciles) and show the trends in real incomes (AHC) for the top of each decile.[[44]](#footnote-45) The impact of the economic downturn, global financial crisis and rise in rents is clear in the fall in AHC incomes across the income range for the latest figures (HES 2010-11). The decline for the median was 4% from 2009-10. There were severe falls (-7%) for the P30 and P40 regions, that is, for households below the median but above the usual poverty lines. The P10 region declined significantly too, (although this is below the usual poverty lines and is therefore not likely to show up on those figures).

From a longer-term perspective, in 2010 the incomes of the bottom 30% of the population were on average only a little better in real terms than those of their counterparts almost 30 years ago in 1982. On the other hand there were more substantial gains in the period for the top half of the distribution. The income distribution was therefore more dispersed in 2010 than in the 1980s.

**Figure D.9**

**Real equivalised household incomes (AHC): decile boundaries, 1982 to 2011 (2011 dollars)**



**Table D.4**

**Real equivalised household incomes (AHC): decile boundaries (2011 dollars)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1982** | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| **P90** | 39,500 | 38,800 | 39,300 | 38,600 | 42,500 | 39,200 | 38,000 | 41,900 | 44,500 | 47,200 | 49,100 | 53,500 | 56,500 | 56,900 | 55,100 |
| **P80** | 32,900 | 32,000 | 32,100 | 31,900 | 33,500 | 30,400 | 30,200 | 32,200 | 34,500 | 35,600 | 39,300 | 40,300 | 42,100 | 42,700 | 42,600 |
| **P70** | 27,900 | 27,200 | 27,300 | 27,700 | 27,700 | 25,200 | 25,200 | 26,000 | 28,600 | 29,700 | 32,800 | 32,400 | 35,200 | 35,600 | 35,400 |
| **P60** | 24,100 | 23,500 | 23,900 | 24,100 | 24,100 | 21,800 | 21,200 | 22,200 | 23,900 | 24,900 | 26,900 | 27,800 | 30,300 | 30,200 | 29,800 |
| **P50** | 21,000 | 20,200 | 21,300 | 20,900 | 20,500 | 18,200 | 17,700 | 18,500 | 20,000 | 20,600 | 22,500 | 23,700 | 25,400 | 25,900 | 24,900 |
| **P40** | 18,400 | 17,700 | 18,500 | 18,000 | 17,700 | 15,500 | 15,000 | 15,600 | 17,000 | 17,100 | 18,500 | 20,200 | 21,700 | 22,600 | 20,900 |
| **P30** | 15,800 | 15,400 | 16,500 | 15,800 | 15,100 | 13,200 | 13,000 | 13,600 | 14,400 | 14,200 | 15,400 | 17,100 | 18,100 | 19,100 | 17,800 |
| **P20** | 13,700 | 13,400 | 13,900 | 13,500 | 13,200 | 10,600 | 10,100 | 10,800 | 11,900 | 11,500 | 12,600 | 14,100 | 15,100 | 15,500 | 15,000 |
| **P10** | 10,900 | 10,500 | 11,400 | 11,100 | 10,700 | 7,800 | 7,400 | 7,500 | 7,800 | 8,500 | 8,800 | 9,300 | 10,700 | 11,700 | 10,800 |

**Trends in the median for different household types**

**Figure D.10** shows the trends in real equivalised household disposable income (BHC) from 1982 to 2011 for selected household types.

For all household types, there were relatively large rises in median income in real terms from 2007 to 2009: 13% for working age households without children, 9% for two parent households, and 12% for sole parent households (albeit off a low base). For 2009 to 2010, the only rise of note was for one-person working-age households. For two-parent and sole-parent households, median incomes remained much the same, and incomes fell for working-age couple-only and multi-adult family households.[[45]](#footnote-46) For the latest survey (2010-11), the median income of almost all household types fell in real terms.

Trends for those in single and couple 65+ households are omitted from Figure D.8 to avoid clutter, but are shown in **Table D.5** (next page):

* For those in one-person 65+ households, median incomes ($2011) remained relatively steady at around $15,500 to $17,000 pa from 1982 to 1998, with a small rise to $17,900 by 2007, and then to $20,100 for 2010. Part of that rise reflects the personal income tax changes in October 2008 and April 2009 which have an impact on NZS via the net wage benchmark. In the latest survey (2010-11), median income for this group fell 5% to $19,100. The impact of the October 2010 income tax cuts was not sufficient to offset reduced income from other non-NZS sources.
* Median incomes of those in 65+ couple households remained reasonably steady from 1992 to 2004 at around $18,500 to $19,500 pa. From 2004 to 2010, median incomes for these households grew 37% in real terms to $26,600 pa. This rise reflects the increase from 65% to 66% of the average wage for the floor[[46]](#footnote-47) for the married couple rate for NZS (starting in 2006), the increased employment income for some 65+ couples, and the personal income tax changes in October 2008 and April 2009. In the latest survey (2010-11), median income for this group fell 2%. See Section I for more information on the incomes of older New Zealanders.

**Figure D.10**

**Median equivalised household incomes (BHC) for selected household types, 1982 to 2011 ($2011)**



Note: The median incomes in Figure D.10 are equivalised household incomes. Table B.2 gives median household incomes in ordinary (unequivalised) dollars.

**Table D.5**

**Median equivalised household incomes (BHC) for selected household types, 1982 to 2011 ($2011)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1982** | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| **Single < 65** | 32,500 | 30,100 | 27,900 | 29,800 | 28,100 | 23,000 | 23,700 | 26,200 | 30,200 | 29,100 | 29,100 | 28,700 | 32,600 | 34,500 | 29,600 |
| **Couple < 65** | 41,000 | 37,300 | 35,200 | 36,300 | 36,900 | 34,000 | 33,100 | 34,500 | 38,700 | 39,600 | 42,200 | 42,500 | 48,100 | 46,600 | 45,600 |
| **Other multi-adult fam HH <65, no dep ch** | 41,100 | 40,400 | 39,200 | 39,600 | 34,400 | 34,500 | 31,600 | 35,700 | 36,900 | 41,800 | 38,200 | 41,700 | 42,800 | 41,400 | 44,100 |
| **Two parent** | 25,200 | 24,000 | 23,200 | 24,300 | 24,500 | 22,100 | 21,200 | 22,500 | 24,600 | 25,700 | 29,400 | 29,200 | 31,700 | 31,500 | 30,900 |
| **Sole parent** | 16,500 | 17,300 | 16,600 | 19,000 | 17,800 | 13,600 | 13,500 | 14,700 | 16,100 | 15,600 | 16,100 | 17,600 | 20,800 | 21,400 | 20,500 |
| **Couple 65+** | 19,800 | 19,900 | 19,700 | 19,800 | 20,400 | 18,900 | 18,200 | 18,800 | 18,600 | 18,600 | 19,400 | 21,700 | 26,100 | 26,600 | 26,000 |
| **Single 65+** | 16,600 | 16,800 | 15,900 | 15,900 | 15,200 | 15,500 | 15,500 | 16,500 | 16,800 | 17,400 | 17,400 | 17,900 | 19,500 | 20,100 | 19,100 |
| **ALL** | 26,600 | 25,900 | 25,300 | 26,100 | 25,500 | 23,000 | 22,300 | 23,600 | 25,600 | 26,300 | 28,300 | 29,900 | 32,500 | 32,800 | 31,900 |

**Trends in the median by ethnicity**

Ethnicity of individuals aged 15 and over is as reported by the individual, and children under 15 are attributed with the ethnicity of the survey respondent. If a respondent reports more than one ethnicity, the ethnicity attributed is determined according to a hierarchical classification of Māori, Pacific Island, Other and then European/Pākehā.[[47]](#footnote-48) The household’s equivalised disposable income is attributed to the individual for ranking purposes, just as it is for analysis by age.

**Figure D.11 and Table D.6** show the trends in real equivalised household disposable income (BHC) from 1988 to 2011 by ethnicity.[[48]](#footnote-49)

The impact of the economic downturn and global financial crisis is clear for all except the ‘Other ethnicity’ group. The relatively small sample sizes for Maori and Pacific mean that precision is not possible, but it is clear that the decline in real terms for Maori (~8%) from 2009-10 to 2010-11 HES was substantial. The Income Survey figures from the Household Labour Force Survey supplement tell the same story.

From a longer-term perspective, all groups showed a strong rise from the low point in the mid 1990s through to 2010. In real terms, overall median household income rose 47% from 1994 to 2010: for Maori, the rise was even stronger at 68%, and for Pacific, 77%. These findings for longer- term trends are robust, even though some year on year changes may be less certain. For 2004 to 2010, the respective growth figures were 21%, 31% and 14%.[[49]](#footnote-50)

**Figure D.11**

**Real equivalised median household incomes (BHC) by ethnicity, 1988 to 2011 ($2011)**



**Table D.6**

**Real equivalised median household income (BHC) by ethnicity, 1988 to 2011 ($2011)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| **Euro/Pakeha** | 27,400 | 27,300 | 24,500 | 24,200 | 25,200 | 27,400 | 28,000 | 31,400 | 32,300 | 35,500 | 35,900 | 35,200 |
| **NZ Māori** | 22,700 | 20,500 | 16,700 | 16,900 | 20,100 | 21,200 | 22,700 | 23,400 | 23,000 | 26,300 | 28,300 | 26,000 |
| **Pacific** | 22,200 | 19,500 | 17,700 | 15,900 | 17,400 | 19,300 | 18,700 | 21,400 | 25,100 | 28,300 | 28,000 | 26,800 |
| **Other** | 24,600 | 23,700 | 23,400 | 17,600 | 20,200 | 17,300 | 27,200 | 22,800 | 28,700 | 28,500 | 29,000 | 29,300 |
| **ALL** | 26,100 | 25,500 | 23,000 | 22,300 | 23,600 | 25,600 | 26,300 | 28,300 | 29,900 | 32,500 | 32,800 | 31,900 |

## The incomes reported in Te Ao Marama

## Statistics New Zealand recently published Te Ao Marama, a small collection of statistics relating to Maori. It reports that median income from all sources declined for Maori from 2008 to 2011, whereas median income for the whole population remained reasonably steady in the same period.

## Te Ao Marama reports the incomes of individuals not of households. This is why the Te Ao Marama trends are different from those reported in this Incomes Report.

## The changing overall shape of the household income distribution

The different rates of change for different parts of the household income distribution from 1984 to 2007 lead to a changing shape for the overall income distribution.

The changes are shown on the next pages in **Figures D.12, D.13 and D.14** for 1984-1994, 1994-2004 and 1984-2004 respectively, and in **Figure D.15** for 2004-2007.

The most significant structural change to the income distribution over the two decades from 1984 to 2004 (Figure D.14) is a significant hollowing out of the middle parts of the distribution from $12,000 to $30,000 (equivalised) and a corresponding increase in the proportion of the population in higher income households. There was also a small increase in the proportion of the population in low-income households in this period. From 2004 to 2007, the impact of the WFF package in that period is very clear for low to middle income households (Figure D.15).

The income distribution was more dispersed in 2004 than in 1984 (ie inequality was higher).

**Constructing the graphs in Figures D.12, D.13, D.14 and D.15**

All graphs are in $2004.

To construct the line for the 2004 HES year, individuals are grouped by the equivalised incomes of their households into bands (‘bins’) of $2000 up to the $36,000 mark, then into $4000 bins in the less dense parts above that. The number in each bin is expressed as a proportion of the whole population. This gives the density at the midpoint of the respective bins.

For 1984 and 1994 the $2000 and $4000 nominal bin-sizes are adjusted downwards using the CPI so that for each year bin-sizes are kept the same size in real terms. For 2007 the $2000 and $4000 nominal bin-sizes are adjusted upwards using the CPI.

The same outcome can be achieved by converting the income of all households to 2004 dollars and using the 2004 nominal bin-sizes.

The total area under the plotted line is therefore forced to be the same for each year as the base length is the same in each case ($70,000) and the sum of the densities = 1 by definition. This approach produces a reasonable smoothing of the lines and enables valid year-on-year comparisons. It is in effect a simple but effective approximation to the more sophisticated adaptive kernel density function technique.

**Figure D.12**



## Figure D.13

## 

## Figure D.14

## 

## Note: The household income distributions are person-weighted. The graphs show the density of individuals attributed with the equivalised income of their respective households.

The significant change in shape of the income distribution from 2004 to 2007 (**Figure D.15**) reflects two main factors:

* the impact of the WFF package on low to middle income households
* the reduction in the number of people in households whose main source of income is an income-tested benefit (100,000 fewer in 2007 than in 2004).

## Figure D.15



## Income inequality: summary indicators

Income inequality is about how dispersed the income distribution is.

Figures D.5 to D.10 (above) give a visual impression of how the income distribution became more dispersed from 1982 to 2011, albeit the dispersion decreased from around 2001 to 2009 before the volatility induced by the economic downturn and global financial crisis.

There are several ways that are used to summarise the amount of income dispersion or inequality in a single statistic. No one statistic has emerged as the generally accepted way, mainly because each one captures a different aspect of the way the dispersion of incomes changes over time. It is now common to report on more than one indicator and to compare the trends produced by each. [[50]](#footnote-51)

This report uses two measures: percentile ratios and the Gini coefficient.

**Percentile ratios**

When individuals are ranked on the equivalised income of their respective households and divided into 100 equal-sized groups, each group is called a percentile. If the ranking starts with the lowest income then the income at the top of the 10th percentile is denoted P10, the median or top of the 50th percentile is P50 and so on. Ratios of values at the top of selected percentiles, such as P80/P20, are often called percentile ratios. Percentile ratios summarise the relative distance between two points in the income distribution.

This report uses four percentile ratios to provide a succinct picture of trends in income inequality.

* The P90/P10 ratio provides a good indication of the full spread of the distribution, going as far as possible to the extremes without running the risk of being overly influenced by unrepresentative very high incomes or by the difficulties with bottom decile incomes.
* The P80/P20 ratio gives a better indication of the size of the range within which the majority of the population fall and has less volatility than the P90/P10 ratio.
* The P80/P50 and the P20/P50 ratios give an indication of how higher and lower incomes compare with the midpoint.

For the P90/P10, P80/P20 and P80/P50 indicators, the higher the ratio the greater is the level of inequality. For the P20/P50 indicator, the higher the ratio the lower is the level of inequality in this part of the distribution.

**Figure D.16** shows the trends for the P80/P20 ratio. Incomes after adjusting for housing costs (AHC) are more dispersed than BHC incomes. The most rapid rises in inequality occurred in the 1988-1992 period. There was a further net rise in the decade from 1994 to 2004 but the rate of increase was slower.

From 2004 to 2007, the P80/P20 ratio fell, indicating decreasing inequality in the period, mainly as a result of the Working for Families package (2004 to 2007). The impact of the economic downturn and GFC on incomes has led to some volatility in the index from 2009 to 2010 to 2011. It will take another survey or two before the post-crisis inequality level becomes clear. (See the Gini section on the next page for a more detailed discussion of the impact on incomes of the GFC and economic downturn.)

**Figure D.16**

**Income inequality in New Zealand: the P80/P20 ratio, 1982 to 2011, total population**



**Tables D.7 and D.8** summarise the trends in all four percentile ratios from 1982 to 2010.

**Table D.7**

**BHC income inequality in New Zealand: percentile ratios, 1982 to 2011, total population**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1982** | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| **P90/P10** | 3.25 | 3.31 | 3.20 | 3.11 | 3.43 | 3.80 | 3.87 | 3.79 | 3.68 | 3.91 | 4.17 | 4.07 | 4.02 | 3.80 | 3.97 |
| **P80/P20** | 2.32 | 2.29 | 2.19 | 2.24 | 2.42 | 2.53 | 2.52 | 2.55 | 2.59 | 2.68 | 2.74 | 2.57 | 2.52 | 2.42 | 2.58 |
| **P80/P50** | 1.51 | 1.53 | 1.48 | 1.49 | 1.60 | 1.64 | 1.66 | 1.66 | 1.65 | 1.66 | 1.62 | 1.61 | 1.58 | 1.54 | 1.61 |
| **P20/P50** | 0.65 | 0.67 | 0.68 | 0.67 | 0.66 | 0.65 | 0.66 | 0.65 | 0.64 | 0.62 | 0.59 | 0.62 | 0.63 | 0.64 | 0.63 |

**Table D.8**

**AHC income inequality in New Zealand: percentile ratios, 1982 to 2011, total population**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1982** | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| **P90/P10** | 3.63 | 3.69 | 3.46 | 3.48 | 3.98 | 5.04 | 5.16 | 5.59 | 5.74 | 5.57 | 5.57 | 5.77 | 5.27 | 4.85 | 5.12 |
| **P80/P20** | 2.40 | 2.39 | 2.30 | 2.37 | 2.54 | 2.87 | 2.99 | 2.97 | 2.91 | 3.10 | 3.12 | 2.86 | 2.79 | 2.75 | 2.85 |
| **P80/P50** | 1.57 | 1.59 | 1.51 | 1.53 | 1.63 | 1.67 | 1.71 | 1.74 | 1.73 | 1.73 | 1.75 | 1.70 | 1.66 | 1.65 | 1.71 |
| **P20/P50** | 0.65 | 0.66 | 0.65 | 0.65 | 0.64 | 0.58 | 0.57 | 0.58 | 0.59 | 0.56 | 0.56 | 0.60 | 0.59 | 0.60 | 0.60 |

### Gini coefficient

In contrast to the percentile ratios the Gini coefficient takes the incomes of all individuals into account. It gives a summary of the income differences between each person in the population and every other person in the population. A difference of, say, $1000 between two high-income people contributes as much to the index as a difference of $1000 between two low-income people.

When comparing changes in income distributions over time, it is important to note that the Gini coefficient is more sensitive to changes in the more dense low-to-middle parts of the distribution than it is to changes more towards the ends of the distribution. The Gini scores (x100) range from 0 to 100 with scores closer to 100 indicating higher inequality and those nearer zero indicating lower inequality (ie greater equality).

The first main feature of **Figure D.17** is the steep rise in the Gini coefficient from the late 1980s to the early 1990s. This is a similar trend to that shown by the P80/P20 ratio. The Gini declined a little from 2001 to 2007, reflecting improving employment, reducing unemployment and the impact of the WFF package which boosted incomes for low to middle income households with children.

The second main feature is the volatility for the inequality figures from 2009 to 2010 to 2011 (for both the Gini and the 80:20 measures), the period in which the impact of the GFC and economic downturn is evident in the HES income data. From 2007 to 2009, the Gini increased a little but the 80:20 percentile ratio fell. From 2009 to 2010 there was a large fall in the Gini, followed by a large rise from 2010 to 2011.

### Figure D.17

**Inequality in New Zealand: the Gini coefficient**



The volatility from HES 2009 to 2011 reflects the differing size and timing of the impact of the GFC and associated economic downturn on the various components of market income and on different parts of the income distribution.

* The lower figures in 2010 compared with 2007 reflect two changes: a small real gain for lower deciles, and a decline in real incomes for the top two deciles (mainly from lower self-employment income and lower investment returns).
* From the 2010 to 2011 HES both the 80:20 ratio and the Gini rose significantly. This reflects the rise in incomes in the top third and the fall in incomes in the bottom two thirds of the income distribution described above in, for example, Figure D.8. The rise for higher incomes reflects higher self-employment incomes, some gains in returns on investment, and a modest (%) gain in income from wages and salaries. The fall in income for the lower two thirds is mainly from lower employment income.

It will take another survey or two to be able to see where the inequality trend will settle after the shocks from the GFC, the Christchurch earthquakes, and the economic downturn and recovery. The average of the 2009, 2010 and 2011 figures is in the range that prevailed from 2004 to 2007, but the impact of the shock cannot be predicted from that. Figure D.17 shows that the Gini can sometimes fluctuate from year to year and the trend becomes clear only on looking back.

**Table D.9** shows that inequality is greater for AHC incomes than for BHC, as is the case when using percentile ratios. This reflects the fact that housing costs generally make up a greater proportion of household income for lower-income households than for higher-income households, thus increasing the spread of (AHC) incomes.

**Table D.9**

**Income inequality in New Zealand: the Gini coefficient (x100)[[51]](#footnote-52) [[52]](#footnote-53)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1982** | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| **BHC** | 26.0 | 26.0 | 25.4 | 25.1 | 29.0 | 30.1 | 31.0 | 32.0 | 32.0 | 32.6 | 32.3 | 31.7 | 32.3 | 30.9 | 33.3 |
| **AHC** | 28.0 | 28.5 | 27.4 | 28.5 | 32.1 | 34.9 | 35.6 | 37.2 | 37.5 | 38.1 | 37.0 | 36.8 | 37.5 | 36.1 | 38.8 |

**Box 1**

**How the income inequality picture changes depending on the income concept used**

The level of inequality or dispersion in the distribution of incomes depends on which income concept is used.

This report uses equivalised disposable household income as the income concept for all its income distribution, inequality and poverty analysis. This is the total after-tax income of all individuals in the household, together with Working for Families Tax Credits and other non-taxable income such as the Accommodation Supplement (AS) and so on, adjusted for household size and composition. This is standard international practice for reports of this type, where the focus is on household income as an indicator of the material wellbeing of household members relative to others from other households.

The graph below shows the different levels of inequality that different income concepts produce, using the 80:20 percentile ratio as the measure.

Inequality decreases considerably when the focus moves from individuals to households (HHs). The 80:20 ratio falls from 5.5 for individual taxable income to 3.5 for HH gross taxable income. HH gross taxable income excludes all non-taxable components such as WFF tax credits, AS, and so on. When these are included, inequality drops further (HH gross). Taking personal income tax deductions into account further reduces the 80:20 ratio, as does the adjustment for household size and composition. The 80:20 ratio is more than halved in going from individual taxable income to equivalised disposable HH income. The latter is the best of these income concepts to use when using income to assess the material wellbeing of the population, and of subgroups within it.

**80:20 percentile ratio for different income concepts**

**(HLFS 2009 for individuals, HES 2009 for households)**



When the same group of individuals is followed over time (longitudinal data), and the income concept is the average household disposable income of the individual over, say, a decade, then measured inequality falls even further as a result of income mobility. See **Section L** for more on this.

## Long-run trends for very high incomes

Those with very high incomes (for example the top 1%) make up a small share of the population but their incomes make up a relatively large share of total income and total income tax paid.

Long-run time series on very high incomes based in the main on income tax data have recently become available, largely due to the work of Tony Atkinson (UK), Thomas Pikketty (France) and Emmanuel Saez (US). See for example, Atkinson et (2011).

**Figure D.18** shows the share of total income received by those with the top 1% of income from the 1920s to around 2010 for the US, the UK, Canada, Australia and New Zealand.

For the US, the UK and Canada there is a clear U-shaped curve with the share of total income received by the top 1% rising fairly steeply for the US and the UK from the mid 1980s, roughly doubling from 8% to 16% in 2009 for the US and from 6% to 15% for the UK. For New Zealand and Australia the proportion of total incomes received by the top 1% is less than for the US and the UK, but the rise from the mid 1980s to 2009 is still steep, doubling the share from 5% to around 9-10% in the period. Ireland also has a U-shaped curve.

Not all OECD countries show the U-shaped curve. For example, France, the Netherlands, Germany and Japan show more of an L-shaped curve: they do not show the rapid rise from the mid-1980s that the English-speaking countries do, remaining steady in the 5-10% range (which is where New Zealand and Australia have ended up in 2009).

### Figure D.18

**Very high income: share of income received by top 1%, 1920 to 2010**

## 

## Source: Alvaredo et al (2012)

## The increasing share of income received by the 1% (and therefore the reducing share by the 99%) is another aspect of the inequality picture. The usual percentile ratios are not directly influenced by what income share the top 1% receive. The Gini is influenced by these very high incomes if they are ever captured in the usual sample surveys, which is unlikely.

## Wealth inequality

Wealth is a key component of a household’s economic resources.[[53]](#footnote-54) For example, households with low incomes but relatively high wealth levels are able to achieve higher actual living standards than low-income households with low wealth levels. In practice, especially for working-age households, income and wealth are highly (but far from perfectly) correlated. Most who are counted as income poor also have negligible financial assets and very low net worth (see **Figure D.19** below).[[54]](#footnote-55)

Wealth is distributed much more unequally than income (especially disposable income after tax and transfers).

As shown in **Figure D.19**, in New Zealand in 2003-2004 the top wealth decile accounted for around 50% of the total wealth, whereas the top income decile accounted for 25% of the total income (see Figure B.4). The Gini for income in 2003-04 was 32, and the wealth Gini was 69. This degree of wealth inequality appears to be not greatly different to what prevails in many other OECD countries (see Section I for details).

### Figure D.19

**Wealth and income distribution in New Zealand, 2003-2004: cumulative frequency (%)**



Source: Wealth data is from unpublished New Zealand Treasury analysis of wave 2 (2003-2004) of Statistics New Zealand’s Survey of Family, Income and Employment. Income data is from the 2004 HES.

Note: The income sharing unit for the incomes analysis is the household. The distribution is of individuals according to their household’s income For the wealth analysis the sharing unit is the EFU (‘family’). The wealth graph would be slightly differently shaped using the household as the sharing unit, but the finding that wealth inequality is much higher than income inequality is robust.

# Section E

# Low incomes, poverty and material hardship: conceptualisation and measurement issues

For the analysis of trends in poverty and material hardship, this report uses low-income thresholds set at 50% and 60% of median household income.

Individuals and groups below such lines can be described in a bland analytical way as ‘low-income populations’, but it is now very common practice in New Zealand and internationally for the 50% and 60% thresholds, and others in that general part of the distribution, to be referred to as ‘poverty lines’ and those below them as ‘poor’ or ‘in poverty’ or ‘at risk of poverty’.

The growing acceptability of ‘poverty’ language in more official contexts in the richer nations is reflected in recent OECD and UNICEF publications of international comparisons of poverty rates, and in decisions by the European Union (EU) to regularly publish income-based poverty indicators as part of a wider social reporting by Eurostat.

On the other hand, the positions taken by governments of non-European OECD countries have been and are more mixed with respect to a poverty discourse and whether or not to adopt any official measure or measures of poverty. In the United States, the War on Poverty announced in 1964 and the associated establishment of an official poverty line in 1969 have done much to ensure that poverty language has been and still is an accepted part of economic and social policy discourse in the United States. By contrast, in the United Kingdom, a Conservative government in the 1980s and the first half of the 1990s did not approve of poverty language and did not adopt an official measure. ‘Margaret Thatcher, supported by Helmut Kohl in Germany, … successfully banished the word ‘poverty’ from the political lexicon for a generation. Tony Blair rehabilitated its use in a keynote speech in 1999 [where he] committed the government to eradicating child poverty [within a generation]’ (Tomlinson and Walker (2009:8)). The UK now has official measures of child poverty, enshrined in the Child Poverty Act 2010 and supported by the Cameron-Clegg coalition government, albeit the chances of achieving the targets now seem remote. Canada has an elaborate low income measurement regime using low income cut-offs (LICOs), low income measures (LIMs) and a Market Basket Measure (MBM), but Statistics Canada has consistently noted that these are not poverty lines.

As recently as 1996, the government of the time in New Zealand was openly disapproving of any poverty discourse.[[55]](#footnote-56) However, in 2002, in the context of the Agenda for Children, the government made a commitment to eliminate child poverty, and in the Speech from the Throne in November 2005, the Governor-General described the Working for Families package as “the biggest offensive on child poverty New Zealand has seen for decades”. The current National-led government, like the previous Labour-led government, espouses the principle that ‘paid work is the best way to reduce child poverty’. New Zealand does not however have an official poverty measure.

Researchers, advocacy groups and others in all the richer nations have used ‘poverty’ language and a range of poverty measures for a long time. The growing acceptance of the discourse by governments and their agencies can be seen as helpful to the extent that it represents official recognition that some citizens are experiencing unacceptable material hardship. It can serve to remind us all that behind the statistics are real people who are to varying degrees experiencing the stressful and demoralising exclusion from ordinary life that financial strictures and material hardship bring. Properly understood, “use of the term ‘poverty’ carries with it an implication and moral imperative that something should be done about it” (Piachaud, 1987:161).

It is however very easy for such language to be used in a way that ignores the fact that the conceptualisation and measurement of poverty is problematic and contested. For example it used to be said that ‘one in three children in New Zealand are below the poverty line’.[[56]](#footnote-57) This claim is really short-hand for ‘using an income measure after housing costs have been deducted, around one in three children are below a threshold set at 60% of the median’. If another measure were used, the summary sound bite would be different. For example, on the most common measure used by the OECD, using income without deducting housing costs and a lower threshold of 50% of the median, around one in seven children were ‘below the line’ at that time, less than half the one in three rate that was commonly referred to. These observations underline the importance of always being clear as to what measure is being used when reporting poverty rates.

All income poverty measures, even official ones, are constructs requiring judgement calls. These calls have to be made on a range of matters which can at first sight appear to be just technical decisions but which in fact reflect or imply underlying assumptions. There is no clear delineation between the poor and the non-poor that science can identify independent of judgment. This is not to say that any measure will do nor that all measures are equally suspect – some are clearly more defensible and reasonable than others. What is crucial in discussing poverty rates and trends is to identify what measure is being used, and to be aware of the different rationales for and pictures presented by the different measures. One of the goals of this report is to encourage and contribute to that sort of discussion and awareness in measuring, monitoring and better understanding ‘poverty and hardship’ in New Zealand.

## This section and the ones that follow:

* outline key issues involved in conceptualising and measuring poverty and hardship using household incomes
* report on trends in proportions of people below various low-income thresholds, by:
* age group
* ethnicity (to a limited extent)
* household and family type
* labour market status
* tenure
* summarise findings on income mobility and poverty persistence from recent research using longitudinal income data from the Survey of Families, Income and Employment
* report international comparisons on income poverty
* provide an integrated account of the findings on poverty and hardship using both household incomes and non-income measures.

## What is meant by ‘poverty’ in richer nations

The understanding of poverty and the associated measurement approach used in this report is narrowly focused. It is about ‘unacceptable material hardship’ arising from limited financial resources, and the insights about this that can be gleaned from a large-scale national survey.

This is a legitimate focus, but in pursuing it it is important to be aware that there is much more to ‘poverty’ than what can be measured (albeit imperfectly) through analysis of data from income or deprivation surveys. These can tell us about the material core (‘unacceptable material hardship’), but a different type of research is needed to give insight into how this unacceptable hardship is experienced and understood.

What is at issue here is the non-material as well as the material manifestations of poverty. Poverty has to be understood not just as a disadvantaged and insecure economic *condition* but also as a shameful and corrosive social *relation* … [The non-material aspects include] … lack of voice; disrespect, humiliation and assault on dignity and self-esteem; shame and stigma; powerlessness; denial of rights and diminished citizenship … They stem from people in poverty’s everyday interactions with the wider society and from the way they are talked about and treated by politicians, officials, the media and other influential bodies.

Lister (2004:7)

### 

What people on low incomes report is a situation of great complexity in which the pressures they face are cumulative. Basics become luxuries that have to be prioritised and saved for. Solutions to one problem create problems of their own, as when saving on heating exacerbates illness and borrowing from the rent money generates arrears and threats of eviction. Poverty feels like entrapment when options are always lacking, the future is looming and unpredictable, and guilt seems ever present, arising from an inability to meet one’s children’s needs, one’s own expectations and society’s demands.

Tomlinson and Walker (2009:16)

### Relative disadvantage

When talking about poverty or material hardship in the context of the richer nations, people are usually referring to relative disadvantage. Relative disadvantage means that, in comparison to others in the population, a person has a day-to­-day standard of living or access to resources that falls below a minimum acceptable community standard. In contrast, ‘absolute’ poverty refers to very basic minimal needs, such as food, clean water and shelter, which a person requires just to (physically) survive.

Most of the poor in OECD countries today … would be judged rich by the ‘dollar-a-day’ definition widely used to measure poverty in the developing world. Similarly, the poor of the OECD today – judged by standards of nutrition, sanitation, water supply, health care, housing, heating, clothing, education and transport – are richer than the wealthiest lord or merchant of the Middle Age*s.* UNICEF (2005: 6)

In this report poverty is understood as *exclusion from the minimum acceptable way of life in one’s own society because of inadequate resources*. The definition is explicitly relative, and includes both resources and outcome elements.[[57]](#footnote-58)

**Resources or outcomes?**

While this definition (or something similar) is “the most commonly used definition in the industrialised world” (UNICEF 2000:6), it leaves open the question as to which aspect is primary – the inadequate resources or the restricted day-to-day living standards?

The general high-level observation that having inadequate resources leads to exclusion from a minimum acceptable way of life is not in dispute, but there are differing views as to which is the primary conceptualisation of poverty. When the focus is on the outcome (ie low living standards), income measures of limited resources are seen as only indirect measures of poverty. It is on this basis that those in households below conventional income thresholds are referred to not as ‘in poverty’ but rather ‘at risk of poverty’ (as in the EU).

On the other hand when the focus is on income and equality of opportunity, low living standards can be seen to be a consequence of income poverty, although other factors may play a part too (recall Figure A.1 in the Introduction).

**Table E.1** summarises the difference of perspective that comes from emphasising one or the other.

**Table E.1**

**Comparison of the two approaches to poverty conceptualisation and measurement**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **Resources or input perspective** | | **Living standards or outcomes perspective** | |
| The agreed process is that … | | lack of resources leads to … | | exclusion from a minimum  way of life | |
| Primary measure | | current income | | deprivation indicators | |
| If the resource perspective is the focus, then … | | ‘poverty’ is about unacceptably low income | | and low living standards is seen as the outcome of poverty | |
| If the outcomes perspective is the focus, then … | | unacceptably low income is seen as a prime cause of poverty | | but ‘poverty’ is essentially about unacceptably low day-to-day living standards | |
| Policy perspective | | (In)equality of opportunity | | (In)equality of outcome | |

Adapted from Perry (2002) Table 4, and Berthoud et al (2006) Figure 1.2.

This report takes the view that both approaches have their place and that debate about primacy is not helpful as poverty and hardship (even understood more narrowly as being about the ‘material core’) are multi-dimensional and require a range of indicators to better describe their many aspects, and to help understand their causes and longer-term impacts. Each approach has its limitations. This is not an indecisive dollar-each-way position but one that is deliberately taken both on conceptual grounds and also on empirical grounds.

For example, it is well-established that there is a significant mismatch between poverty measured using a current income approach and poverty measured using deprivation indices or other measures of unacceptably low living standards. The overlap is only of the order of 40-50% for the population as a whole.[[58]](#footnote-59) This is hardly surprising given that day-to-day living standards are determined by much more than current income (see Figure A.1 in the Introduction).

The Ministry of Social Development has developed an Economic Living Standards Index (ELSI) to more directly monitor the living standards of New Zealanders in their day-to-day lives. ELSI-based findings sit alongside the findings from income-based analyses such as in this report and together they give a more textured and comprehensive assessment of the material wellbeing of New Zealand citizens. [[59]](#footnote-60)

### Constructing measures of income poverty

Reported levels of income poverty and the direction of trends over time depend not only on changes in the economic circumstances of families and households but also on the specific measure used to produce the poverty numbers.

**Key decisions in constructing a measure**

The general approach to using household incomes to give headcount measures of poverty and hardship is well-established. Each household member is assigned the equivalised disposable income of their household as an indicator of their (potential) living standards and individuals in the population are ranked accordingly. One or more poverty thresholds are decided on, the numbers below these cut-offs are counted and the numbers or proportions ‘in poverty’ are reported.

Within this general approach there are however a range of decisions on key issues that can make a significant difference to what is reported for levels or trends in poverty numbers, and in the composition of the group identified as poor. Different measures reflect the different decisions at key points on such matters as:

* whether to use incomes before or after deducting housing costs (BHC or AHC)
* which equivalence scale to use, reflecting different judgments about factors such as the strength of the economies of scale as household size increases, and the relative weight to be given to children compared with adults
* where to draw thresholds (poverty lines) that are consistent with a minimum acceptable standard of living, all else equal
* how to update the thresholds from one survey to the next.

Different decisions on the first three matters generally lead to different poverty levels being reported at a given time and some difference in the reported composition of those identified as poor. However the general trends over time tend to be not greatly affected by the choices made for these three factors. This paper reports sensitivity analysis for the different choices made on these issues.

One factor that does have a significant effect on reported trends in income poverty (and the level at a given time) is the decision about how to adjust the low-income threshold(s) over time. There are two common ways in which this adjustment is made and they differ in how they assess whether an improvement has occurred in a household’s income circumstances:

* one approach considers that a low-income household has improved its situation when its income rises in real terms, irrespective of what is happening to the incomes of other households - the ‘fixed line’, ‘anchored’, or ‘constant-value (CV)’ approach;
* the other uses the median household as the reference and an improvement is considered to have occurred when a poor household moves closer to the median – the ‘moving line’ or ‘relative (REL)’ approach.

These two approaches are discussed below.

**Using fixed line and moving line thresholds to adjust thresholds over time**

The constant-value (CV), ‘fixed line’ or ‘anchored’ approach to adjusting thresholds over time maintains the real value of a chosen poverty line by adjusting it each year with the CPI. On this approach a household’s situation is considered to have improved if its income rises in real terms, irrespective of whether its rising income makes it any closer or further away from the middle or average household.

The relative-to-contemporary-median (REL) or ‘moving line’ approach sets the poverty line as a proportion of the median income from each survey so that the threshold changes in lockstep with the incomes of those in the middle of the income distribution. On this approach the situation of a low-income household is considered to have improved if its income gets closer to that of the median household, irrespective of whether it is better or worse off in real terms.

Both approaches reflect the ‘relative disadvantage’ concept of poverty and hardship. The REL approach is self-evidently a relative approach. The CV approach has to be benchmarked against community standards in some way to start with, then after some years of being kept at the same level in real terms it has to be re-based – again relative to some estimate of community standards.

Both approaches are used in income poverty analysis in OECD-type nations. They each have a valid story to tell about the situation of people in lower-income households.

In the short to medium term, the fixed line (CV) measure can be seen as the more fundamental measure in the sense that it reveals whether the incomes of low-income households are rising or falling in real terms. Whatever is happening to the incomes of the ‘non-poor’, if more and more people end up falling below a CV threshold, as happened in New Zealand from the late 1980s through to the mid 1990s, then in the population at large there is likely to be wide concern about increasing poverty.

In times of good economic growth with rising real wages, rising employment and declining unemployment, poverty rates measured on a CV approach can generally be expected to decline, as they have in New Zealand since the mid 1990s. There is however a limit to how low even CV rates can fall when there is a large beneficiary population on incomes that do not (often) rise in real terms.

The REL or moving line approach can produce counter-intuitive results over time. For example, in times of good economic growth with rising real wages, rising employment and reducing unemployment, median income (and therefore the poverty lines which are simply a proportion of the median) can rise more quickly than the incomes in the lower parts of the income distribution. In these circumstances a REL measure would report increasing poverty even if those in low-income households were experiencing real income growth.

This counter-intuitive result was observed in Ireland in the 1990s: the poor became ‘richer’ in real terms, but because the income growth of the middle income households was even greater, poverty rates grew considerably as measured using a REL threshold. This also happened for New Zealand from 1998 to 2004, albeit on a more modest scale.

The reverse is also possible. It was observed in the Czech Republic, Hungary and Poland in the early 1990s when each of these nations experienced large falls in national income. Real incomes fell, but poverty was reported as declining as measured by a REL approach as a result of the falling median and therefore the lowering poverty thresholds. In New Zealand, real incomes for many fell in the period from 1988 to 1994. Using a threshold held fixed in real terms, the CV approach clearly showed the worsening situation for many of the poor. Using a REL approach, poverty rates stayed reasonably constant in the period as both household incomes and the thresholds set as a proportion of the median were falling. (See Section F.)

This report provides trend information using both the CV and REL approaches, but considers the CV approach as the more fundamental measure for the purposes of tracking material wellbeing using household incomes in the short to medium term.

Two questions are sometimes raised in relation to updating thresholds over time.

* As median household incomes rise (or fall) in real terms, CV or fixed thresholds fall (rise) as a proportion of the contemporary median. How often should the reference year be re-set so that the value of the CV thresholds do not move too far from the implied reference level relative to the population as a whole?
* In times of economic growth, can poverty rates ever fall when measured using a moving line approach?

These are discussed below.

The reference year for measures using a fixed line approach

As median household incomes rise (or fall) in real terms over time, the fixed (CV) poverty lines can become unrealistically low (or high) relative to the contemporary median. The question arises as to how often to re-set the CV poverty lines. The decision on this depends to a large degree on the rate of change in median incomes: higher rates of change mean that the re-setting needs to occur sooner so that the thresholds do not move too far from (or get too close to) average incomes.

Until last year’s report, the Household Incomes series (and their pre-cursors) used 1998 as the base or reference year for setting CV thresholds, adjusting back and forward using the CPI. Because of the way median incomes fell then rose from 1982 to 2008, 1998 CV measures were convenient and appropriate to use for the period. **Table E.2** and **Figure E.1** show that the CV threshold set at 60% of the 1998 median stayed within a band of 50% to 70% of the BHC median for 1982 to 2008, and within five to six percentage points of 60% for the bulk of the period.

**Table E.2**

**CV threshold set at 60% of the 1998 median**

**expressed as a proportion of the contemporary median (BHC), 1982 to 2009**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1982** | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2008** | **2009** |
| 58% | 59% | 61% | 59% | 60% | 67% | 69% | 65% | 60% | 58% | 54% | 51% | 50% | 47% |

**Figure E.1**

**CV threshold set at 60% of the 1998 median**

**expressed as a proportion of the contemporary median (BHC), 1982 to 2009**



Last year’s report shifted the reference year for ‘fixed line’ poverty measures from 1998 to 2007. Moving the reference year only to 2004 ran the risk of requiring another move of reference year in a relatively few years. The decision to go to 2007 was made with a view to not having to change it again for some time.

**Figure E.2** shows the impact of the choice of reference year on where the CV threshold sits relative to the contemporary median. The continued use of a 1998 CV threshold would have lacked credibility, with its value dipping below 50% of the contemporary median in 2009 and highly likely to reduce even further in the near future. Moving only to 2004 seemed to be likely to require a another change in perhaps 2011 or 2012, so the reference year was moved to 2007.

**Figure E.2**

**CV threshold set at 60% of the 1998, 2004 and 2007 medians**

**expressed as a proportion of the contemporary median (BHC), 1982 to 2009**

### 

**Figure E.3** shows what a re-basing to 2004 and 2007 does for the AHC 60% CV poverty trend. In effect it simply shifts the trend line up over the whole period.

### Figure E.3

**Changing the base year from 1998 to 2004 or 2007 for CV poverty lines:**

**an illustration using AHC incomes, 60% CV threshold, whole population**



Reporting on poverty figures back to 1982 using 2007 as the reference year tells us what proportion were ‘poor’ back then relative to a standard set in 2007. While this is interesting (and the report did this last year), it has no real value for giving a fair and useful picture of the extent of hardship ‘back then’ relative to the standards prevailing at the time or near to it. In this 2012 report, 2007 CV figures are therefore rarely given for the years before 2007 – only 1998 CV figures are usually given for these earlier years. 1998 CV figures are given in the main tables for 2007 to 2011 to provide overlap comparison for a few years. The intention is to draw a line on any further use of this 1998 CV series for years after the 2011 HES. The discontinuity in the CV series adds a complexity to ‘telling the story’, but it also has the value of making explicit just what the CV (fixed line) approach is about: it emphasises that it too is really a relative measure – a relative measure held fixed for the short-term.

Can poverty rates ever fall using a REL or moving threshold approach?

It has often been pointed out that measuring poverty using a REL or moving threshold approach makes it very difficult for poverty rates to decline during periods of sustained economic growth. During such periods, median household incomes are likely to rise, and unless incomes in the bottom decile or two show an equal or greater rise, then poverty rates using a REL approach will be reported as increasing because the poverty line (set as a proportion of the median) will rise more quickly than the incomes of these low-income households.

This means that to achieve a reduction in poverty using a REL approach there has to be a rate of increase in incomes for low-income households that exceeds the rate of increase at the median. In other words, to achieve REL poverty reduction requires a changing of the shape of the lower end of the income distribution such that it gets moved to the right, closer to the median.

The Working for Families (WFF) package, progressively introduced from 2004 to 2007, put an additional $1.6b per annum mainly into low- to middle-income families once fully implemented. Although a little of the new money went to families at or above the median, the bulk went to families below the median and especially to those well below it. The shape of the bottom end of the income distribution was changed by the WFF package (see Figure D.14), and child poverty rates were reduced from 2004 to 2007 as a result, even on moving line measures.

**Reporting levels and trends for older New Zealanders (aged 65+)**

### Section A drew attention to the pensioner spike as a distinctive feature of New Zealand’s BHC income distribution. The spike is a direct consequence of (a) New Zealand having a universal New Zealand Superannuation (NZS) that is neither income nor asset tested, and (b) there being a good proportion of superannuitants with little other income over and above NZS.

The spike has implications for reporting on income poverty both for the 65+ and more generally. In the period from 1982 to 2004 the value of NZS moved within a range of 56% to 67% of the median household income (BHC). This means that on a BHC basis income poverty rates for the 65+ in the period are reported as near to zero using a 50% threshold.[[60]](#footnote-61) Using a 60% threshold they fell from 25% in 1988 to close to zero in the mid 1990s when the median fell in real terms and NZS was above the 60% threshold, and in 2010 were at 39% as the median had risen in real terms and the NZS value was well below the 60% threshold. These features (low for 50% then high, and very volatile for 60%) mean that a BHC approach for reporting trends in poverty rates for the 65+ is not useful. This is further discussed in **Section I**.

In 2009, the value of NZS relative to the median had fallen to 48%, so on a 50% of median measure, BHC poverty rates for older New Zealanders are reported as fairly rapidly rising from very low in 2001 to 22% in 2009. This leaves the misleading impression that the living standards of a sizeable group of older New Zealanders took a sudden turn for the worse over the few years up to 2009.

The AHC distribution still has some strong bunching but the pensioner spike is not as sharp. Furthermore, what remains of the spike is well above the 50% of median threshold for AHC incomes, and is mainly above the 60% of median threshold. Small shifts in the median or the threshold do not therefore have the same disproportionate and misleading effects on (trends in) poverty rates for the 65+ as they do when using BHC incomes.

This report therefore uses the AHC approach as the primary one for reporting on poverty rates for the 65+ and therefore for all subgroups so that the comparisons are on the same metric (see **Appendix 5** for more detail on this decision, or the **Introduction** for a summary of the key points).

### The low-income thresholds or poverty lines used in this report

### 

This report uses low-income thresholds or ‘poverty lines’ for BHC incomes set at 50% and 60% of the median equivalised household income (BHC), using both ‘moving’ and ‘fixed’ thresholds (REL and CV). The thresholds for housing-adjusted incomes (AHC) are set at the BHC thresholds less 25% as an allowance for housing costs. The rationale for the choice of thresholds (BHC and AHC) is outlined in **Appendix 6**.

**Tables E.3 and E.4** give the value of these thresholds in ordinary 2011 dollars per week for different household types. To convert to 2012 dollars (approximately), add 2%.

## Table E.3

**50% and 60% low-income thresholds or ‘poverty lines’ for various household types (BHC)**

**(2011 dollars, per week)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | REL (‘moving’) | | CV (‘fixed’) | |
| Household type | Equiv ratio | 50% of 2011 median | 60% of 2011 median | 50% of 2007 median in $2011 | 60% of 2007 median in $2011 |
| One-person HH | 1.00 | 305 | 370 | 285 | 345 |
| SP, 1 child | 1.40 | 430 | 515 | 400 | 485 |
| SP, 2 children | 1.75 | 535 | 645 | 500 | 605 |
| SP, 3 children | 2.06 | 630 | 760 | 590 | 710 |
| Couple only | 1.54 | 470 | 565 | 440 | 530 |
| 2P, 1 child | 1.86 | 570 | 685 | 535 | 640 |
| 2P, 2 children | 2.17 | 665 | 800 | 625 | 750 |
| 2P, 3 children | 2.43 | 745 | 895 | 700 | 840 |
| 2P, 4 children | 2.69 | 825 | 990 | 775 | 930 |
| 3 adults | 1.98 | 605 | 730 | 570 | 685 |

## Table E.4

**50% and 60% low-income thresholds or ‘poverty lines’ for various household types (AHC)**

**(2011 dollars, per week)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | REL (‘moving’) | | CV (‘fixed’) | |
| Household type | Equiv ratio | 50% of 2011 median | 60% of 2011 median | 50% of 2007 median in $2011 | 60% of 2007 median in $2011 |
| One-person HH | 1.00 | 230 | 275 | 215 | 260 |
| SP, 1 child | 1.40 | 320 | 385 | 300 | 360 |
| SP, 2 children | 1.75 | 400 | 485 | 375 | 455 |
| SP, 3 children | 2.06 | 475 | 570 | 445 | 535 |
| Couple only | 1.54 | 355 | 425 | 332 | 400 |
| 2P, 1 child | 1.86 | 430 | 515 | 400 | 480 |
| 2P, 2 children | 2.17 | 500 | 600 | 470 | 560 |
| 2P, 3 children | 2.43 | 560 | 670 | 525 | 630 |
| 2P, 4 children | 2.69 | 620 | 740 | 580 | 695 |
| 3 adults | 1.98 | 455 | 545 | 425 | 510 |

### Note: AHC thresholds are calculated by deducting 25% from the corresponding BHC threshold as an allowance for housing costs. Each household’s AHC income is then assessed against the chosen threshold.

### 

### Poverty depth and persistence

### Reporting on trends in headcount poverty rates provides valuable information for assessing our progress as a nation and for informing policy development and debate. However, such information tells only a part of the incomes story. Two other insights are needed to round out the picture: trends in the depth of poverty and in the persistence of poverty for individuals over time.

Understanding poverty depth is about knowing what is happening to the incomes of those identified as poor from survey to survey. Are the poor today in the main sitting just below, say, a 50% threshold, or are they on average much poorer than their counterparts in earlier surveys, generally having incomes below, say, a 40% threshold? There are issues around the quality of the data among households with very low incomes, and these present challenges to providing robust information on poverty depth. Subject to these limitations, measures of poverty depth are discussed and trends reported at the end of the next section (Section F).

Secondly, while surveys like the HES are very valuable they give only repeated snapshot information of a different sample of households each survey. They cannot tell us, for example, how many of the poor in one survey are still among those counted as poor in the next. A more comprehensive picture needs information from surveys which follow the same people over many years and thus enable information on the persistence of poverty and income mobility to be reported. Statistics New Zealand’s longitudinal Survey of Families, Income and Employment (SoFIE) began data collection in 2002-2003 and analysis of the first seven waves is now available.[[61]](#footnote-62) A summary of this, with international comparisons is reported in a new section, **Section L.**

**Interpreting and reporting differences and trends in the poverty figures which follow**

Four sorts of analyses and comparisons are provided regarding headline trends in Section F and in the more detailed breakdowns in later sections:

* proportions and numbers of people ‘in poverty’ at a point in time
* changes from one survey to the next
* longer-term trends
* relativities between subgroups and composition of those identified as ‘poor’.

The findings and summaries for proportions ‘in poverty’ depend crucially on the threshold and measure used. Where point-in-time poverty rates are being reported, it is strongly recommended that those using the figures from this report also explicitly state what measure is being used (always).

Nothing should be read into small changes from one survey to the next, as sampling and non-sampling errors mean that such differences are unlikely to have any significance (see the Introduction, Section A).

In contrast, analysis of longer-term trends and relativities between subgroups generally produce robust and uncluttered summary findings. Although there is sometimes a difference in trend depending on the particular measure used, these differences are relatively easy to explain from first principles based on the different conceptualisations for the different measures.

**Section F**

### Headline trends in income poverty, 1982 - 2011

This section reports on the trends in headcount poverty rates – the numbers and proportions of individuals who are in households with incomes below selected thresholds (‘poverty lines’).

Information on poverty trends is presented for both the whole population and for dependent children.

A full range of poverty measures is used, as shown in the table below.

**Table F.1**

**Poverty measures reported on in Section F**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **BHC** | | | | **AHC** | | | |
| REL  (‘moving line’) | | CV-98 (to 2007)  CV-07 (from 2007)  (‘fixed line’) | | REL  (‘moving line’) | | CV-98 (to 2007)  CV-07 (from 2007)  (‘fixed line’) | |
| 50 | 60 | 50 | 60 | 50 | 60 | 50 | **60** |
| **✓** | **✓** | **-** | **✓** | **✓** | **✓** | **-** | **✓** |

Note: ‘CV-98’ indicates that 1998 is the reference year used. ‘CV-07’ uses 2007.

For a ‘fixed line’ measure the poverty threshold is set in a reference year (eg at 60% of the median in 1998), then held at constant value (CV) in real terms for other years using the CPI. If the incomes of low-income households rise in real terms over time, the fixed line poverty threshold eventually becomes too low relative to average incomes to be useful, and a new reference year has to be chosen. For 1982 to 2007, 1998 was used as the reference year. 2007 is the reference year for 2007 and later years. In this section, poverty figures for 2001 to 2007 are given using both reference years to provide a good overlap for comparison. See **Section E** for more detail on this.

The thresholds used for the AHC measures are based on the corresponding BHC measure with 25% deducted to allow for housing costs. For example, what is referred to as ‘the 60% AHC threshold’ is equal to the 60% BHC threshold less 25%. This threshold value is applied to the AHC household income distribution and those in households with AHC incomes below the line are counted up. The rationale for this approach is provided in **Appendix 6**.

While each of the six measures used in this section has an important story to tell, this report recommends the AHC ‘fixed line’ (CV) measure as the primary indicator for monitoring short to medium-term trends. In the longer run the story told by the ‘moving line’ measures needs to be taken into account too. For example, if poverty rates on fixed line measures are falling while rates using a moving line measure are rising then that indicates rising inequality among low- to middle-income households, despite incomes improving in real terms for low-income households. This raises social cohesion and equity issues. No one measure is adequate on its own in the medium to longer term.

The report also recommends the use of an AHC measure for comparing the material wellbeing of various subgroups, as it gives a much more meaningful comparison between groups with very different housing costs (for example, people aged 65+ compared with households with children). A full account of the rationale for this is provided in Section E and **Appendix 5.**

Section F also reports on poverty depth, using three indicators:

* the ratio of the number below a 50% of median line to the number below a 60% line
* median poverty gap ratios (= median poverty depth)
* total poverty gap.

**Impact of changing incomes and housing costs on the different poverty measures**

**Table F.2** indicates how changes in poverty rates reflect the net impact of changes in:

* BHC incomes at the median
* BHC incomes for low-income households
* housing costs for low-income households.

For example, the top row in Table F.2 indicates that when the median rises, then both BHC and AHC ‘moving line’ poverty rates will rise, provided everything else remains the same. A rising median has no impact on poverty rates measured using a ‘fixed line’ approach.

**Table F.2**

**Impact of selected factors on different poverty measures, 2001 to 2010**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **when these increase ….** | **…. the impact on the measured poverty rate is …** | | | |
|  | BHC | | AHC | |
|  | fixed line (CV2007) | moving line (REL) | fixed line (CV2007) | moving line (REL) |
| BHC median / incomes around the median **🡩** | no impact | **🡩** | no impact | **🡩** |
| BHC incomes in the bottom quintile (20%) **🡩** | 🡳 | 🡳 | 🡳 | 🡳 |
| Housing costs (for low-income HHs) **🡩** | no impact | no impact | **🡩** | **🡩** |

From HES 2001 to HES 2009, median incomes rose strongly mainly because of rising employment overall and the increasing employment hours in two-parent families. There was little change from HES 2009 to HES 2010 but a sizeable (3%) fall from HES 2010 to HES 2011.

From 2004 to 2007 the Working for Families (WFF) package raised real incomes for households with children with incomes below the median.

Net housing costs were reduced for many in low-income households from 2001 by the income-related rents policy. For the bottom quintile housing costs in 2007 and 2011 were similar to what they were in 2004. From 2004 to 2009, the cost of housing relative to income continued to rise for households with dependent children and for those in households in the second and third quintiles.

These factors plus the associated impacts shown across each row in the table can be used to give an intuitive account of the different tracks for the different poverty measures. (See Section C also.)

**The moving line and the fixed line approaches reflect two quite different notions of poverty**

The moving and fixed line approaches to updating the poverty line are both relative approaches – they have that in common. The difference between them is the choice of reference point that each uses to establish ‘relative disadvantage’, the essence of the meaning of poverty in a richer nation.

* The moving line approach sets a poverty line relative to the median, relative to the income of the middle household in the income distribution. This income changes from survey to survey – the poverty line ‘moves’.
* The fixed line approach sets the poverty line relative to a fixed standard, set in the reference year relative to the median that year or to some other community standard. The poverty line is then held at that level in real terms – it is a ‘fixed line’, and its value is not influenced by the changing median in other years.

### Each approach has its strengths and limitations, as discussed in Section E. This report takes the fixed line approach as the primary one for the short to medium term, simply on the grounds that, at the very least, New Zealanders would want to know whether the incomes of low-income households are rising or falling in real terms, whatever is happening to the incomes of the non-poor. The moving line approach did not and could not pick up the rising hardship of the early to mid 1990s. The fixed line measures could and did.

### Headline trends for whole population

Before Housing Costs (BHC)

* The main feature of the trend in the overall population poverty rate from HES 2009 to HES 2011 is that there was very little change (whatever measure is used). This is perhaps unexpected given the impact of the economic downturn and global financial crisis on the economy, employment and incomes and calls for an explanation:
* population poverty rates from 2009 to 2011 are all 18% or less on the standard measures used, so it is the trends in incomes in the lower quintile that are of primary interest
* the main source of income for around 65% of those in the lower quintile is a main benefit or NZS, and these all either had their incomes protected in real terms (working age) or even raised in real terms (NZS increased as a result of the impact of the income tax changes on the after-tax wage benchmark)
* for measured poverty rates to increase from one survey to the next there needs to be an increase in the number of people below the poverty line used
* on the 60% BHC fixed line measure (starting at 14% in 2009), the above factors mean that there is unlikely to be any change in measured poverty
* on the 60% BHC moving line measure, there is an additional factor – the median fell a little from HES 2009 to HES 2011, thus lowering the poverty line a little which if anything would lead to a reduction in measured poverty (there was a slight fall but this is not statistically significant)
* the impact on incomes of the downturn and global financial crisis is seen mainly in the fall incomes of households in deciles 3-6, those above the poverty line with low to middle incomes (see **Figure F.5** below).
* When interpreting changes in reported incomes and measured poverty rates in relation to the economic downturn it is important to understand the precise times of interviews for the different surveys:
* the interviews for the latest ‘2011’ figures were carried out from July 2010 to June 2011 (the ‘2011 HES’), and the income question asked about incomes in the twelve months prior to interview – this means that the income information overall comes from the two-year period from July 2009 to June 2011, on average from mid 2010
* the 2011 survey is therefore the first one to be able fully capture the impact
* the 2010 survey on the other hand was only able to begin to capture the impact.
* The overall trends from 1982 to 2011 in **Figure F.1** clearly show the value and need to monitor poverty rates using both fixed line and moving line approaches. This is well illustrated by looking at two periods: the first half of the 1990s, and from 1994 to 2004.
* The first half of the 1990s:
* in this period there was a very large increase in the number of people in low-income households and a fall in median household incomes
* on a moving line measure, the combined effect of these two changes meant that (relative) poverty rates remained fairly steady and provide no evidence of the growing extent of hardship among low-income households
* on the other hand the fixed line measure gives a very clear indication that there were growing numbers of households with very low incomes.
* From 1994 to 2004:
* in this period, there was a continuing decline in the poverty rate on the fixed line measure, but the moving line (relative) poverty rate steadily rose to a peak of 21% in 2004
* the fall in the fixed line poverty rate reflects the falling unemployment, rising employment, rising real wages and increase in the number of two earner families with children
* the rising moving line poverty rate reflects the fact that median income rose more quickly in real terms than the incomes of low-income households – the gap between middle-income and low-income households increased from 1994 to 2004.
* From 2004 to 2007, the upward trend of the moving line poverty rates reversed for the 60% measure and halted for the 50% measure (the WFF impact). The fixed line poverty rate continued to fall.
* For 2007 to 2009, BHC income poverty rates reduced on the fixed line measures, but remained much the same on moving line measures. This means that:
* real BHC incomes rose for some low-income households, leading to fewer in poverty on the fixed line measure, and
* this rise was about the same as the rise in the BHC median leading to no change in poverty rates on the moving line measure.
* Comparisons of moving and fixed line trends over a longer time-scale (1982 to 2007):
* the 60% fixed line CV-98 poverty rate in 2007 (11%) was a little below what it was in the 1980s (12 to 14%)
* the large decline in 60% fixed line poverty rates from 1994 (26%) to 2007 (11%) reflects the significant rise of incomes in real terms for low-income households (see Tables D.2 and D.3)
* in contrast, moving line poverty rates were still higher in 2007 than in the 1980s and the 1990s (even after WFF), reflecting the net widening of the gap between middle-income and low-income households that occurred between 1994 and 2007 (see Figure D.7).

After Housing Costs (AHC)

* Using the AHC fixed line measure (60% of median), the poverty rate for the population as a whole fell from 2007 (18%) to 2009 (15%), continuing the downward trend that began from 1994. From 2009 to 2011 the rate remained much the same (16% in 2011).
* Fixed line AHC (CV-98) poverty rates were higher in 2007 than in the 1980s, even though BHC incomes were higher in real terms for low-income households. The reason for this is that housing costs made up a much greater proportion of household income for low-income households in 2007 than in 1982. This increase more than cancelled out the gains in BHC incomes for low-income HHs, leaving fixed line poverty rates higher in 2007 than in 1982.
* Using the AHC moving line measure (60%),the population poverty rate remained steady at 18% from 2007 to 2011, much the same as it was through the mid 1990s, but double what it was in 1982 (9%).
* Since 1994, AHC incomes for low-income households have risen at about the same rate (on average) as the rise in the median, thus producing no change to the moving line poverty rate from 1994 to 2011 (steady in the 18% to 20% range).

**Proportion of all individuals below selected thresholds (BHC)**

### Figure F.1

**Proportion of whole population below selected thresholds (BHC):**

**fixed line (CV) and moving line (REL) approaches compared**



### Table F.3

**Percentage of whole population below selected thresholds (BHC)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Threshold type | 🡺 Constant value | | Relative to contemporary median | | Population (million) |
| HES year | 60% 1998 median | 60% 2007 median | 50% contemp median | 60% contemp median |
| 1982 | 12 | - | 7 | 14 | 3.03 |
| 1984 | 13 | - | 7 | 14 | 3.06 |
| 1986 | 14 | - | 6 | 13 | 3.07 |
| 1988 | 12 | - | 5 | 13 | 3.11 |
| 1990 | 14 | - | 5 | 13 | 3.15 |
| 1992 | 24 | - | 8 | 15 | 3.23 |
| 1994 | 26 | - | 7 | 15 | 3.32 |
| 1996 | 20 | - | 8 | 14 | 3.43 |
| 1998 | 16 | - | 7 | 16 | 3.54 |
| 2001 | 16 | 27 | 8 | 18 | 3.80 |
| 2004 | 13 | 25 | 10 | 21 | 3.96 |
| 2007 | 11 | 18 | 10 | 18 | 4.13 |
| 2009 | 7 | 14 | 9 | 18 | 4.21 |
| 2010 | 8 | 14 | 9 | 18 | 4.26 |
| 2011 | 8 | 14 | 9 | 17 | 4.31 |

Note: In real terms, the BHC median in 1998 was close to what it was in 1982. There is therefore a good case for using 1998 as the reference year for producing ‘fixed line’ poverty rates back to 1982, as well as for the more traditional application from 1998 forwards to later years. By 2007 the median was 16% up on 1998 and by 2009 26%. This large change led to the reference year being changed to 2007. Reporting on poverty figures back to 1982 using 2007 as the reference year tells us what proportion were ‘poor’ back then relative to a standard set in 2007. While this is interesting, it has no value for giving a fair and useful picture of the extent of hardship ‘back then’ relative to the standards prevailing at the time. 2007 CV figures are therefore not given for earlier years. 1998 CV figures are given for 2007 and later to provide comparison for a few years. The intention is to draw a line on this series after the 2011 HES. As the poverty figures in Table F.3 show, the value of the CV-98 threshold had in 2009 and 2010 dropped below 50% of the contemporary median.

### Proportion of all individuals below selected thresholds (AHC)

### Figure F.2

**Proportion of whole population below selected thresholds (AHC):**

**fixed line (CV) and moving line (REL) approaches compared**



### Table F.4

**Percentage of whole population below selected thresholds (AHC)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Threshold type | 🡺 Constant value | | Relative to contemporary median | | Population (million) |
| HES year | 60% 1998 median | 60% 2007 median | 50% contemp median | 60% contemp median |
| 1982 | 8 | - | 6 | 9 | 3.03 |
| 1984 | 9 | - | 6 | 9 | 3.06 |
| 1986 | 8 | - | 5 | 7 | 3.07 |
| 1988 | 9 | - | 6 | 10 | 3.11 |
| 1990 | 11 | - | 6 | 11 | 3.15 |
| 1992 | 21 | - | 11 | 17 | 3.23 |
| 1994 | 23 | - | 13 | 19 | 3.32 |
| 1996 | 21 | - | 13 | 18 | 3.43 |
| 1998 | 18 | - | 13 | 18 | 3.54 |
| 2001 | 19 | 25 | 13 | 20 | 3.80 |
| 2004 | 17 | 22 | 14 | 20 | 3.96 |
| 2007 | 13 | 18 | 13 | 18 | 4.13 |
| 2009 | 12 | 15 | 13 | 18 | 4.21 |
| 2010 | 10 | 15 | 11 | 18 | 4.26 |
| 2011 | 12 | 16 | 13 | 19 | 4.31 |

Note: AHC thresholds are calculated by deducting 25% from the corresponding BHC threshold as an allowance for housing costs. Each household’s AHC income is then assessed against the chosen threshold.

See the note under Table F.3 for information on the choice of reference year (1998 or 2007) for the CV figures.

### Headline trends for children

Before Housing Costs (BHC)

* On both the 60% fixed line measure (using 2007 as the reference year), and on the 60% moving line measure, child poverty rates were remained much the same from 2009 to 2011 at around 15% and 19% respectively.
* On a longer timescale for the moving line measure:
* The rise in moving line child poverty rates from 1990 to 1992 was driven by two factors: the rise in unemployment, and the 1991 benefit rate cuts which decreased real incomes for beneficiaries by a greater amount than the median fell in the period.
* From 1992 to 1998 the 60% of median moving line poverty rate for children fell as unemployment rates fell and incomes for those around the poverty line rose more quickly than the median in the period.
* From 1998 the median continued to grow in real terms, but the incomes of many low-income households with children remained fairly static through to 2004. This meant that the moving line child poverty rate rose to 2004, indicating that low-income households with children were on average further from the median in 2004 than in 1998.
* From 2004 to 2007, this trend was reversed, with rates falling from 26% to 20% (60% threshold), reflecting the impact of the WFF package which transferred considerable financial support to households with children on low to middle incomes. As almost all the extra WFF money went to households below the median, the median itself was largely unaffected.[[62]](#footnote-63)
* the 60% and 50% of median BHC moving line child poverty rates in 2011 were around the same as what they were in the 1980s (19-20%, and 11% respectively).
* On the fixed line measure, poverty rates decline when fewer households have incomes below a threshold held fixed in real terms, irrespective of what is happening elsewhere in the distribution.
* Using the 60% BHC fixed line threshold (1988 reference year), this is what happened from the mid 1990s to 1998 as a result of improving economic conditions, improving employment rates and reducing unemployment.
* From 1998 to 2004 child poverty rates using the 60% threshold remained reasonably steady at 19 to 22%.
* From 2004 to 2007, the poverty rate fell strongly from 19% to 13% - the WFF impact.

After Housing Costs (AHC)

* On the AHC fixed line measure, the child poverty rate fell significantly from 1994 to 2007, but plateaued from 2007 to 2011 at 21-22%.
* Child poverty rates on this measure did not change from 2007 to 2011 as BHC incomes had a net increase for low-income households with children, but housing costs rose for these households – these two factors cancelled each other out to give the ‘no change’ finding.
* On the AHC moving line measure, the child poverty rate increased from 2007 (22%) to 2010 (26%) and 2011 (25%). The overall AHC median grew more strongly in the period than did AHC incomes for low-income households with children.

Housing costs and the longer-run trends in child poverty (1982 to 2007, 2007 to 2011)

* The BHC 60% fixed line child poverty rate was much lower in 2007 than what it was in the 1980s, and the BHC moving line rates were around the same in 2007 as in the 1980s. The AHC long-run trends are quite different: the fixed line poverty rate in 2007 was around the same as in the 1980s, and the moving line rate in 2007 was much higher than in the 1980s.
* A key factor in explaining the longer-term differences between AHC and BHC rates is that housing costs in 2007 on average made up a higher proportion of household expenditure for low-income households than they did in the 1980s. For example, in 1988 17% of those in the bottom quintile lived in households that spent more than 30% of their income on housing. In 2007 there were 39%, after peaking at 52% in 1994.
* The longer-run AHC findings on child poverty reflect the fact that AHC incomes in 2007 for low-income households were around the same as they were in the early 1980s in real terms (so the fixed line child poverty rates are around the same in 2007 as in the 1980s), but that relative to the median, the incomes of lower-income households with children had fallen away (leading to higher moving line poverty rates).
* Both the income-related rental policies introduced in 2000 for those in HNZC houses and changes to the Accommodation Supplement settings in the mid 2000s helped to reduce net housing expenditure for some low-income households compared to what it would have been. This support contributed to the reductions in child poverty as measured on an AHC approach from 2001 to 2007.
* There were no further policy changes to housing assistance from 2007 to 2009 (22% to 25% on the 60% of median measure) - the maximum rates of assistance remained fixed and did not move in line with movements in housing costs, and net housing expenditure rose for low-income households with children. This is reflected in the rise in child poverty rates from 2007 to 2009 using the moving line AHC approach.

How many poor children were there in New Zealand in 2011?

* **Table F.5** shows the number of children below selected low-income thresholds or poverty lines for the years 2001 to 2011.

**Table F.5**

**Numbers of poor children in New Zealand**

**(ie the number of children in households with incomes below the selected thresholds)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **BHC** | **AHC** | | |
|  | **BHC ‘moving line’ 60%** | **AHC ‘moving line’ 50%** | **AHC ‘moving line’ 60%** | **AHC ‘fixed line’ 60% (07 ref)** |
| 2001 | 250,000 | 215,000 | 310,000 | *380,000* |
| 2004 | 270,000 | 200,000 | 290,000 | *320,000* |
| 2007 | 210,000 | 170,000 | 240,000 | 240,000 |
| 2009 | 210,000 | 190,000 | 270,000 | 230,000 |
| 2010 | 215,000 | 170,000 | 270,000 | 230,000 |
| 2011 | 200,000 | 170,000 | 270,000 | 230,000 |

* Using non-income measures of hardship, and an internationally comparable hardship threshold, around 200,000 children (18%) were below the threshold in 2008.[[63]](#footnote-64)
* There are clearly degrees of poverty and material hardship. For example, children in households with incomes below a 50% AHC ‘moving line’ measure will experience greater material disadvantage than those just below the 60% threshold, all else being equal. Some in households with incomes above the 60% AHC line will experience hardship because of high debt servicing or health costs, or long-run low income. See **Appendix 6** and Section E for further discussion on the setting of the low-income thresholds (‘poverty lines’).

### Proportion of dependent children below selected thresholds (BHC)

### 

### Figure F.3

**Proportion of children below selected thresholds (BHC):**

**fixed line (CV) and moving line (REL) approaches compared**



### Table F.6

**Percentage of children below selected thresholds (BHC)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Threshold type | 🡺 Constant value | | Relative to contemporary median | | Total children (thousands) |
| HES year | 60% 1998 median | 60% 2007 median | 50% contemp median | 60% contemp median |
| 1982 | 18 | - | 11 | 20 | 940 |
| 1984 | 21 | - | 12 | 21 | 925 |
| 1986 | 20 | - | 9 | 20 | 895 |
| 1988 | 16 | - | 7 | 18 | 885 |
| 1990 | 17 | - | 7 | 17 | 875 |
| 1992 | 33 | - | 12 | 25 | 875 |
| 1994 | 36 | - | 10 | 24 | 910 |
| 1996 | 28 | - | 11 | 22 | 940 |
| 1998 | 20 | - | 9 | 20 | 950 |
| 2001 | 22 | 35 | 12 | 24 | 1020 |
| 2004 | 19 | 30 | 14 | 26 | 1040 |
| 2007 | 13 | 20 | 13 | 20 | 1065 |
| 2009 | 9 | 14 | 11 | 19 | 1070 |
| 2010 | 10 | 16 | 13 | 20 | 1065 |
| 2011 | 10 | 15 | 11 | 19 | 1067 |

Note: In real terms, the BHC median in 1998 was close to what it was in 1982. There is therefore a good case for using 1998 as the reference year for producing ‘fixed line’ poverty rates back to 1982, as well as for the more traditional application from 1998 forwards to later years. By 2007 the median was 16% up on 1998 and by 2009 26%. This large change led to the reference year being changed to 2007. Reporting on poverty figures back to 1982 using 2007 as the reference year tells us what proportion were ‘poor’ back then relative to a standard set in 2007. While this is interesting, it has no value for giving a fair and useful picture of the extent of hardship ‘back then’ relative to the standards prevailing at the time. 2007 CV figures are therefore not given for earlier years. 1998 CV figures are given for 2007 and later to provide comparison for a few years. The intention is to draw a line on this series after the 2011 HES. As the poverty figures in Table F.6 show, the value of the CV-98 threshold had in 2009 and 2010 dropped below 50% of the contemporary median.

### Proportion of dependent children below selected thresholds (AHC)

### Figure F.4

**Proportion of children below selected thresholds (AHC):**

**fixed line (CV) and moving line (REL) approaches compared**

### 

### Table F.7

**Percentage of children below selected thresholds (AHC)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Threshold type | 🡺 Constant value | | Relative to contemporary median | | Total children (thousands) |
| HES year | 60% 1998 median | 60% 2007 median | 50% contemp median | 60% contemp median |
| 1982 | 12 | - | 9 | 14 | 940 |
| 1984 | 15 | - | 10 | 15 | 925 |
| 1986 | 11 | - | 7 | 11 | 895 |
| 1988 | 12 | - | 8 | 13 | 885 |
| 1990 | 16 | - | 7 | 16 | 875 |
| 1992 | 33 | - | 17 | 27 | 875 |
| 1994 | 35 | - | 20 | 29 | 910 |
| 1996 | 32 | - | 20 | 28 | 940 |
| 1998 | 28 | - | 20 | 28 | 950 |
| 2001 | 29 | 37 | 21 | 30 | 1020 |
| 2004 | 23 | 31 | 19 | 28 | 1040 |
| 2007 | 16 | 22 | 16 | 22 | 1065 |
| 2009 | 17 | 22 | 18 | 25 | 1070 |
| 2010 | 13 | 22 | 16 | 26 | 1065 |
| 2011 | 14 | 21 | 16 | 25 | 1067 |

Note: AHC thresholds are calculated by deducting 25% from the corresponding BHC threshold as an allowance for housing costs. Each household’s AHC income is then assessed against the chosen threshold.

See the note under Table F.6 for information on the choice of reference year (1998 or 2007) for the CV figures.

### Sensitivity of levels and trends to choice of poverty line

**Figures F.5** and **F.6** show how the choice of threshold impacts on reported poverty rates for a given measure at a point in time and for trends over time. Figure F.5 uses BHC incomes with thresholds set relative to the contemporary median (the REL or moving line approach). Figure F.6 uses AHC incomes with thresholds held constant in real terms (the CV or fixed line approach).

The broad trends over time are largely unaffected by the choice of threshold within the usual range, especially in the AHC fixed line case.

The main exception to this generalisation is that for the period from the 2004 HES to the 2007 HES the reversal of the upward trend in ‘low-income rates’ (BHC REL) is strong for thresholds set at 60% to 90% of the median, but for lower thresholds (50% and 55%) the trend lines just flatten. This difference reflects the WFF gains in income for lower income households in work or for those moving from benefit to work, compared with those whose main source of income was from a working age benefit or New Zealand Superannuation. For these latter households, many of whom have incomes below a 55% threshold, there were no gains relative to the median from the 2004 HES to the 2007 HES.

The other point of interest in Figure F.5 is what it tells us about where in the lower half of the household income distribution the impact on incomes of the recent economic downturn and global financial crisis has been most felt. For ‘low-income thresholds’ set at 65% to 90% of the median, it shows that from HES 2010 to HES 2011 the ‘low-income rates’ all rose, whereas for thresholds of 60% and below (the usual ‘poverty’ zone) they remained much the same, as noted earlier in this section.

**Figure F.5**

**Proportion below a range of ‘moving line’ thresholds (BHC, REL)**

### 

**Figure F.6**

**Proportions below a range of ‘fixed line’ thresholds (AHC, CV2007)**

## 

### Depth of poverty

Trends in ‘head count poverty rates’ tell only a part of the story. It is important also to have an understanding of what is happening to the incomes of those identified as poor, that is, what is happening to trends in the depth of poverty.

This report uses three indicators of poverty depth:

* The ratio of the number below the 50% line to those below the 60% line. The higher this ratio, the greater is the depth of poverty.
* Mean and median poverty gap ratios. These compare the gap between the poverty threshold and the ‘average’ income of those below the threshold with the threshold itself.
* Total poverty gap – the total resources ($m) that would be needed to bring all those identified as poor to just above the poverty line through perfectly targeted tax transfers.

There are issues around the quality of the data among households with very low incomes, and these present challenges to providing robust information on poverty depth. See **Appendix 8** for a discussion on the effect of ‘noise’ in the bottom income decile on measures of poverty depth, and the noise-reducing adjustments to the dataset adopted for the estimates in this section.

This section is not updated beyond the 2007 HES and also retains 1998 as the reference year.

**Poverty depth: the ratio of 50% poverty rates to 60% poverty rates**

Comparing the numbers below a 50% of median threshold with those below a 60% threshold gives an indication of the ‘depth’ of poverty. The higher the ratio, the greater the depth.

**Figure F.7** shows that during the 1980s the 60% CV (fixed line) BHC poverty rate for those aged under 65 was relatively steady at around 12%. Poverty depth, however, declined, as measured by the 50% to 60% ratio. In contrast, in the 1998-2004 period, poverty depth as measured by this ratio increased while the poverty rate again remained relatively steady at 15%, pointing to increasing poverty depth. From 2004 to 2007, the ratio was steady and the 60% rate declined, indicating no change in poverty depth.

**Figure F.7**

**Ratio of 50% poverty rate to 60% poverty rate using 1998 CV thresholds (BHC),**

**population under 65 years**



**Figure F.8** shows a similar combination of trends for children, except that both the poverty rates and poverty depth (on this measure) are higher for children than for the population as a whole.

**Figure F.8**

**Ratio of 50% poverty rate to 60% poverty rate using 1998 CV thresholds (BHC),**

**dependent children**



**Poverty depth: mean and median poverty gap ratios**

The median poverty gap ratio compares the gap between the poverty threshold and the median income of those below the threshold with the threshold itself.

The mean poverty gap ratio compares the gap between the poverty threshold and the mean income of those below the threshold with the threshold itself. It is much more affected by the incomes of households with very low incomes than is the median.

**Figure F.9** shows that:

* median gap ratios are smaller than mean gap ratios, reflecting the higher concentration of households with incomes nearer the poverty lines compared with the concentration further down
* up to 2004, the estimates of poverty gap ratios are not greatly dependent on whether a REL (‘moving line’) or CV (‘fixed line’) approach is used
* apart from the blip in 1990,[[64]](#footnote-65) the mean gap ratio remained reasonably steady from 1982 to 2004, but has clearly risen from 2004 to 2007 on the REL (moving line) measure

**Figure F.9**

**Mean and median poverty gap ratios**



**The total poverty gap (TPG)**

The total poverty gap (TPG) indicates the total resources ($m) that would be needed to bring all those identified as poor on a particular measure to just above the selected poverty line through perfectly targeted government transfers. In practice such perfect targeting is not feasible. In addition the increased government transfers are likely to have an impact on labour market and other behaviour of recipients. It is nevertheless a useful high level or first order indicator of poverty depth, taking into account the poverty rate, the mean poverty depth and the population size.

**Figure F.10** shows that in 2007 it would have taken somewhere between $800m and $1800m of perfectly targeted transfers to reduce measured poverty to zero, depending on whether a 60% fixed line or 60% moving line measure were used.

**Figure F.10**

**Total poverty gap for whole population (BHC)**



Since 1990 the trajectories for the TPG have been quite different depending on whether it is calculated relative to a fixed line (CV) or a moving line (REL) threshold.

The CV-based TPG rose rapidly during the first half of the 1990s because incomes fell relative to this fixed line and there were more households to lift further to take poverty rates to zero. The reverse happened in the second half of the 1990s. Since 1998, the combination of a rise in mean poverty depth and a fall in poverty rates has led to a flat CV-based TPG line 1998-2007.

In contrast, in the first half of the 1990s the REL-based TPG remained at around the level it had been for most of the 1980s. This occurred because in the first half of the 1990s the fall in incomes at the lower end of the distribution was similar to the fall in incomes at the median. Thus, poverty rates and mean poverty depth remained relatively steady, with the net result that the REL-based TPG also remained steady.

Since 1994, median incomes (and therefore the 60% REL threshold) have risen in real terms. The REL poverty rates rose from 1994 to 2004 and poorer households had to be lifted further (in real terms) to reduce REL poverty rates to zero. The REL-based TPG therefore rose rapidly from 1994 to 2004.

Even though the REL poverty rates fell from 2004 to 2007, the REL-based TPG kept increasing because the REL mean poverty depth increased (see Figure F.9).

**Section G**

### Trends for the whole population, 1982 - 2011,

### by various individual and household characteristics

This section:

* compares trends in poverty rates for subgroups within the population
* reports on the changing composition of those identified as poor on the chosen measures.

The individual and household characteristics used for subgroup analyses are:

* age of the individual
* sex of the individual
* ethnicity of the individual (no trends) [[65]](#footnote-66)
* tenure
* household type
* number of children in the household
* main source of income for households under 65.

For subgroup comparisons, the report recommends the use of AHC measures (see **Appendix 5**). **Table G.1** notes the AHC measures used in this section.

**Table G.1**

**Poverty measures reported on in Section G for subgroups of the whole population**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **BHC** | | | | **AHC** | | | |
| REL  (‘moving line’) | | CV-98 (to 2007)  CV-07 (from 2007)  (‘fixed line’) | | REL  (‘moving line’) | | CV-98 (to 2007)  CV-07 (from 2007)  (‘fixed line’) | |
| 50 | 60 | 50 | 60 | 50 | 60 | 50 | **60** |
| **-** | **-** | **-** | **-** | **✓** | **✓** | **-** | **✓** |

Note: ‘CV-98’ indicates that 1998 is the reference year used. ‘CV-07’ uses 2007.

**Individuals in low-income households by age**

* Setting aside the 18-24 year old group, **Table G.2** and **Figure G.1** show that there has been a hardship gradient across the age groups since the early 1990s, with older New Zealanders having lower income poverty rates than children, and other ages falling in between.
* The position of those aged 18-24 years deteriorated relative to other groups from the 1980s to 2004, but there is some evidence of recovery from 2004 to 2010, although in 2011 the rate is back up to close to what it was in 2007.
* **Figure G.2** shows how the main living arrangements for 18-24 year olds changed from 1984 to 2010, especially the increasing proportion ‘still living at home’, and the decreasing proportion ‘partnered and not at home’. The move ‘back home’ can be seen (initially at least) as a response to the high unemployment and uncertainties through to 1994, and also as a reflection of changing social norms which support delayed partnering and child bearing relative to, say, the 1960s and early 1970s.

### Figure G.1

**Proportion of all individuals in low-income households by age, 60% CV threshold (AHC)**

### 

**Table G.2**

**Proportion of all individuals in low-income households by age, 60% CV threshold (AHC)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Reference year = 1998** | | | | | | | | | | | **Reference year = 2007** | | | |
|  | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2007** | **2009** | **2010** | **2011** |
| **0-17** | 15 | 11 | 12 | 16 | 32 | 35 | 32 | 27 | 28 | 23 | 16 | 22 | 22 | 21 | 21 |
| **18-24** | 5 | 5 | 6 | 8 | 17 | 20 | 18 | 16 | 21 | 22 | 17 | 22 | 14 | 15 | 21 |
| **25-44** | 10 | 8 | 10 | 12 | 23 | 23 | 21 | 18 | 18 | 17 | 13 | 18 | 15 | 15 | 15 |
| **45-64** | 5 | 5 | 6 | 6 | 12 | 15 | 13 | 12 | 14 | 13 | 11 | 15 | 13 | 12 | 14 |
| **65+** | 2 | 4 | 5 | 6 | 6 | 8 | 8 | 9 | 7 | 7 | 8 | 14 | 9 | 7 | 7 |
| **TOTAL** | 9 | 8 | 9 | 11 | 21 | 23 | 21 | 18 | 19 | 17 | 13 | 18 | 15 | 15 | 16 |

### Figure G.2

**Changing living arrangements for 18-24 year olds, 1984 to 2010**

### 

### Figure G.3 shows trends in poverty rates by age group using the 60% of median moving line measure (AHC). The hardship gradient is evident here too, with older New Zealanders having lower income poverty rates than younger New Zealanders. However, from 1992 to 2009 the age group poverty trends are quite different using the moving line measure compared with the trends using the fixed line measure (Figure G.1). This reflects the two different notions of poverty that underlie the measures (see discussion on pp80ff and p88). For example:

* Child poverty on this moving line measure remained steadily high (~28%) from 1994 to 2004, with no fall despite the rising employment, falling unemployment and rising real incomes for many low-income households. The trend reflects the poverty concept for the moving line measure: it is based on distance from the median, rather than distance from a fixed standard held constant in real terms, and the median rose in real terms in the period.
* The only significant fall in child poverty on the moving line measure after 1994 was from 2004 to 2007, reflecting the impact of the WFF package in lifting the incomes of many low- to middle-income families without it having any great impact on the median itself.
* For older New Zealanders, the rise from 1992 to 2009 reflects the fact that the value of the NZS fell in this period relative to the median, even though in real terms the value of the NZS remained steady. From 2009 to 2011, the real value of NZS rose (driven in the main by income tax changes), while the median was relatively unchanged.

### Figure G.3

**Proportion of all individuals in low-income households by age, 60% REL threshold (AHC)**

### 

### Table G.3

**Proportion of all individuals in low-income households by age**

**A. AHC (REL threshold, 60% of BHC median, less 25%)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| **0-17** | 15 | 10 | 13 | 15 | 27 | 29 | 28 | 27 | 30 | 27 | 22 | 25 | 25 | 25 |
| **18-24** | 5 | 5 | 7 | 8 | 14 | 17 | 16 | 16 | 23 | 22 | 22 | 17 | 18 | 25 |
| **25-44** | 10 | 8 | 10 | 11 | 19 | 19 | 18 | 18 | 19 | 19 | 18 | 17 | 17 | 17 |
| **45-64** | 5 | 5 | 6 | 6 | 9 | 12 | 11 | 12 | 14 | 15 | 15 | 16 | 14 | 16 |
| **65+** | 2 | 4 | 6 | 6 | 3 | 3 | 6 | 9 | 8 | 9 | 14 | 15 | 12 | 10 |
| **TOTAL** | 9 | 7 | 10 | 11 | 17 | 19 | 18 | 18 | 20 | 20 | 18 | 18 | 18 | 19 |

**B. AHC (REL threshold, 50% of BHC median, less 25%)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| **0-17** | 9 | 7 | 8 | 7 | 17 | 20 | 20 | 20 | 21 | 19 | 16 | 18 | 16 | 16 |
| **18-24** | 3 | 2 | 5 | 5 | 10 | 13 | 11 | 12 | 15 | 18 | 17 | 12 | 12 | 17 |
| **25-44** | 7 | 6 | 7 | 7 | 13 | 13 | 13 | 13 | 13 | 15 | 13 | 12 | 11 | 12 |
| **45-64** | 4 | 3 | 5 | 3 | 6 | 8 | 9 | 10 | 9 | 11 | 11 | 11 | 10 | 12 |
| **65+** | 1 | 2 | 2 | 2 | 1 | 1 | 3 | 4 | 3 | 5 | 7 | 7 | 5 | 5 |
| **TOTAL** | 6 | 5 | 6 | 6 | 11 | 13 | 13 | 13 | 13 | 14 | 13 | 13 | 11 | 13 |

**Individuals in low-income households by sex**

* **Table G.4** shows that from 1988 to 2011 on the preferred AHC fixed line measure, females were slightly more likely than males to be below the threshold.

**Table G.4**

**Proportion of individuals aged 15+ in low-income households by sex,**

**AHC income, 60% of median (CV threshold)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Reference year = 1998** | | | | | | | | | **Reference year = 2007** | | | |
|  | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2007** | **2009** | **2010** | **2011** |
| **Female** | 8 | 9 | 18 | 20 | 18 | 16 | 17 | 15 | 13 | 18 | 14 | 13 | 15 |
| **Male** | 7 | 8 | 16 | 17 | 15 | 13 | 14 | 15 | 11 | 16 | 13 | 12 | 14 |
| **TOTAL (15+)** | 8 | 9 | 17 | 18 | 17 | 15 | 16 | 15 | 12 | 17 | 14 | 13 | 15 |

### Individuals aged 15+ in low-income households by ethnicity

As noted in the Introduction, only limited analysis by ethnicity is reported because of the relatively small sample sizes for Maori, Pacific and Other ethnic groups (especially Pacific).

Poverty rates for those aged 15+ in the Maori and Pacific ethnic groups are consistently higher than for those in the European/Pakeha ethnic group (roughly double), whatever measure is used.

For example, on average over the three surveys HES 2009, 2010 and 2011, using the AHC 60% fixed line measure, around one in ten European/Pakeha (aged 15+)**,** aroundone in five Maori, and one in five Pacific were in households with incomes below this line.

Composition of the poor by ethnicity

It is important to distinguish between the proportion of a group who are counted as poor, and the proportion of the poor who are from a particular group, that is, between rates and composition.

Using the AHC 60% of median fixed line measure, just over half (52%) of those identified as poor are in the European/Pakeha group, 27% in the Maori and Pacific groups, and 21% in the Other group.

Using a more stringent poverty line (50% of median), the composition proportions are 51%, 25% and 24% respectively. There is no evidence here of greater depth of poverty for any one group.

**Individuals in low-income households by tenure**

* There is a clear hardship gradient across different tenures for those aged under 65 (**Table G.5A**): low poverty rates for those in mortgage-free homes and a little higher for those who still have a mortgage, and relatively high rates for those in rental properties, especially in HNZC tenancies.
* For those aged 65+, the hardship gradient is also clear (**Table G.5B**). The figures underline the value of having a mortgage-free home in ‘retirement’ years. This is not a surprising finding given the use of an AHC measure.
* Around half (49%)of all those aged under 65 who are in poverty live in private rental accommodation. The figure rises to two in three (65%) when HNZC and private rentals are counted together.

**Table G.5A**

**Proportion(%) of individuals aged under 65 in low-income households by tenure,**

**AHC CV threshold (60% of 1998 or 2007 BHC median, less 25%)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Reference year = 1998** | | | | | | | **Reference year = 2007** | | | |
|  | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2007** | **2009** | **2010** | **2011** |
| **Owned or FT without mortgage** | 10 | 8 | 9 | 7 | 10 | 9 | 6 | 12 | 7 | 7 | 7 |
| **Owned or FT with mortgage** | 22 | 23 | 20 | 15 | 17 | 12 | 9 | 14 | 12 | 12 | 10 |
| **Rented - private** | 33 | 41 | 36 | 35 | 33 | 30 | 23 | 28 | 26 | 23 | 26 |
| **Rented – HNZC or local authority** | 55 | 64 | 59 | 53 | 37 | 41 | 29 | 37 | 38 | 38 | 46 |
| **TOTAL (under 65)** | 23 | 25 | 22 | 19 | 20 | 18 | 14 | 19 | 16 | 16 | 17 |

Notes: 1 ‘Owned or FT without mortgage’ means that the dwelling is owned by the householders or a Family Trust, and the householders make no mortgage payments.

**Table G.5B**

**Proportion (%) of individuals aged 65+ in low-income households by tenure,**

**AHC CV threshold (60% of 1998 or 2007 BHC median, less 25%)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Reference year = 1998** | | | | | | | **Reference year = 2007** | | | |
|  | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2007** | **2009** | **2010** | **2011** |
| **Owned or FT without mortgage** | 1 | 1 | 1 | 2 | 2 | 2 | 4 | 7 | 3 | 3 | 3 |
| ***Owned or FT with mortgage*** | *6* | *16* | *15* | *32* | *31* | *11* | *10* | *16* | *20* | *7* | *15* |
| **Rented** | 36 | 53 | 64 | 53 | 30 | 37 | 23 | 44 | 47 | 24 | 28 |
| **TOTAL (65+)** | 6 | 8 | 8 | 9 | 7 | 7 | 8 | 14 | 9 | 7 | 7 |

Notes: 1 ‘Owned or FT without mortgage’ means that the dwelling is owned by the householders or a Family Trust, and the householders make no mortgage payments.

2 For the 65+ ‘owned or FT with mortgage’, the sample numbers are small – the general conclusion that the poverty rate for mortgage payers is significantly higher than for those who own without a mortgage is robust, but the sample numbers do not support precise figures.

3 For the 65+, all renters are grouped together as the sample numbers are too small to split private and HNZC renters.

### Individuals in low-income households by household type

**Key findings**

Using AHC incomes:

* Sole-parent households with dependent children have the highest income poverty rates of all household types (**Table G.6**), 58% in 2011.
* Around one in three sole-parent families (EFUs) live in wider households with others.[[66]](#footnote-67) Table G.6 shows the lower poverty rates for these embedded sole-parent EFUs (21%) compared with those who live in sole-parent households on their own (58%).[[67]](#footnote-68)
* Two-parent households with dependent children have much lower poverty rates than sole-parent households, but there are more poor individuals from this household type than from sole-parent households (Table G.7).
* **Table G.7** and **Figure G.4** show that while those in households with dependent children continue to make up the bulk of those classified as poor, working-age adults in households without dependent children now make up a larger proportion of the poor than in earlier years (30% on average in 2009 to 2011, compared with 19% in the mid 1990s and 15% in the mid 1980s). This rise is driven not only by the increasing share of households without dependent children but also by the generally higher poverty rates in 2011 compared with 1984 for working-age households with no dependent children.
* Working-age adults in single-person households have the second highest poverty rate of all household types. From the 1980s to 2007, poverty rates for this group trebled (10% to 30% on the 1998 CV standard). In 2011, 35% were below the new 2007 60% CV threshold: this group made up around 11% of those classified as poor. In 2011, the poverty rate for the older group of those living on their own (aged 45 to 64) was higher than for the younger group (aged 18 to 44).

* Overall poverty rates for those aged 65+ have been considerably lower than those for the rest of the population over the full period from 1982 to 2011 (Table G.2). However, those older New Zealanders living on their own have had a much higher proportion below the threshold than have those in couple households (eg 12% compared with 6% for 2011).

**Table G.6**

**Individuals in low-income households by household and family type**

**60% AHC CV**

**Proportions below the threshold**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Reference year = 1998** | | | | | | | | | | | **Ref year = 2007** | | | |
|  | **84** | **86** | **88** | **90** | **92** | **94** | **96** | **98** | **01** | **04** | **07** | **07** | **09** | **10** | **11** |
| **In all households** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Single 65+ | 3 | 9 | 12 | 13 | 10 | 13 | 11 | 14 | 9 | 14 | 12 | 22 | 15 | 11 | 12 |
| Couple 65+ | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 5 | 8 | 3 | 6 | 9 | 5 | 5 | 6 |
| Single under 65 | 10 | 10 | 12 | 15 | 30 | 30 | 29 | 22 | 28 | 27 | 30 | 36 | 30 | 28 | 35 |
| Couple under 65 | 5 | 4 | 6 | 7 | 11 | 12 | 11 | 10 | 9 | 12 | 11 | 13 | 9 | 9 | 13 |
| Sole parent with children | 27 | 22 | 15 | 25 | 69 | 72 | 74 | 62 | 70 | 55 | 47 | 57 | 50 | 51 | 52 |
| Two parent with children | 12 | 9 | 12 | 12 | 25 | 26 | 21 | 19 | 19 | 16 | 9 | 14 | 13 | 15 | 13 |
| Other family HHs with children | 10 | 7 | 3 | 12 | 14 | 16 | 21 | 16 | 13 | 16 | 18 | 21 | 11 | 11 | 14 |
| Other family HHs, adults only <65 | 2 | 2 | 2 | 4 | 5 | 6 | 5 | 6 | 6 | 12 | 6 | 9 | 11 | 10 | 9 |
| Non-family HHs | 3 | 2 | 7 | 4 | 14 | 22 | 15 | 20 | 24 | 24 | 15 | 16 | 11 | 10 | 14 |
| Total population | 9 | 8 | 9 | 11 | 21 | 23 | 21 | 18 | 19 | 17 | 13 | 18 | 15 | 15 | 16 |
| **In households with dependent children** | | |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 13 | 10 | 11 | 14 | 29 | 31 | 29 | 24 | 25 | 20 | 15 | 21 | 18 | 19 | 19 |
| - with 1 child | 7 | 7 | 8 | 8 | 26 | 25 | 25 | 19 | 18 | 16 | 17 | 22 | 14 | 17 | 19 |
| - with 2 children | 12 | 9 | 9 | 13 | 25 | 28 | 29 | 27 | 26 | 16 | 11 | 15 | 16 | 17 | 14 |
| - with 3 or more children | 17 | 13 | 15 | 21 | 36 | 39 | 32 | 27 | 30 | 28 | 19 | 26 | 26 | 25 | 25 |
| **In families (EFUs) with dependent children** | | | | | | | |  |  |  |  |  |  |  |  |
| SP families overall | - | - | 13 | 22 | 57 | 62 | 63 | 52 | 61 | 42 | 40 | 49 | 43 | 42 | 44 |
| - living on their own | - | - | 17 | 29 | 79 | 76 | 77 | 68 | 76 | 56 | 49 | 59 | 56 | 57 | 58 |
| - within wider HHs | - | - | 4 | 9 | 18 | 24 | 31 | 22 | 23 | 20 | 25 | 30 | 18 | 15 | 21 |
| 2P families | - | - | 11 | 13 | 24 | 26 | 22 | 19 | 19 | 16 | 9 | 14 | 13 | 15 | 12 |
| **Those aged under 65, by main source of household income** | | | | | | | |  |  |  |  |  |  |  |  |
| Market | 7 | 6 | 7 | 9 | 12 | 14 | 14 | 12 | 13 | 12 | 8 | 11 | 10 | 9 | 9 |
| Income-tested benefit | 33 | 28 | 26 | 24 | 64 | 66 | 65 | 61 | 62 | 56 | 54 | 73 | 75 | 63 | 65 |
| All in households under 65 | 10 | 8 | 9 | 12 | 23 | 25 | 23 | 19 | 20 | 18 | 14 | 19 | 16 | 16 | 17 |

Notes: 1 ‘01’ means the 2000-01 HES year, and so on.

2 Around one in three sole-parent families (EFUs) live in wider households with others. Note that individuals in the EFU analysis in Table G.6 retain the equivalised income of their household of origin for this analysison the grounds that those in the wider households share to a reasonable degree in the benefits of the wider households and the economies of scale.

**Table G.7**

**Individuals in low-income households by household type**

**60% AHC CV**

**Composition of those below the threshold, by household type**

(add down columns for 100%)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | 86 | | 88 | | 90 | | 92 | | 94 | | 96 | | 98 | | 01 | | 04 | | 07 | | 07 | | 09 | | 10 | | 11 | | Popln in ‘11’ | |
| Single 65+ | | 4 | | 5 | | 5 | | 2 | | 2 | | 2 | | 3 | | 2 | | 3 | | 3 | | 4 | | 4 | | 3 | | 3 | | 4 | |
| Couple 65+ | | 2 | | 1 | | 1 | | 1 | | 1 | | 2 | | 2 | | 3 | | 1 | | 3 | | 4 | | 3 | | 3 | | 3 | | 8 | |
| Single under 65 | | 5 | | 6 | | 6 | | 6 | | 6 | | 6 | | 5 | | 7 | | 8 | | 11 | | 9 | | 9 | | 9 | | 11 | | 5 | |
| Couple under 65 | | 7 | | 9 | | 7 | | 6 | | 7 | | 7 | | 8 | | 6 | | 9 | | 10 | | 9 | | 7 | | 7 | | 11 | | 13 | |
| Sole-parent with children | | 14 | | 11 | | 16 | | 24 | | 22 | | 28 | | 25 | | 26 | | 19 | | 25 | | 22 | | 27 | | 24 | | 25 | | 8 | |
| Two-parent with children | | 56 | | 60 | | 51 | | 48 | | 50 | | 43 | | 41 | | 41 | | 35 | | 26 | | 31 | | 32 | | 38 | | 30 | | 37 | |
| Other fam HHs with ch | | 9 | | 3 | | 7 | | 6 | | 5 | | 7 | | 8 | | 6 | | 10 | | 11 | | 9 | | 6 | | 5 | | 6 | | 7 | |
| Other fam HHs, adults only | | <1 | | 2 | | 4 | | 3 | | 3 | | 2 | | 4 | | 3 | | 9 | | 5 | | 7 | | 8 | | 7 | | 6 | | 9 | |
| Non-family HHs | | 2 | | 5 | | 3 | | 3 | | 4 | | 3 | | 5 | | 6 | | 5 | | 6 | | 5 | | 4 | | 4 | | 6 | | 6 | |
| Total population | | 100 | | 100 | | 100 | | 100 | | 100 | | 100 | | 100 | | 100 | | 100 | | 100 | | 100 | | 100 | | 100 | | 100 | | 100 | |

To properly interpret the trends in composition of the poor by household type (as in Table G.5 above), both the trend in poverty rates and the changes over time of the composition of the population as a whole need to be known. One way of integrating and summarising these two trends is to use the ‘poverty risk ratio’ (PRR). The PRR for a given sub-group is the ratio of the poverty rate of that sub-group to that of the population as a whole. This gives an indication of the over- or under-representation of the subgroup at the lower end of the income distribution. A PRR greater than one indicates over-representation.[[68]](#footnote-69)

**Figure G.4** shows the trends in the PRR for selected years from 1984 to 2010 for different household types. One person 65+ households consistently have a higher PRR than couple 65+ households. The PRR rose from 1984 to 2010 for sole-parent households and fell for two-parent households. Perhaps the most significant change is the much higher PRR for one person working- age HHs in 2010 (close to 2.0) compared with a quarter century earlier in 1984 (1.2).

**Figure G.4**

**Poverty risk ratio by household type, AHC CV 60% threshold, selected years**



**Section H**

### Trends for dependent children, 1982 - 2011,

### by various individual and household characteristics

This section:

* compares trends in poverty rates for subgroups of dependent children
* reports on the changing composition of those children identified as poor on the chosen measures.

The individual and household characteristics used for subgroup analyses are:

* age of the children
* ethnicity of children (no time series)
* tenure
* household type
* family type
* hours of work of adults in households where there are dependent children.

AHC measure are used in this section (**Table H.1**). The rationale for this approach when comparing subgroups is outlined in **Appendix 5**.

**Table H.1**

**Poverty measures reported on in Section H for subgroups of dependent children**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **BHC** | | | | **AHC** | | | |
| REL  (‘moving line’) | | CV-98 (to 2007)  CV-07 (from 2007)  (‘fixed line’) | | REL  (‘moving line’) | | CV-98 (to 2007)  CV-07 (from 2007)  (‘fixed line’) | |
| 50 | 60 | 50 | 60 | 50 | 60 | 50 | **60** |
| **-** | **-** | **-** | **-** | **✓** | **✓** | **-** | **✓** |

Note: ‘CV-98’ indicates that 1998 is the reference year used. ‘CV-07’ uses 2007.

**Children in workless and working households**

Policy development and public debate around improving the wellbeing of children often involve discussion about the links between child poverty rates and the labour market involvement of their parents. A special subsection at the end of this section therefore brings together in one place a range of information on the numbers of children in workless and working households, their respective poverty rates, and the composition of children identified as poor vis-à-vis the work status of adults in their households.

**Poverty rates for children and the composition of poor children**

It is important to distinguish between the proportion of a group who are counted as poor, and the proportion of the poor who are from a particular group, that is, between rates and composition.

### In Appendix 10 rate and composition statistics are summarised for children by household type, family type, number of children in the household, ethnicity, tenure and main source of income for the household (benefit or market). Children in low-income households by age

* **Figure H.1** shows that from 1982 to 2011, poverty rates for younger children (0 to 11 years) were consistently higher than the rates for older children (12 to 17 years).
* **Table H.2** breaks the younger group into two groups (0-6 yrs and 7-11 yrs). In most years there is little difference in poverty rates for these two younger subgroups on any of the three measures.

### Figure H.1

**Proportion of children in low-income households by age (AHC, fixed line)**

### 

**Table H.2**

**A. Proportion of children in low-income households by age, 60% CV threshold (AHC)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Reference year = 1998** | | | | | | | | | | | **Reference year = 2007** | | | |
|  | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2007** | **2009** | **2010** | **2011** |
| **0-6** | 15 | 13 | 14 | 18 | 36 | 39 | 34 | 31 | 31 | 23 | 20 | 25 | 22 | 22 | 21 |
| **7-11** | 17 | 12 | 13 | 19 | 33 | 38 | 33 | 29 | 29 | 25 | 16 | 22 | 25 | 24 | 24 |
| **12-17** | 13 | 8 | 10 | 11 | 27 | 28 | 28 | 21 | 23 | 22 | 14 | 19 | 19 | 19 | 20 |
| **0-17** | 15 | 11 | 12 | 16 | 32 | 35 | 32 | 27 | 28 | 23 | 16 | 22 | 22 | 22 | 21 |

**B. Proportion of children in low-income households by age, 60% REL threshold (AHC)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1982** | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| **0-6** | 15 | 16 | 12 | 15 | 17 | 30 | 32 | 30 | 31 | 33 | 26 | 25 | 26 | 26 | 26 |
| **7-11** | 15 | 17 | 12 | 14 | 18 | 28 | 32 | 28 | 29 | 32 | 30 | 22 | 28 | 28 | 28 |
| **12-17** | 10 | 12 | 8 | 10 | 11 | 23 | 23 | 25 | 21 | 24 | 26 | 19 | 23 | 22 | 22 |
| **0-17** | 14 | 15 | 11 | 13 | 16 | 27 | 29 | 28 | 28 | 30 | 28 | 22 | 25 | 25 | 25 |

**C. Proportion of children in low-income households by age, 50% REL threshold (AHC)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1982** | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| **0-6** | 10 | 10 | 7 | 9 | 8 | 19 | 22 | 22 | 21 | 24 | 19 | 20 | 18 | 16 | 16 |
| **7-11** | 10 | 10 | 7 | 8 | 8 | 18 | 21 | 19 | 21 | 21 | 21 | 15 | 22 | 17 | 18 |
| **12-17** | 7 | 9 | 6 | 7 | 5 | 15 | 16 | 17 | 16 | 17 | 19 | 13 | 15 | 15 | 15 |
| **0-17** | 9 | 10 | 7 | 8 | 7 | 17 | 20 | 20 | 20 | 21 | 19 | 16 | 18 | 16 | 16 |

### Children in low-income households by ethnicity

As noted in the Introduction, only limited analysis by ethnicity is reported because of the relatively small sample sizes for Maori, Pacific and Other ethnic groups (especially Pacific). The sample sizes are even smaller when looking only at children.

What can be said is that poverty rates for children in the Maori and Pacific ethnic groups are consistently higher than for those in the European/Pakeha ethnic group, whatever measure is used.

For example, on average over 2007 to 2011, using the AHC 60% fixed line measure, around one in six European/Pakeha children lived in poor households**,** one in four Pacific children**,** and one in three Maori children (double the rate for European/Pakeha children).[[69]](#footnote-70)

The higher poverty rate for Maori children reflects the relatively high proportion of Maori children living in sole-parent beneficiary families and households (around 43% of DPB recipients were Maori in the 2007 to 2010 period).

On average from 2009 to 2011, just under half of poor children were Maori or Pacific using this measure.

.

### Children in low-income households by tenure

Using the AHC 60% fixed line measure, the child poverty rates show a clear gradient across different tenure types: 50% in HNZC homes, 30% in private rental, 10% in privately owned homes with a mortgage and 6% where there is no mortgage.

### In 2010 and 2011, 50% of poor children lived with their families in private rental accommodation, and another 20% in HNZC homes.

In the early to mid 1990s, the majority of children identified as poor (50 to 55%) came from households which owned their own home. The difference is in part a reflection of the fact that in the early to mid 1990s 72% of children lived in households which owned the home, whereas in 2010 and 2011 this proportion had fallen to 57%.

### Child poverty rates and poverty composition for children

Using the AHC 60% fixed line measure, the child poverty rates show a clear gradient across different tenure types: 50% in HNZC homes, 30% in private rental, 10% in privately owned homes with a mortgage and 6% where there is no mortgage.

### Proportion of children in low-income households by household type, family type and work status of adults in the household

**Key findings**

Using AHC incomes (**Table H.3**):

* Children living in sole-parent (SP) households experience significantly higher poverty rates than those in two-parent (2P) households and other family households (56%, 13% and 16% respectively in 2011).
* Around one in three SP families (EFUs) live in households with other adults. Children living in these SP EFUs have lower poverty rates than those in SP EFUs living on their own because of the wider household financial resources available to them, both directly and indirectly.[[70]](#footnote-71)
* Although poverty rates for children in SP families are much higher than for children in 2P families, from the mid 1990s to 2010, around half of poor children came from 2P families and half from SP families.
* Children in households with three or more children generally have poverty rates considerably higher than those with only one or two children (eg 28% and 18% in 2011, and similar in 2007, 2009 and 2011). In 2011, children in these larger households made up just under half of all poor children (48%).[[71]](#footnote-72)
* In 2001 and 2004, around one in two poor children came from households where at least one adult was in full-time paid employment or was self-employed. On average from 2007 to 2011 this proportion had dropped to around two in five.
* From 1992 to 2004, children in workless households generally had poverty rates around four times higher than for those in households where at least one adult was in full-time work. In 2007 to 2011, the difference was even greater – around six to seven times higher for children in workless households. This reflects the greater WFF assistance for working families than for beneficiary families.
* The fall in child poverty rates from 2004 to 2007 for children in one-FT-one-workless 2P households was very large (28% to 9%), reflecting the WFF impact, especially through the In-work Tax Credit.
* See **Appendix 10** for a summary of the composition of poor children by ethnicity and by selected household characteristics. The poverty rate for children in a particular group (eg sole parent households) is about the proportion of children who are in poor households in that group. Poverty composition is about the proportion of all poor children who are in that particular sub-group.

### Table H.3

**Children in low-income households by household and family type:**

**60% AHC CV**

**A. Proportions of children below the threshold, by household and family type**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Reference year = 1998** | | | | | | | | | | | **Ref year = 2007** | | | |
|  | **84** | **86** | **88** | **90** | **92** | **94** | **96** | **98** | **01** | **04** | **07** | **07** | **09** | **10** | **11** |
| **By household type** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Children in SP HHs | 31 | 24 | 17 | 28 | 74 | 76 | 77 | 65 | 74 | 56 | 49 | 59 | 54 | 53 | 56 |
| Children in 2P HHs | 13 | 10 | 13 | 14 | 27 | 29 | 23 | 20 | 21 | 17 | 9 | 14 | 14 | 16 | 13 |
| Children in other fam HHs | 14 | 9 | 4 | 15 | 15 | 17 | 23 | 21 | 16 | 20 | 18 | 22 | 11 | 9 | 16 |
| **By family type** (n1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Children in SP families | - | - | 14 | 24 | 60 | 65 | 65 | 55 | 64 | 44 | 42 | 51 | 46 | 42 | 46 |
| - in SP families on own | - | - | 18 | 31 | 80 | 78 | 78 | 70 | 77 | 57 | 49 | 61 | 57 | 57 | 60 |
| - within wider HHs | - | - | 4 | 7 | 20 | 26 | 32 | 23 | 25 | 21 | 25 | 32 | 19 | 14 | 22 |
| Children in 2P families | - | - | 12 | 14 | 25 | 28 | 23 | 20 | 20 | 18 | 9 | 14 | 14 | 16 | 12 |
| **By # of children in HH** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 or 2 children | 11 | 9 | 10 | 12 | 29 | 30 | 31 | 27 | 26 | 18 | 14 | 19 | 18 | 18 | 18 |
| 3 or more children | 19 | 14 | 15 | 22 | 38 | 41 | 34 | 29 | 32 | 30 | 20 | 28 | 28 | 27 | 28 |
| **By work status of adults (all HHs with children)** | | | | | | | | | | |  |  |  |  |  |
| - Self-employed | 11 | 8 | 16 | 8 | 17 | 21 | 20 | 12 | 21 | 21 | 6 | 12 | 17 | 20 | 17 |
| - One or more FT | 12 | 10 | 10 | 14 | 17 | 20 | 19 | 17 | 17 | 14 | 8 | 11 | 11 | 10 | 9 |
| - None FT | 34 | 23 | 18 | 26 | 73 | 75 | 74 | 66 | 72 | 58 | 49 | 63 | 64 | 53 | 61 |
| - Workless | 38 | 25 | 18 | 25 | 78 | 77 | 78 | 71 | 77 | 60 | 58 | 71 | 74 | 59 | 65 |
| **By work status of adults (two parent HHs)** | | | | | | | | | |  |  |  |  |  |  |
| - Both full-time | 11 | 11 | 9 | 7 | 12 | 10 | 18 | 8 | 6 | 7 | 3 | 5 | 7 | 6 | 8 |
| - One FT, one PT | 9 | 8 | 7 | 7 | 10 | 11 | 11 | 9 | 19 | 8 | 6 | 11 | 6 | 12 | 4 |
| - One FT, one workless | 15 | 9 | 16 | 23 | 27 | 32 | 23 | 28 | 24 | 28 | 9 | 12 | 19 | 16 | 11 |
| **All children, all HHs** | 15 | 11 | 12 | 16 | 33 | 35 | 32 | 28 | 29 | 23 | 16 | 22 | 22 | 22 | 21 |

**B. Composition of children below the threshold, by household and family type**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **84** | **86** | **88** | **90** | **92** | **94** | **96** | **98** | **01** | **04** | **07** | **07** | **09** | **10** | **11** |
| **Children by household type** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Children in SP HHs | 19 | 21 | 18 | 27 | 36 | 34 | 42 | 40 | 40 | 35 | 38 | 43 | 49 | 41 | 49 |
| Children in 2P HHs | 71 | 68 | 79 | 65 | 59 | 61 | 50 | 51 | 53 | 52 | 48 | 45 | 44 | 54 | 42 |
| Children in other fam HHs | 11 | 11 | 4 | 8 | 6 | 4 | 7 | 9 | 6 | 13 | 14 | 12 | 6 | 5 | 8 |
| **Children by family type** (n1) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Children in SP families | - | - | 19 | 29 | 39 | 37 | 45 | 44 | 44 | 39 | 56 | 50 | 52 | 44 | 57 |
| - in SP families on own | - | - | 18 | 26 | 34 | 33 | 39 | 38 | 40 | 33 | 44 | 39 | 45 | 39 | 47 |
| - within wider HHs | - | - | 2 | 3 | 4 | 4 | 6 | 6 | 4 | 7 | 13 | 11 | 7 | 5 | 10 |
| Children in 2P families | - | - | 81 | 71 | 61 | 64 | 55 | 56 | 56 | 60 | 44 | 50 | 48 | 56 | 43 |
| **By work status of adults (all HHs)** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| - Self-employed | 10 | 9 | 14 | 4 | 4 | 5 | 6 | 5 | 8 | 7 | 4 | 6 | 10 | 10 | 9 |
| - One or more FT | 56 | 62 | 61 | 57 | 34 | 36 | 39 | 40 | 42 | 45 | 32 | 33 | 36 | 29 | 26 |
| - None FT | 34 | 29 | 26 | 38 | 62 | 59 | 56 | 55 | 50 | 49 | 65 | 61 | 55 | 59 | 65 |
| *- PT only* | *3* | *2* | *5* | *6* | *6* | *10* | *9* | *11* | *12* | *12* | *13* | *13* | *11* | *14* | *12* |
| *- Workless* | *31* | *27* | *21* | *32* | *56* | *49* | *47* | *44* | *38* | *37* | *52* | *48* | *44* | *45* | *53* |
| **All children** | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

Notes: 1 Family here is ‘economic family unit’ (see Section A for definition).

2 For each panel in Table H.4 (B) each column adds to 100%.

**Children in ‘workless’ and ‘working’ households**

Policy development and public debate around improving the wellbeing of children often involve discussion about the links between child poverty rates and the labour market involvement of their parents.[[72]](#footnote-73) This subsection contributes to that discussion by reporting on:

* the number and proportion of children in workless and working households
* poverty rates for children, by the work status of the adults in their household
* the composition of poor children, by the work status of the adults in their household.

**Numbers and proportions of children in working and workless households**

**Table H.4** shows the trend in the proportion of children in ‘workless’ households and in beneficiary families over time.

The final row in the table (children in beneficiary families) is a ‘census’ as at 30 June each year, from MSD’s administrative data. This is robust data. The first four rows are estimates only, based on the HES sample. We know that the estimates using Statistics New Zealand’s weights consistently under-estimate the number of beneficiaries compared with the administrative data. Generally, the estimates using the Treasury’s Taxwell weights are closer to the administrative data, but the sampling error from the HES can still lead to either or both weighting regimes under- or over-estimating the population numbers.

The 2010 figures for the first four rows need to be treated with caution. The proportions of children in households with no full-time worker (whether 25% or 30%) seem to be unusually high compared with (a) the 2009 figures, and (b) the proportion of children in beneficiary families (22%). This (22%) was unchanged at 30 June 2011. It is not clear whether the 2010 figures are just a statistical blip, or are evidence of an increasing number of non-beneficiary multi-adult families holding down several part-time jobs, with no one actually employed full-time in the one job. The Incomes Report will continue to monitor these figures over coming years.

What can be said with certainty is that more than one in five and perhaps as many as one in four New Zealand children live in households where there is no adult in full-time employment. These rates and the rate for children in workless households are high by OECD and EU standards (see Section J).[[73]](#footnote-74)

**Table H.4**

**Proportion of children in ‘workless’ households (% of all children)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HES year | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2008** | **2009** | **2010** | **2011** |
| **In workless HHs** - SNZ wgts | 12 | 15 | 21 | 23 | 22 | 19 | 17 | 14 | 14 | 15 | 14 | 13 | 17 | 17 |
| - TSY wgts | - | - | - | - | - | - | - | - | - | 18 | 16 | 16 | 20 | 19 |
| **In HHs with no FT worker** - SNZ wgts | 15 | 18 | 24 | 28 | 27 | 24 | 23 | 19 | 19 | 21 | 19 | 18 | 25 | 23 |
| - TSY wgts | - | - | - | - | - | - | - | - | - | 25 | 22 | 21 | 30 | 25 |
| **In beneficiary families** | - | - | - | - | - | - | 30 | 26 | 24 | 19 | 19 | 21 | 22 | 22 |

Note: The 2010 figures for workless households and for households with no FT worker need to be treated with caution (see text above).

**Comparing employment rates for adults in sole-parent and two-parent families**

**Figure H.2** uses Census data to show the proportion of parents of dependent children who were employed (either FT or PT) in the three decades from 1976 to 2006, for both sole and partnered parents.

**Table H.5** uses HLFS data to show the proportion of sole and partnered mothers employed, FT and PT, in 1999 and 2009. (Around five in six sole-parent families are headed by sole mothers.)

The key features of the graph and the table for the purposes of this report are:

* the steady rise in the proportion of partnered mothers in employment to around 70% (71% in the 2006 Census, 69% in the 2009 HLFS) – thus increasing the proportion of dual earner two parent families
* the steady rise in the proportion of sole mothers in employment to around 50% (52% in the 2006 Census, 50% in the 2009 HLFS)
* the steady rate of PT employment for both sole and partnered mothers from 1999 to 2009 (19% and 30% respectively)
* the corollary of this, that the increase in mothers’ employment has been driven by their increased FT employment since the late 1990s – in 2009, almost one in three sole mothers were employed FT, a 50% increase from 1999.

###### Figure H.2

###### Proportion (%) of parents of dependent children employed, 1976–2006



Source: Figure 3 in MSD (2010), (drawing on the Census of Population and Dwellings)

**Table H.5**

**Proportion of sole and partnered mothers employed, FT and PT**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  | | **1999** | | **2009** | |
| Employed FT (30+ hrs pw) | | Sole mothers | | 20 | | 31 | |
|  | | Partnered mothers | | 34 | | 38 | |
| Employed PT (<30hrs pw) | | Sole mothers | | 19 | | 19 | |
|  | | Partnered mothers | | 30 | | 30 | |

Source: Derived from Table 3 in MSD (2010), (drawing on the HLFS)

**Proportions of children in workless households, by family type**

In 2009, 80% of children in workless households were from sole-parent families, 20% from two-parent families. The proportions were very similar in 2007 and 2008.

The proportions here are proportions of all children, including those where the work status of the adults is ‘self-employed’. Almost all the self-employed are in two-parent households. From HES 2009 there were 273,000 children in sole-parent families. Assuming around half are from workless families (see Table H.6 above, based on the HLFS), then around 80% of children in workless families are from sole-parent families (137,000 out of 171,000). This is close to the figure that can be derived directly from the HES.

In September 2009, 73% of sole parents received an income-tested benefit. 90% of these sole-parent beneficiaries received the Domestic Purposes Benefit.

**Increasing proportion of dual earner two-parent households**

**Figure H.3** and the associated **Table H.6A and H.6B** show the trend to increasing work intensity among two-parent households with dependent children. The option of one partner in FT paid employment and one not in paid employment (‘workless’) was the dominant pattern in the early 1980s. In 2011, the most common arrangement was for both parents to be employed FT (41%).

**Figure H.3**

**Increasing proportion of two earner two-parent households (with dependent children)**

### 

**Table H.6A**

**Proportion of 2P HHs where there is at least one FT adult worker**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1982** | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| One FT, one WL | 52 | 47 | 44 | 42 | 40 | 44 | 42 | 41 | 38 | 34 | 27 | 32 | 33 | 31 | 33 |
| One FT, one PT | 28 | 30 | 30 | 31 | 30 | 29 | 26 | 27 | 27 | 29 | 30 | 31 | 24 | 26 | 27 |
| Both FT | 20 | 23 | 26 | 28 | 30 | 27 | 32 | 32 | 35 | 38 | 43 | 38 | 44 | 43 | 41 |

**Table H.6B**

**Proportion of children in 2P HHs where there is at least one FT adult worker**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1982** | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2009** | **2010** | **2011** |
| One FT, one WL | 54 | 47 | 46 | 43 | 42 | 46 | 46 | 42 | 41 | 36 | 30 | 36 | 36 | 34 | 36 |
| One FT, one PT | 28 | 30 | 30 | 30 | 32 | 29 | 26 | 27 | 29 | 31 | 33 | 30 | 24 | 27 | 26 |
| Both FT | 19 | 23 | 25 | 27 | 26 | 25 | 29 | 30 | 30 | 33 | 38 | 34 | 40 | 39 | 37 |

**Poverty rates and composition for children in working and workless households**

Three factors impact on child poverty rates and on the proportion of poor children who come from various subgroups (ie on the composition of the poor):

* the economy and the labour market (impacting on employment and unemployment rates, wage rates and on benefit numbers (including numbers of sole parent families))
* demographic shifts and changing cultural norms (eg the number of sole parent families, whether sole parent families live in households on their own or with other adults, the proportion of dual-earner two-parent households)
* policy changes (eg policy changes around benefit rates, income-related rents and WFF all had clear impacts on the child poverty rates for children from working and workless households, and on the relativities between the two groups).

The information in **Figures H.4, H.5 and H.6** below illustrate these factors at work and support the following findings:

* child poverty rates in workless households are consistently several times higher than those for children in working households (three to four times higher in 1992 to 2004, six to seven times higher from 2007 to 2011 after WFF)
* child poverty rates in workless households were very high from 1992 to 2001 (after the benefit cuts), typically just under 80% using the AHC 60% fixed line measure (CV-98)
* the introduction of income-related rents contributed to the reduction in the child poverty rate from 2001 (78%) to 2004 (60%) for children in workless households
* WFF had little impact on the poverty rates for children in workless households
* the significant drop in poverty rate for children in workless households from the 2009 to the 2010 HES is likely to reflect the fact that many of the ‘new’ beneficiaries came from employment, and although identified as ‘workless’ at the time of interview still had sufficient income in the 12 months prior to interview to keep the household above the poverty line
* for children in ‘working’ households (self-employed or at least one FT worker) the child poverty rate from 1992 to 2004 was reasonably steady at around 18-20%
* the WFF impact was significant for this group, with the rate in 2007 (11%) half what it was in 2004 (22%)
* nevertheless, on average from 2007 to 2011, around two in five (40%) poor children still came from working families – down from just over one in two (52%) in 2004 before WFF.

**Figure H.4** shows the poverty rates for children in workless and working households. A working household is one where at least one adult is in FT employment, or where the main source of income for the previous 12 months is from self-employment (cf Table H.3 above).

### Figure H.4

**Poverty rates for children in ‘workless’ and ‘working’ households (AHC 60%, fixed line)**



Note: The discontinuity at 2007 arises because of the change of reference year from 1998 to 2007. The 2004 to 2007 changes are shown using both reference years.

**Figure H.5** shows the proportion of poor children who live in workless households. As there are fewer children in workless households than in working households the proportion of all poor children who come from workless households is much lower than their poverty rate in any given year. In addition, this proportion is also affected by policy changes and changes in the economy and labour market, as indicated in the text boxes in Figure H.5.

In 1992, after the benefit cuts in 1991, the proportion of poor children who came from workless households peaked at 56%. The improving labour market and growing economy then helped to reduce that proportion to 37% by 2004. The WFF package gave greater financial assistance to working families than to (those who remained as) beneficiary families. This was reflected in the decrease in child poverty rates for those in working families. The consequence was a rise to 52% in 2007 in the proportion of poor children who come from workless families. Using the updated reference year (2007), that proportion was 45% in 2010.

### Figure H.5

**Proportion of poor children who live in ‘workless’ households (AHC 60%, fixed line)**



**Figure H.6** looks at the composition of children identified as poor from the other perspective – what proportion of poor children come from working households? The trend is overall a mirror image of the one on Figure H.5. The secondary (broken) line omits self-employed households.

The WFF package reduced the proportion of poor children coming from working families from just over one in two (52%) in 2004 to around two in five (40%) on average from 2007 to 2011.

### Figure H.6

**Proportion of poor children who live in ‘working’ households (AHC 60%, fixed line)**



**Section I**

**Income trends for older New Zealanders, 1982 to 2011**

This section:

* describes the distribution of incomes for older New Zealanders relative to the rest of the population, noting the ‘pensioner spike’ in the BHC income distribution
* notes the significant sensitivity of reported poverty rates to the choice of BHC poverty line for older New Zealanders (because of the ‘pensioner spike’), and outlines what can be done about this to ensure that trends in reported poverty rates more realistically reflect changes in the relative material wellbeing of older New Zealanders
* compares the value of NZS to average wages and median household incomes
* reports on trends in the relative contributions of state income support (government transfers), employment income, and other private income to the incomes of older New Zealanders.[[74]](#footnote-75)

**The BHC incomes of older New Zealanders**

# Figure I.1 shows the distribution of equivalised household disposable income for individuals. Individuals are grouped by their household incomes in multiples of $1500 pa ($30 pw). The graph clearly shows the ‘pensioner spike’ at close to the 50% of median poverty line, and also the high proportion with incomes between 50% and 60% of the median.

# The spike is a direct consequence of (a) New Zealand having a universal New Zealand Superannuation (NZS) that is neither income nor asset tested, and (b) there being a large proportion of older New Zealanders with very little other income over and above NZS.

**Figure I.1**

**BHC household income distribution for older New Zealanders relative the rest of population,**

**HES 2010**



**The incomes of older New Zealanders relative to the whole population (OECD comparisons)**

In 2009, the mean household income for older New Zealanders (65+) was 77% of the population mean (71% of the population median).[[75]](#footnote-76) The mean income for one person 65+ households was 69% of that for couples. The latest OECD comparisons for these statistics are from 2004. At that time the respective New Zealand figures were 68% (OECD average, 82%) and 76% (OECD average, 73%). The figures move around quite a lot from year to year as the means are strongly influenced by the particular group of higher-income older households happen to be surveyed. The medians are much more stable. Nevertheless, what is clear is that the ratio of the average incomes of older New Zealanders to those of the population as a whole is in the ‘low to middle range’ on an OECD league table.

# NZS relative to average earnings and median household income

# For a very large proportion of older New Zealanders (aged 65+), NZS provides the bulk of their income. In assessing the relative material wellbeing of older New Zealanders it is therefore useful to know how NZS tracks:

# in real terms

# relative to average wages

# relative to median household incomes.

In these comparisons, NZS is the equivalised NZS which puts couple and single living alone rates at the same equivalised dollar value.**[[76]](#footnote-77)**  Average earnings are net average ordinary time weekly earnings (NAOTWE), and median incomes are median equivalised household disposable incomes. Average earnings are just one factor impacting on household incomes. Another major factor is the total number of hours of paid employment being worked by households. These hours have been increasing, so household incomes have risen more rapidly than average wages (since c1994). The October 2008 tax cuts also increased net average wages and after tax household incomes.

**Figure I.2** shows that the value of NZS (and its predecessors) has remained reasonably steady in real terms from the mid 1980s through to 2010, whereas there have been considerable movements in average earnings and median household incomes in the period. The final point on both the NZS and NAOTWE lines incorporates the October 2010 tax changes which raised NZS in real terms. These changes had no impact on the 2010 HES figures, but will impact on the HES 2011 figures for the next report.

**Figure I.2**

**Trends in average earnings, median household incomes and NZS (in $2011)**



**Figure I.3** reformats the informationin Figure I.2 to show the trends in NZS relative to average earnings and median household income.

In 2010, the NZS married couple rate was close to the 66% floor relative to average earnings, as shown in the upper trend line in Figure I.3.[[77]](#footnote-78)

NZS has declined in value relative to median household incomes since the mid 1990s. This is because median household income has risen steadily in real terms, while the real value of NZS did not change greatly from the mid 1980s through to 2010. **Table I.1** gives the figures behind the lower trend line in Figure I.3.

**Figure I.3**

**NZS relative to average earnings and median household incomes**

# 

**Table I.1**

**NZS relative to the median equivalised BHC household income median (%)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1984** | **86** | **88** | **90** | **92** | **94** | **96** | **98** | **01** | **04** | **07** | **08** | **09** | **10** | **Apr 11** | **Oct 11** |
| 63 | 57 | 57 | 60 | 65 | 67 | 62 | 58 | 58 | 56 | 52 | 51 | 48 | 51 | 52 | 53 |

Note: NZS is updated on 1 April each year, and sometimes on 1 October also if there have been tax changes. The HES interviews are carried out from 1 July to 30 June. For Figure I.3 and Table I.1, the NZS in year ‘n’ is compared with the HES median for year ‘n/n+1’. For example, the 1 April 2009 NZS is compared with the median for the 2008-09 HES. This is a reasonable approximation, but note that the actual NZS amount received over the 12 months prior to interview depends on the actual interview date for each household. The trend of NZS relative to the household median income in Figure I.3 and Table I.1 is robust for a ‘stylised fact’, but not for the precise micro detail for all older households.

**Sensitivity of reported BHC poverty rates to the choice of poverty line**

**Table I.2** shows the proportion of older New Zealanders (65+) in households with incomes under two commonly used ‘poverty lines’. The top line uses the OECD equivalence scale to ensure consistency with OECD publications. The second line uses the same 50% of median threshold but the Revised Jensen scale as in the rest of the report.

On the 50% of median measure (OECD), the poverty rate was close to zero for the whole period 1984 to 2001. This was because the value of NZS was above 50% of the median. By 2009, with the value of NZS just below the 50% of median, the reported ‘poverty rate’ had risen to 22%.[[78]](#footnote-79) From the 2009 HES to the 2010 HES, NZS rose more rapidly than the median which brought the reported poverty rate down to 13%. Assuming the median is flat or declines from the 2010 HES to the 2011 HES (very likely), then the reported poverty rate will decline even further, especially as the October 2010 tax changes raised the 1 October 2010 NZS value.

Using a 60% threshold the poverty rates fell from 25% in 1988 to close to zero in the mid 1990s when the median fell in real terms and NZS was above the 60% threshold. By 2004, the rising median had led to 37% of older New Zealanders being classed as ‘in poverty’ on this measure. Similar rates are reported for 2007 to 2010.

**Table I.2**

**Proportion of older New Zealanders (65+) in households with BHC incomes below low-income thresholds (‘poverty lines’), set at 50% and 60% of the median in the survey year (%)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1984** | **86** | **88** | **90** | **92** | **94** | **96** | **98** | **01** | **04** | **07** | **08** | **09** | **10** | **11** |
| 50% OECD equiv | 2 | 2 | 8 | 2 | 1 | 1 | 1 | 3 | 2 | 9 | 18 | 16 | 22 | 13 | 11 |
| 50% NZ equiv | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 | 8 | 5 | 14 | 5 | 4 |
| 60% NZ equiv | 14 | 17 | 25 | 20 | 3 | 1 | 3 | 25 | 20 | 37 | 38 | 39 | 37 | 36 | 33 |

The large variations in reported poverty rates for the 65+ group (using BHC incomes) can leave the misleading impression that there are significant changes in material wellbeing occurring for this group, when in fact there is very little change occurring.

The pensioner spike has implications for reporting on income poverty for the 65+ and for comparisons of subgroups within the population as a whole. **Figure I.4** illustrates the issue using HES 2010 data, showing the sudden rise in poverty rates for the 65+ just above 50% of the median which is the level of NZS for the survey period. Poverty rates for the 65+ are close to zero when a 50% threshold is used, but 36% using a 60% threshold. Other age groups have a much steadier increase in poverty rates as the threshold rises.

**Figure I.4**

**Sensitivity of income poverty rates for the 65+ to the threshold used:**

**BHC incomes, 2010**



**Using incomes after deducting housing costs (AHC incomes) to give more stable and reliable results**

There are good grounds for using AHC incomes to compare subgroups, irrespective of the pensioner spike. These are discussed in Appendix 5 and in the Introduction. The pensioner spike for BHC incomes provides another rationale.

The AHC distribution still has some strong bunching but the pensioner spike is not as sharp. Furthermore, what remains of the spike is mainly above the 60% of median threshold for AHC incomes. Small shifts in the median or the threshold do not therefore have the same disproportionate and misleading effects on (trends in) poverty rates for the 65+ as they do when using BHC incomes. This is shown for 2010 in **Figure I.5** below.

**Figure I.5**

**Sensitivity of income poverty rates for the 65+ to the threshold used:**

**AHC incomes, 2010**



**Table I.3** shows that the proportion of older New Zealanders below the 60% fixed line AHC threshold has remained consistently lower than the population as a whole and reasonably low in its own right from 1982 to 2010. Those living on their own generally have higher proportions below the threshold than do those in couple households, and since 2004 have had poverty rates similar to that of the population as a whole. There was very little difference in poverty rates for females and males in 2010 (7% and 6% respectively). For 2009, it was 9% and 8%. This is a consistent finding over the years.

**Table I.3**

**Proportions of older New Zealanders (aged 65+) in low-income households, by HH type:**

**AHC CV 98 and 07 60% measure**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Reference year = 1998** | | | | | | | | | | | | **Reference year = 2007** | | | |
|  | **1982** | **1984** | **1986** | **1988** | **1990** | **1992** | **1994** | **1996** | **1998** | **2001** | **2004** | **2007** | **2007** | **2009** | **2010** | **2011** |
| All 65+ | 3 | 2 | 4 | 5 | 6 | 6 | 8 | 8 | 9 | 7 | 7 | 8 | 14 | 9 | 7 | 7 |
| Single 65+ | 5 | 3 | 9 | 12 | 13 | 10 | 13 | 11 | 14 | 9 | 14 | 12 | 22 | 15 | 11 | 12 |
| Couple 65+ | 1 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 5 | 8 | 3 | 6 | 9 | 5 | 5 | 6 |
| Total popln | 8 | 9 | 8 | 9 | 11 | 21 | 23 | 21 | 18 | 19 | 17 | 13 | 18 | 15 | 15 | 16 |

# Sources of income for older New Zealanders

# This section reports on the sources of income for older New Zealanders using a three-way division:

# government transfers - New Zealand Superannuation (NZS), Veterans Pension (VP) and other state support such as the Disability Allowance (DA) and the Accommodation Supplement (AS)

* income from employment and self-employment
* other private income from private superannuation and other investments.

# NZS and VP make up around 98% of government transfers for older New Zealanders (66+) as a group. Around 3-4% receive the AS, and 23% the DA (maximum of $57 pw in 2010).

# For this subsection, older New Zealanders are taken to be those in the survey[[79]](#footnote-80) aged 66 and over. Those aged 65 are not considered as almost all of them will have received NZS for only a part of the 12 months prior to interview.

# All the surveyed 66+ can be classed as belonging to one of two economic family unit (EFU) types: couple EFU with at least one partner aged 66 or more, or one person EFU with the person aged 66 or more.[[80]](#footnote-81) The analysis is at times kept separate for couple and one person EFUs as there are quite significant differences between the two groups regarding the amounts they receive from non-government sources.

In looking at the sources of income for older New Zealanders with different incomes, the 66+ EFUs are ranked on their equivalised gross income and put into deciles for comparison. Note that these are not deciles based on a ranking of the whole population. Older New Zealanders are clustered in the lower four deciles of the population income distribution (two thirds were in that zone in 2010).

There are usually around 700 66+ EFUs in the sample. As the findings focus on stable patterns and clear trends rather than on smaller year on year changes, a sample of this size is adequate.

**Summary of findings regarding the sources of income for older New Zealanders**

* The great majority of older New Zealanders (aged 66+) are very dependent on NZS and other government transfers for their income
* 40% have virtually no other income source
* the next 20% have on average around 80% of their income from NZS and other government transfers
* this degree of dependence has not changed greatly in the last two decades
* those in couple EFUs tend to have higher per capita non-government income than do those in single person EFUs
* Around one in three older New Zealanders receive more than half their income from sources other than NZS or VP
* for this group, the proportion of income from other sources has grown a little over recent years, mainly due to increasing non-government income for those in ‘younger’ couple EFUs (aged 66-75)

# Table I.4 provides more detail to support and enlarge on these summary findings. The right hand column gives the links to the relevant tables and charts that follow – these support and illustrate the summary above and the findings reported in the table. Around 98% of all government transfers to older New Zealanders comes from NZS/VP. For some in lower income deciles, the extra state assistance (eg DA and AS) is significant and is more than the 2% average.

**Table I.4**

**Summary of key findings about sources of income for older New Zealanders**

|  |  |  |
| --- | --- | --- |
| **2010 HES** | **Changes from 1989 to 2010** | **Ref** |
| **For the great majority, there is very high dependence on NZS …** | | Fig I.6 |
| * NZS provided virtually all the income (98%) for the lower 40% (Q1 and Q2) | * there has been very little change in these proportions since 1989 | Fig I.7 |
| * NZS provided 80% of income for the next 20% (the middle quintile) | * there has been a small but definite decline in this proportion since 2004, from 90% to 80% | Fig I.8 |
| * for the next 20% (Q4), NZS provided half the income | * this is down a little from the 65% to 70% that prevailed from 1989 to 2001 | Fig I.6 |
| the lower 60% reported less than $200 pw (per capita) from sources other than government transfers | * + there has been little change since 1989 (in real terms) | Derived from Fig I.11 and I.7 |
| the lower 40% reported less than $30 pw (per capita) from sources other than government transfers | * + there has been little change since 1989 (in real terms) |
| **… and single person EFUs are more dependent on NZS than are couple EFUs** | |  |
| * 65% of all the income for single person EFUs came from government transfers, 40% for couples | * the proportion of all incomes coming from government transfers has declined since 1989, but the proportion for singles is always higher than for couples (eg 70% and 60% respectively in 1998) | Fig I.9 |
| * of the 25% of older NZers reporting more than $400 pw (per capita) non-govt income, 3 in 4 were from couple EFUs and 1 in 4 from single-person EFUs |  | Derived from Fig I.11 |
| **For a smaller group (around 30%), income from other sources is significant and for this group the proportion of total household income coming from these other sources is increasing …** | |  |
| * other income made up more than half of total income for 35% of all older NZers (20% of singles and 40% of couples) | * the size of this group has almost doubled since 1998 | Fig I.9 |
| for deciles 8 and 9 together, 38% of their income was from NZS | * this is down from 56% in 1998 and 55% in 1989 | Fig I.6 |
| for ‘younger’ couples (aged 66-75) in deciles 5-6 of this group’s income distribution, 50% of their income came from non-government sources | * this is up from 20% in 1998 and earlier, and is driven by both increasing employment and private income for this group | Fig I.10 |
| for those in the top decile (mainly couples) only 17% of their income was from NZS | * this is down from 29% in 1989 and 23% in 1998 | Fig I.6 |
| **Overall …** |  |  |
| govt transfers made up around half the reported income (48%) for older NZers as a group, but as the above findings indicate, this aggregate figure masks large differences across the deciles and between single person and couple EFUs | * this (48%) is down from 67% in 1989 and 64% in 1998 | Fig I.6 |

**Figure I.6**

**Proportion of gross income of older New Zealanders (66+)**

**coming from government transfers (almost entirely NZS and VP)**



**Figure I.7**

**Income sources for deciles 1-4, all 66+ EFUs**



**Figure I.8**

**Income sources for deciles 5-6, all 66+ EFUs**



**Figure I.9**

**Proportion of gross income coming from government transfers (almost entirely NZS and VP):**

**one person and couple EFUs compared, HES 2010**



**Figure I.10** shows that for a group of ‘younger’ couple EFUs (aged 66-75) there has been a strong and sustained increase in income from non-government sources in the decade from 2001 to 2010. The proportion of their income which came from employment increased from 2009 to 2010, although the total dollar amount from employment remained much the same. The proportion and dollar amount coming from other private sources (investment returns) fell.

For these ‘younger’ couples in the middle quintile (deciles 5 and 6), there has been a reduction in the proportion of their income coming from NZS (80% to 50% from 2001 to 2010), but for the lower two quintiles for this group dependence on NZS and other government transfers remains high (87%).

There have been no comparable changes for those in one-person EFUs.

**Figure I.10**

**Changing proportions from three sources for couples (aged 66-75) in deciles 5-6 for couples**



**Table I.5** shows the amounts received by one person and couple EFUs (66+) from sources other than government transfers (ie from employment, self-employment, private superannuation and other investments). Each EFU type is ranked separately on their respective non-government incomes. Decile means and decile upper boundaries are given.

**Table I.5**

**Amount received per week by 66+ EFUs from non-government sources by decile, HES 2010**

**(each EFU type is ranked separately on their respective non-government incomes)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **TOT** |
| one person EFUs | mean | 0 | 0 | 0 | 1 | 5 | 30 | 100 | 240 | 500 | 1040 | 195 |
| upper bndry | 0 | 0 | 0 | 2 | 15 | 55 | 155 | 325 | 675 | - | - |
| couple EFUs | mean | 0 | 6 | 50 | 125 | 280 | 485 | 735 | 1090 | 1595 | 4170 | 855 |
| upper bndry | 0 | 25 | 75 | 185 | 385 | 570 | 900 | 1285 | 2045 | - | - |

### Note: When making estimates of the number or proportion of individuals (rather than EFUs) receiving less than or more than a given amount from non-government sources, note that there are around 50% more individuals in couple EFUs than in single EFUs (ie the relative weighting is around 3:2).

**Figure I.11** plots the upper boundaries from Table I.5 for deciles 1-8 and interpolates to provide a simple means of estimating proportions of older New Zealanders with non-government incomes above or below selected amounts. For couple EFUs, the Table I.4 amounts are halved to convert them to per capita amounts. The top two deciles are omitted to enable a sensible vertical scale to be used.

**Figure I.11**

**Income from non-government sources for one person and couple EFUs (66+):**

**weekly amounts per person, decile upper boundaries, deciles 1-8, HES 2010**



For example, for those in couple EFUs, 42% have less than $100 pw, and for one person EFUs, around 65% have less than $100 pw. There are around 50% more people in couple EFUs than in one person EFUs (3:2 ratio). The weighted average of 42% and 65% is 51%. So, in 2010, around half of older New Zealanders had income of less than $100 pw over and above government transfers, similar to 2009, but down from 56% in 2008 and 60% in 2007.[[81]](#footnote-82)

# 

# Section J

### International comparisons

### for income poverty, inequality and wealth

The information for the international comparisons of income poverty and inequality in this section comes from two sources.

The OECD income inequality and poverty comparisons come from information sent to the OECD by national experts using national datasets and based on common assumptions and definitions. The OECD analysis for New Zealand uses information supplied by Statistics New Zealand based on the 2008–2009 HES. The latest comparisons across the OECD as a whole are available for most countries for c 2008 and 2009.[[82]](#footnote-83)

The only significant difference between the OECD assumptions and definitions and those used in the rest of this report for New Zealand BHC analysis is that the OECD work uses an equivalence scale that treats children as costing the same as adults (the ‘square root scale’). This difference generally has only a small to modest impact on the level of various indicators at a given time, and a quite limited impact on trend analysis over time. The use of different equivalence scales can produce different directions for changes from one survey to the next when the changes are small. Long-term trends are not affected. [[83]](#footnote-84)

The comparisons with the EU and other European countries draw mainly on information compiled by Eurostat for the EU and other European countries. The equivalence scale used in this source is almost identical to the Revised Jensen Scale used in this report for New Zealand analysis.

The information for international comparisons of wealth inequality comes from the Luxembourg Wealth Study, and New Zealand Treasury analysis of the 2003–2004 wave of the Statistics New Zealand’s Survey of Family Income and Employment (SoFIE) dataset.

**International comparisons of income poverty**

The OECD poverty indicator uses a moving line approach with a 50% of median BHC threshold. The EU poverty indicator uses a moving line 60% of median BHC threshold.

Comparing poverty rates across countries using the OECD or EU approaches is essentially a comparison of the proportion of households that have incomes more than a defined distance from middle incomes for each country. This is consistent with the relative disadvantage notion of poverty and can be useful when looking at trends and relativities within a country. If understood properly, it can also be a useful way of comparing how dispersed or compressed the income distribution is below the median on a country by country basis.

A major difficulty arises, however, when international league tables of poverty rates are seen as ranking countries by their poverty rates understood in terms of the proportion of the population experiencing poor material living conditions assessed against some common international standard. This is still a relative perspective, but the reference is no longer the middle incomes of a particular country, but some notion of minimum acceptable living conditions that is the same for each country.

## For example, using the 60% of median EU measure, the Czech Republic has a poverty rate (10%) that is lower than the rates for Denmark, Sweden and France (13%), yet the poverty lines in each of the latter three countries are all above the median household income level for the Czech Republic. What this means is that the Czech Republic has less inequality in the lower half of the income distribution than the others – a smaller proportion more than 40% below the Czech median than other countries. The figures are often mistakenly interpreted, however, as if the league table ranking means that the Czech Republic is doing better than the others for less well-off citizens against some unstated international reference level.

The issues are well illustrated in the two scatter-plots below. The charts draw on data from the OECD’s 2011 *Society at a Glance* publication. **Figure J.1** shows that there is very little relationship between income poverty rates for OECD countries and the proportion who report in Gallup polls that they are finding it difficult or very difficult on their current income. On the other hand **Figure J.2** shows that there is a reasonably strong relationship between median household incomes (made comparable through the use of USD Purchasing Power Parities) and the proportion reporting income difficulties.

It appears as if respondents to the Gallup polls have in mind some notion of an internationally comparable minimum standard of living when they give their answers. In contrast, income poverty rates use the median income levels within countries as the benchmarks. The problem arises when people interpret the international income poverty league tables as if they were using a common cross-country standard and give an indication of ‘income difficulties’. The EU faces this challenge even more pointedly than the OECD – for income poverty measurement, is the reference society the EU or the individual member country?[[84]](#footnote-85)

**Figure J.1**

**Very weak relationship between income poverty and reported income difficulties**



**Figure J.2**

**Strong negative relationship between median household incomes and reported income difficulties**

## 

Note: Two outliers (Hungary and Greece) have been removed. When they are included the R-2 value drops to 0.61 – still a reasonably strong relationship.

## International comparisons using non-monetary indicators

## Partly in response to these concerns, the EU has developed and recently adopted a 9-item deprivation index based on non-monetary indicators as one of its primary social inclusion indicators. The OECD is also taking steps to develop international comparisons of material hardship based on non-monetary indicators.[[85]](#footnote-86)

## Although these too have their challenges and limitations, they have the potential to provide another useful perspective to set alongside the comparisons based on income.

## The Ministry of Social Development’s 2008 Living Standards Survey has items in it that allow comparisons of material deprivation with EU countries using non-monetary indicators. The findings from this stream of work are commended to readers.[[86]](#footnote-87)

## Cautions when making comparisons between poverty figures across countries: summary

International league tables such as those produced by the OECD, Eurostat and UNICEF have a popular appeal, but need to be treated with considerable caution for several reasons:

* those identified as ‘poor’ in two countries which have the same or similar reported income poverty rates may have quite different actual day-to-day living standards (as discussed above)
* poverty rates for countries can bunch together, and small differences in rates can mean very large differences in rankings – comparison with the median or average is therefore often more useful than the ranking itself for assessing or summarising relative performance
* some countries’ reported rates can change significantly from year to year on a moving line (REL) approach, thus making the choice of comparison years crucial when reporting rankings.[[87]](#footnote-88)

**Population poverty using a 50% BHC threshold**

* On the OECD 50% of median moving line (REL) measure, the average New Zealand rate through the mid 1990s (1994 to 1996) was 9%, which was at the OECD median.
* By the time of the 2009 HES the rate was 11%. **Table J.1** shows that this still places New Zealand in the middle of the OECD ranking (18th out of 34), with a rate very close to those of Italy, Canada, the United Kingdom and Ireland, lower than Australia (15%), and well below the United States (17%). Hungary, Denmark and the Czech Republic have the lowest proportion with incomes below the 50% line (5% to 6%).
* In the 2010 HES the New Zealand rate was still 11%, and in 2011, 10%. The small decline is simply a reflection of the falling median. This lowers the dollar value of the relative poverty line and therefore the poverty rate, all else being equal.

**Table J.1**

**Population poverty rates (%) in the OECD-34, c 2008-09:**

**50% of median threshold (BHC)**

|  |  |  |  |
| --- | --- | --- | --- |
| Mexico | 21 | Poland | 10 |
| Israel | 20 | Ireland | 10 |
| Chile | 19 | Belgium | 9 |
| United States | 17 | Germany | 9 |
| Turkey | 17 | Switzerland | 9 |
| Japan | 16 | Sweden | 8 |
| Korea | 15 | Finland | 8 |
| Australia | 15 | Norway | 8 |
| Estonia | 14 | Slovenia | 8 |
| Spain | 14 | France | 7 |
| Portugal | 14 | Luxembourg | 7 |
| Greece | 13 | Netherlands | 7 |
| Italy | 11 | Austria | 7 |
| Canada | 11 | Slovak Republic | 7 |
| United Kingdom | 11 | Iceland | 7 |
| **New Zealand** | **11** | Hungary | 6 |
|  |  | Denmark | 6 |
| OECD median | 11 | Czech Republic | 5 |

Source: OECD (2011b), Table EQ2.1

**Population poverty using a 60% BHC threshold**

* **Table J.2** shows New Zealand’s relative position among selected European countries, Canada, the United States, Mexico and Australia using a 60% BHC threshold. The New Zealand figures are derived using the same equivalence scale as in the Eurostat analysis.
* For comparison purposes the figures for Canada, the US, Mexico and Australia (from the Luxembourg Income Study (LIS) database) should be reduced by one or two percentage points as the equivalence scale used in the LIS analysis gives population poverty rates approximately that much higher than the one used in the Eurostat analysis.
* Using a 60% threshold New Zealand’s rate in 2010 (17%) was very close to the EU average (16%). In 2004, the New Zealand rate was 21% and the EU average was 16%.
* New Zealand’s movement from 2004 to 2009 to be closer to the EU average reflects the impact of the Working for Families package in raising the incomes of many (working) families up from the 50% to 60% of median band to above the 60% of median threshold.
* In the 2011 HES, the New Zealand rate was 17%.

**Table J.2**

**Population poverty rates (%) in selected European countries, Canada, the US, Mexico and Australia**

**c 2010:**

**60% of median threshold (BHC)**

|  |  |  |  |
| --- | --- | --- | --- |
| Turkey 2004 | 26 | EU -27 | 16 |
| Mexico 2004\* | 25 | EU-15 | 16 |
| United States 2004 \* | 24 | Belgium | 15 |
| Latvia | 21 | Switzerland | 15 |
| Spain | 21 | Luxembourg | 15 |
| Lithuania | 20 | France | 14 |
| Greece | 20 | Denmark | 13 |
| Australia 2003 \* | 20 | Finland | 13 |
| Canada 2004 \* | 20 | Sweden | 13 |
| Italy | 18 | Slovenia | 13 |
| Portugal | 18 | Austria | 12 |
| Poland | 18 | Hungary | 12 |
| **New Zealand 2010** | **17** | Slovakia | 12 |
| United Kingdom | 17 | Norway | 11 |
| Estonia | 16 | Netherlands | 10 |
| Germany | 16 | Iceland | 10 |
| Ireland | 16 | Czech Republic | 9 |

Sources: Most of the data in the table is drawn directly from the Eurostat statistical database for ‘Living Conditions and Social Protection’, accessed on 22 May 2012. The rates for Canada, the US, Mexico and Australia are drawn from the LIS Key Figures database at [www.lisproject.org/key-figures/key-figures.htm](http://www.lisproject.org/key-figures/key-figures.htm) accessed on 20 June 2011.

**Child poverty comparisons using a 50% BHC threshold**

* On the OECD 50% of median moving line (REL) measure, the average New Zealand child poverty rate through the mid-1990s (1994 to 1996) was 13%, rising to 15% in 2004.
* By the time of the 2009 HES the rate was just over 12%. **Table J.3** shows that this placed New Zealand at the median for child poverty for the 34 OECD countries, alongside Australia.
* In the 2011 HES, the New Zealand rate was 12% again, after a small rise to 13.5% in 2010 HES.

**Table J.3**

**Child poverty rates (%) in the OECD-34, mid to late 2000s:**

**50% of median threshold (BHC)**

|  |  |  |  |
| --- | --- | --- | --- |
| Israel | 27 | Slovak Republic | 11 |
| Mexico | 26 | Czech Republic | 10 |
| Turkey | 25 | Korea | 10 |
| United States | 22 | Belgium | 10 |
| Poland | 22 | Netherlands | 10 |
| Chile | 21 | United Kingdom | 10 |
| Spain | 17 | Switzerland | 9 |
| Portugal | 17 | Iceland | 8 |
| Ireland | 16 | Germany | 8 |
| Italy | 15 | France | 8 |
| Canada | 15 | Slovenia | 8 |
| Japan | 14 | Hungary | 7 |
| Greece | 13 | Sweden | 7 |
| Estonia | 12 | Austria | 6 |
| Luxembourg | 12 | Norway | 6 |
| **New Zealand (2008-09)** | **12** | Finland | 4 |
| Australia | 12 | Denmark | 4 |
| OECD median | 12 |  |  |

Source: OECD (2011a), Table 5.1 and Figure 5.1

**Child poverty comparisons using a 60% BHC threshold**

* **Table J.4** shows New Zealand’s relative position among selected European countries, Canada, the United States, Mexico and Australia using a 60% of median moving line measure (BHC). The New Zealand figure is based on the 2010 HES and uses the same equivalence scale as the Eurostat analysis.
* For comparison purposes the figures for Canada, the US, Mexico and Australia (from the LIS database) should be reduced by one or two percentage points as the equivalence scale used in the LIS analysis gives population poverty rates approximately that much higher than the one used in the Eurostat analysis.
* New Zealand’s rate in 2004 (25%) was above the EU 2004 average (20%). New Zealand’s less favourable relative position in 2004 using the 60% threshold compared with its position using a 50% threshold (Table J.3) shows that compared to most of the other countries New Zealand’s income distribution for households with children was more dense in the 50% to 60% of median range.
* In the 2007 HES, the rate had dropped to 20%, which was at the EU-25 average for 2006. This indicates that the density of the 50% to 60% zone reduced in the 2004 to 2007 period, given that the 50% rate declined only slightly (cf Section F, especially Figure F.3). This change reflects the impact of the Working for Families package in raising the incomes of many (working) families with children from the 50% to 60% of median range to above the 60% of median threshold.
* In the 2011 HES, the New Zealand rate was again 19%.

**Table J.4**

**Child poverty rates (%) in selected European countries, Canada, the US, Mexico and Australia**

**c 2010:**

**60% of median threshold (BHC)**

|  |  |  |  |
| --- | --- | --- | --- |
| Turkey 2006 | 36 | Hungary | 20 |
| Mexico 2004 | 30 | **New Zealand 2010** | **19** |
| United States 2004 | 29 | Slovak Republic | 19 |
| Latvia | 27 | Belgium | 18 |
| Spain | 26 | France | 18 |
| Canada 2004 | 25 | Germany | 18 |
| Italy | 25 | Switzerland | 18 |
| Lithuania | 23 | Estonia | 17 |
| Greece | 23 | Netherlands | 14 |
| Poland | 23 | Austria | 14 |
| Portugal | 22 | Czech Republic | 14 |
| Australia 2003 | 22 | Sweden | 13 |
| Luxembourg | 21 | Slovenia | 13 |
| EU-27 | 21 | Iceland | 13 |
| EU-15 | 20 | Norway | 12 |
| Ireland | 20 | Finland | 11 |
| United Kingdom | 20 | Denmark | 11 |

Sources: Most of the data in the table is drawn directly from the Eurostat statistical database for ‘Living Conditions and Social Protection’, accessed on 22 May 2012. The rates for Canada, the US, Mexico and Australia are drawn from the LIS Key Figures database at [www.lisproject.org/key-figures/key-figures.htm](http://www.lisproject.org/key-figures/key-figures.htm) accessed on 20 June 2011.

**Children in workless households**

There is more than one way in which the general concept of ‘children in workless households’ is operationalised and reported by various national and international agencies.

The most straightforward way is to count the number of children in workless households and express this number as a proportion of all children (16% in HES 2009). This report uses this approach.[[88]](#footnote-89)

A second way is to count up the number of households with children where there is no adult in work, and express this as a proportion of the number of all households with children. This “workless households with children” approach gives a very similar trend to that produced by this report’s “children in workless households” approach, albeit the actual proportions can sometimes be very slightly different than in the first approach (16% in HES 2009).

A third way is to count the number of people in workless working-age households with children, and express this as a proportion of the total number of people in all working age households with children. This seems to be the approach used by the OECD in their gathering of information from member nations for international comparisons. It produces numbers quite different from either of the above two approaches (eg 10% in HES 2004, compared with 14% for both the above approaches). This is a useful way of reporting on the proportion of people in workless households with children, but is not as useful for reporting on the proportion of children in workless households, especially when this is straightforward to do in a simple and direct way as the EU does (see below).

**Table J.5** compares New Zealand with EU countries on the proportion of children in workless households. In 2008-09, New Zealand was at the high end of the table with a rate of 16%, similar to Ireland and the United Kingdom. Based on the 2011 HES, the rate is estimated at 19% in 2010-11.

**Table J.5**

**International comparisons of the proportion of children living in workless households (%):**

**EU and New Zealand figures are for 2009**

|  |  |  |  |
| --- | --- | --- | --- |
| United Kingdom | 17 | France | 9 |
| Ireland | 16 | Slovakia | 8 |
| Hungary | 16 | Poland | 8 |
| **New Zealand** | **16** | Italy | 8 |
| Estonia | 12 | Czech Republic | 8 |
| Belgium | 12 | Netherlands | 5 |
| Lithuania | 11 | Austria | 5 |
| Latvia | 11 | Finland | 4 |
| Germany | 10 | Denmark | 3 |
| EU-27 | 10 | Greece | 4 |
| Spain | 10 | Luxembourg | 4 |

Sources: Non New Zealand data downloaded from ‘The Poverty Site’ (UK), [www.poverty.org.uk](http://www.poverty.org.uk), on 29 July 2012. Eurostat data.

**Older New Zealanders**

**Extra care needed here**

Using household income as an indicator of material wellbeing has some significant and well-known limitations, especially for international comparisons. The reader is referred to the opening pages of this Section, the text below, and to Section I for detailed discussion and analysis of the limitations of BHC income-based poverty comparisons, and the potential that they have for leaving misleading impressions as to how countries and groups within them are faring relative to each other. These risks especially apply to comparisons for older people.

Using the 50% of median threshold (OECD measure), New Zealand had one of the higher poverty rates in the OECD in 2008-09 for those aged 65+ (22%) – see **Table J.6.**

In previous OECD league tables (for c2000 and 2004) New Zealand had the lowest poverty rate in the OECD for the 65+ group (~2%).

The sudden increase occurred because the value of New Zealand Superannuation (NZS) was above 50% of the median household income in earlier years (2001, 2004) but fell just below it during 2009. There are many older New Zealanders whose income is little more than NZS so there is a clumping of 65+ households at around the NZS level. In 2001, NZS had a value of just under 60% of the median. From 2001 to 2009 the median rose in real terms at a faster rate than the real rises in NZS. In 2009 the OECD poverty line (50% of the median) cut through the clump thus producing a large change in the reported poverty rate for older New Zealanders. There is more detail on all of this in **Section I.**

**Table J.6**

**65+ poverty rates in the OECD (%) c 2008-09:**

**50% of median threshold (BHC)**

|  |  |  |  |
| --- | --- | --- | --- |
| Korea | 45 | Ireland | 13 |
| Australia | 39 | United Kingdom | 12 |
| Estonia | 30 | Denmark | 12 |
| Mexico | 29 | Sweden | 10 |
| Chile | 23 | Austria | 10 |
| Greece | 23 | Germany | 10 |
| **New Zealand** | **22** | Italy | 9 |
| Japan | 22 | Norway | 8 |
| United States | 22 | Poland | 8 |
| Spain | 21 | Iceland | 7 |
| Israel | 20 | Slovakia | 7 |
| Switzerland | 18 | Hungary | 5 |
| Slovenia | 16 | Canada | 5 |
| Portugal | 15 | France | 5 |
| Turkey | 14 | Czech Republic | 4 |
| Belgium | 14 | Luxembourg | 3 |
| Finland | 13 | Netherlands | 2 |

Source: Data downloaded from the OECD at http://dx.doi.org/10.1787/888932381893

See also OECD (2011) Table EQ2.2.

By 2010 the New Zealand rate had fallen to 13% and in 2011 11%. This decline reflects two things: first, the median remained much the same in 2011 as in 2009 in real terms; and second, NZS rose in real terms in that time, especially because of the April 2009 and October 2010 income tax changes.[[89]](#footnote-90)

This sudden rise and fall of the income poverty rate for older New Zealanders can easily leave the misleading impression that there has been a very large and sudden change for the worse in the actual living conditions of many older New Zealanders, followed by an equally sudden improvement. Neither conclusion is warranted. The rapid changes simply reflect the existence of the ‘pensioner spike’ in the New Zealand income distribution.

In its 2007 country report for New Zealand, the OECD noted that New Zealand has “successfully erased poverty among the elderly”, basing its assessment on the information in the 2000 version of Table J.6.[[90]](#footnote-91) To be consistent, it would now have to report something along the lines that “poverty among the elderly in New Zealand is very high compared with other OECD countries and is clearly a matter that the country needs to address.” If it did so, it would be consistent, but it would be misleading on both counts.

The opening pages of this section raised serious questions about the value and wisdom of international league tables which use income-based measures of poverty and which leave the reader with the impression that the rankings somehow reflect the degree of material hardship being experienced by different groups across the countries ranked in the table. The rapid and large changes for ‘poverty rates’ for older New Zealanders as noted above provide another reason to treat such tables with great care.

**Table J.7** compares poverty rates for older people using a 60% threshold for selected European countries and New Zealand. Using this higher threshold, poverty figures are more stable from year to year as the threshold is above most clumps or pensioner spikes in the income distributions.

**Table J.7**

**65+ poverty rates in selected European countries and New Zealand (%) c 2010:**

**60% of median threshold (BHC)**

|  |  |  |  |
| --- | --- | --- | --- |
| Australia | >45 | Austria | 15 |
| **New Zealand** | **32** | Estonia | 15 |
| Switzerland | 28 | Iceland | 15 |
| Spain | 22 | Germany | 14 |
| United Kingdom | 21 | Poland | 14 |
| Greece | 21 | Norway | 12 |
| Portugal | 21 | Ireland | 11 |
| Belgium | 19 | France | 10 |
| Finland | 18 | Lithuania | 10 |
| Denmark | 18 | Slovakia | 8 |
| Italy | 17 | Czech Republic | 7 |
| Sweden | 16 | Netherlands | 6 |
| EU-27 and EU-15 | 16 | Hungary | 4 |

Sources: The figure for Australia is a conservative estimate based on the 50% of median figure (39%). The other non New Zealand figures are drawn directly from the Eurostat statistical database for ‘Living Conditions and Social Protection’, accessed on 22 May 2012.

When using household income as an indicator of relative material wellbeing, and especially for comparisons with other age-groups, this report takes the view that an AHC approach is more useful. The rationale for this position is set out and discussed in the Introduction (Section A), in Section I and in Appendix 5. Comparable figures for the EU or OECD are not available.

None of this is meant to imply that the comparison of household incomes within a country is of little or no use. The point is about the limitations of using household incomes for international comparisons of poverty and material hardship among those in the richer nations (eg OECD or EU), especially when it comes to the relative position of older New Zealanders.

**Using non-monetary indicators (NMIs) for international comparisons of hardship for older people (65+)**

The use of NMIs or non-income measures provides a useful alternative way of assessing relative material wellbeing. The EU has developed and adopted an official measure of material hardship (deprivation) using NMIs. The 2008 New Zealand Living Standards Survey has the EU questions in it and this allows New Zealand to be located relative to European countries using the EU index. See Perry (2009) for full details on this.

**Figure J.3** shows that older New Zealanders have a much lower deprivation rate (3%) than their counterparts in most European countries. As for the population as a whole there is a reasonably clear division between the ‘old’ EU countries and those more recently gaining membership.

**Figure J.3**

**Deprivation rates (% with 3+ enforced lacks) using the 9 item index (EU-1), those aged 65+**

**EU-25** - **MT + NO + IS +NZ (EU 2007, NZ 2008)**



**Table J.8**

**Deprivation rates (% with 3+ enforced lacks) using the 9 item index (EU-1), those aged 65+**

**EU-25** - **MT + NO + IS +NZ (EU 2007, NZ 2008)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **% with 3+** |  |  | **% with 3+** |
| Luxembourg | LU | 1 | Spain | ES | 11 |
| Norway | NO | 1 | Italy | IT | 14 |
| Netherlands | NL | 3 | Czech Republic | CZ | 17 |
| Sweden | SE | 3 | Slovenia | SI | 18 |
| **New Zealand** | **NZ** | **3** | Estonia | EE | 20 |
| Denmark | DK | 4 | Portugal | PT | 26 |
| Ireland | IE | 4 | Greece | GR | 29 |
| Iceland | IS | 4 | Hungary | HU | 35 |
| United Kingdom | UK | 5 | Lithuania | LT | 39 |
| Germany | DE | 7 | Poland | PL | 41 |
| Finland | FI | 8 | Slovakia | SK | 42 |
| France | FR | 8 | Cyprus | CY | 44 |
| Austria | AT | 10 | Latvia | LV | 59 |
| Belgium | BE | 10 |  |  |  |

**International comparisons of income inequality**

The latest full set of information available from the OECD is for around 2008 and 2009. International comparisons are given for the Gini coefficient and the P90/P10 ratio. The OECD sources do not have comparisons for the P80/P20 ratio.

In contrast to the percentile ratios the Gini coefficient takes the incomes of all individuals into account. It gives a summary of the income differences between each person in the population and every other person in the population. A difference of, say, $1000 between two high-income people contributes as much to the index as a difference of $1000 between two low-income people. The Gini scores (x100) range from 0 to 100 with scores closer to 100 indicating higher inequality and those nearer zero indicating lower inequality (ie greater equality).

**Inequality comparisons using the Gini coefficient (c 2008-2009) for the whole population**[[91]](#footnote-92)

**Figure J.4** shows inequality rankings for 34 OECD countries for around 2008-2009 using the Gini coefficient. New Zealand’s score of 33 gave a ranking of 25th out of 34. Rankings are not generally a useful way of comparing countries as there is often a clustering that can mean that a very minor difference in score can be the difference between a ranking of, say, 10th and 17th. Distance from the median and relativity to countries with whom comparisons are traditionally made are more useful approaches. On the latest OECD figures (c2008-09), New Zealand’s Gini score of 33 was close to those of Australia and the UK (34), Japan (33) and Canada (32), and a little above the OECD-34 median (31). Countries such as Denmark, Norway and Sweden have lower than average inequality (Ginis of 25-26). The US score was 38.

**Figure J.4**

**Income inequality across the OECD: Gini coefficients (x100) for around 2008-09, whole population**



Source: OECD (2011), Figure EQ 1.1

New Zealand’s Gini score dropped to 32 in 2010 and rose to 34 in 2011. As noted elsewhere (see the inequality pages in Section D) the volatility of the inequality measures for 2009 to 2010 to 2011 reflect the impact of the global financial crisis and economic downturn on incomes, first on higher incomes, then from 2009-10 to 2010-11 on lower incomes (see Figure D.8). It will take another survey or two to be clear about the post-crisis inequality rate. The average of the 2009, 2010 and 2011 Gini scores is in the range that prevailed from 2004 to 2007.

**Comparing changes in inequality in OECD countries (mid 1980s to mid 2000s)**

**Figure J.5** shows that of the 24 OECD nations for which data is available from the mid 1980s to around the year 2004 New Zealand’s increase of 6.5 was the largest.

**Figure J.5**

**Gini coefficient changes, mid 1980s to mid 2000s: 24 OECD nations**



Source: Förster and Mira d’Ercole (2007), Annex Figure A.1.5.

The increase for New Zealand in the full period from the mid 1980s to the mid 2000s all occurred from the mid 1980s to the mid 1990s when New Zealand’s Gini score moved from 2 points below the OECD average to 2 points above it.

**Figure J.6** shows the changes for the 25 OECD countries for which data is available for the mid 1990s and c 2004. From the mid 1990s to 2004 New Zealand’s Gini score did not change.

**Figure J.6**

**Gini coefficient changes, mid 1990s to mid 2000s: 25 OECD nations**



Source: Förster and Mira d’Ercole (2007), Annex Figure A.1.5.

**Inequality comparisons using the Gini coefficient (c 2008-2009), for the ‘working-age’ population (18 to 65 years)**

**Figure J.7** shows inequality rankings for the working-age population for 34 OECD countries for around 2008-09 using the Gini coefficient. New Zealand’s score of 32 gave a ranking of 21st out of 34. This was below that of the United States (37), and the UK (35) and very close Ireland, the UK, Japan and Australia. The OECD median was just over 30.

**Figure J.7**

**Income inequality across the OECD:**

**Gini coefficients (x100) for around 2008-09, working age (18 to 65 years)**



Source: OECD (2011c)

**Inequality comparisons using the P90/P10 ratio (c 2004)**

New Zealand’s ratio of 4.3 in 2004 gave New Zealand a ranking of 19th out of 30 OECD countries. New Zealand’s P90:P10 ratio was below that of the United States (5.9), similar to that of Ireland (4.4), Italy (4.3), the United Kingdom (4.2), and a little above Canada (4.1) and Australia (4.0). The OECD average c2004 was 4.1. Denmark, Norway and Sweden have the lowest P90/P10 ratios in the 2.7 to 2.8 range.

The P90/P10 ratio for New Zealand in 2010 (4.1) was lower than it was in 2004 (4.3).

P90/P10 ratios rank countries in roughly the same order as does the Gini coefficient. This is shown in **Figure J.8** using a straight line regression fit to indicate the relationship (r = 0.96)

**Figure J.8**

**The Gini coefficient and the 90:10 percentile ratio rank OECD countries in much the same order:**

**linear regression for 30 countries, c 2004**



**Comparisons between Australia and New Zealand**

**Table J.9** shows that household income inequality in Australia (2009-10) and New Zealand (2009) is similar on three measures. In each case, the New Zealand figure is slightly lower, but there is unlikely to be any statistically significant difference between them.[[92]](#footnote-93)

**Table J.9**

**Income inequality: New Zealand and Australia compared**

|  |  |  |
| --- | --- | --- |
|  | **New Zealand** | **Australia** |
| Gini | 32.5 | 32.8 |
| 80:20 percentile ratio | 2.52 | 2.70 |
| 90:10 percentile ratio | 4.0 | 4.2 |

Source for Australian figures: Table S% in ABS (2011), based on the 2009-10 Survey of Income and Housing (SIH).[[93]](#footnote-94)

**International comparisons of wealth inequality**

Wealth is a key component of a household’s economic resources.[[94]](#footnote-95) For example, households with low incomes but relatively high wealth levels are able to achieve higher actual living standards than low-income households with low wealth levels. In practice, especially for working-age households, income and wealth are highly (but far from perfectly) correlated. Most who are counted as income poor also have negligible financial assets and very low net worth. (See **Figure A.1** and the associated text in the Introduction (Section A).)

In OECD countries, the measurement of wealth is not as developed as wage and income measurement. The data issues faced by individual countries are compounded for comparisons between countries because of differences in methods and definitions. Building on the experience of the Luxembourg Income Study (LIS), a group of researchers and institutions is developing the Luxembourg Wealth Study (LWS), an international project to assemble unit record data on household wealth into a coherent database. The hope is that this will promote a process of reasonable harmonisation of definitions and methodologies across countries, and will facilitate more reliable international comparisons of wealth distribution.

**Table J.10** shows some of the findings from early research from the LWS project – the share of total wealth held by the top wealth decile for seven OECD countries, and wealth inequality as measured using the Gini coefficient. New Zealand is not a participant in the LWS, but roughly comparable figures are available using the SoFIE dataset.

**Table J.10**

**Wealth inequality: shares of total wealth held by the top wealth decile (%), and wealth Ginis**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Italy**  2002 | **UK**  2000 | **Finland**  1998 | **NZ**  2003-04 | **Canada**  1999 | **Germany**  2002 | **Sweden**  2002 | **USA**  2001 |
| **Share of wealth held by top decile (%)** | 42 | 45 | 45 | 52 | 53 | 55 | 58 | 71 |
| **Gini coefficient** | 61 | 66 | 68 | 69 | 75 | 80 | 89 | 84 |

Sources: For New Zealand, the source is Statistics New Zealand (2007), analysis based on the Survey of Family, Income and Employment (2003-04). For the other countries, see OECD (2008), Table 10.3, based on the LWS database. The figures should be taken as indicative only. For more details and an assessment of the reliability of the information from the early LWS research see OECD (2008), Chapter 10.

From Table J.10 and other analysis, two high level findings are that:

* wealth is distributed much more unequally than income (especially disposable income after tax and transfers)
* Gini scores for wealth inequality are generally in the range from 60 to 80, compared with 25 to 40 for income inequality[[95]](#footnote-96)
* for New Zealand, the top wealth decile accounts for 52% of the total wealth, whereas the top income decile accounts for 25% of the total income
* wealth inequality in New Zealand appears to be not greatly different to what prevails in many other OECD countries.

# Section K

**Using non-monetary indicators to assess material hardship**

There is increasing acceptance internationally that in addition to income-based measures, non-income measures are needed to provide a more comprehensive and accurate picture of the material wellbeing of households. Income-based measures can be seen as indicators of ‘command over resources’ or as proxies for the ‘inputs’ into material wellbeing. Non-income measures focus on the actual living conditions (‘outcomes’) such as access to household durables, the ability to keep warm, have a good meal each day, keep oneself adequately clothed, repair or replace basic appliances as required, visit the doctor, pay the utility and rent/mortgage bills on time, pursue hobbies and other interests, and so on. These more direct non-income measures are sometimes referred to as non-monetary indicators (NMIs).

The impetus for pursuing this wider (or alternative) perspective comes from several factors:

* an interest in developing a better understanding of the actual material circumstances of households with low incomes
* an increasing awareness of the limitations of relying on income-based measures alone for assessing household material wellbeing and hardship
* a growing unease about the robustness of international comparisons using income-based measures
* a growing understanding of the multi-dimensional nature of poverty and material hardship and the need to identify these and the relationships between them
* the availability of richer datasets in many more countries and a maturing of the relevant methodologies for analysis of NMI data.

The EU nations have recently adopted an NMI-based deprivation measure to complement income measures in their portfolio of agreed primary indicators for social inclusion and living conditions. Ireland has for some time used NMIs (in conjunction with income) in its official poverty measure, and the UK uses NMIs as part of its official set of child poverty measures. The OECD has begun to report material hardship relativities among member countries using EU data and information from national surveys where they have been available for non-EU nations such as Australia, New Zealand, Japan, Canada and the USA. UNICEF’s Innocenti research team recently released the Report Card #10 which strongly advocated the use of NMIs as well as household income to assess material disadvantage for children.[[96]](#footnote-97)

There are four main ways in which NMIs are used in relation to the central themes of this report:

* to describe in tangible ways what it’s like to be poor
* to assist with assessing whether a given income poverty threshold is set ‘about right’ (or at least supporting the credibility of a narrow range of thresholds as being more defensible than others outside that range)
* to track hardship trends over time and identifying which population groups are more at risk of hardship
* in conjunction with income, to identify those who are both income poor and in material hardship.

After an introductory section on NMIs, an overview of the indices used by the Ministry and a discussion on the relationship between incomes and material wellbeing (poverty and deprivation/hardship), findings on these four themes are reported based mainly on HES data, with some supplementary material using the Ministry’s 2008 Living Standards Survey data.

**Using non-monetary indicators to measure material wellbeing and hardship (deprivation)**

The Ministry has developed an Economic Living Standards Index (ELSI) which ranks households from low to high living standards using NMIs. A short-form of ELSI (ELSI\_SF) was developed and the 25 items needed for it have been in the HES since 2006-07. A Fixed Reference Index of Living Standards (FRILS) has also been developed as an experimental alternative to ELSI. The composition of these indices is found in **Table K.2.[[97]](#footnote-98)**

The ELSI has recently been updated and further developed into a Material Wellbeing Index (MWI) which uses half of the original ELSI\_SF items together with several new ones. The new item set is in the 2012-13 HES that is currently in the field. The MWI and the ELSI rank the population in much the same way (correlation of 0.95).

To create the ELSI scores, the NMI items used are scored from two different perspectives:

* from the perspective of the enforced lack of essentials and/or severe restriction on the consumption of essentials, in both cases because of lack of money – a deprivation or ‘enforced lack’ perspective (for example, unable to have regular good meals, keep the house warm, visit the doctor, give presents on special occasions)
* from the perspective of not having any enforced lacks of essentials and having various degrees of freedom regarding desirable non-essentials – a ‘freedoms enjoyed’ perspective (for example, having all the basics, and in addition not having to cut back on local trips, not having to put off replacing broken or worn out appliances, and being able to take an overseas holiday each three years or so if desired, and not having any great restrictions on purchasing clothing).

A very low standard of living or state of hardship is characterised by having many ‘enforced lacks’ of essentials and few or no ‘freedoms’. Higher living standards are characterised by having all the essentials (no enforced lacks) and also having many freedoms and few restrictions in relation to the items asked about in the survey.

Just as when using household incomes, households can be ranked by their ELSI scores and grouped into deciles or in other ways.

In order to use an index like ELSI for measuring material wellbeing it needs to be calibrated so as to give some meaning to the different scores. A key element of the calibration (and deciding where to draw the hardship threshold) is to look at where the deprivations become very concentrated. The graph below shows how the different ELSI deciles fare in terms of the relative proportions of both enforced lacks of essentials and also of freedoms enjoyed, out of the list of calibration items (all of which are in the MWI, the updated version of ELSI).

**Figure K.1**

**Calibrating ELSI using ‘enforced lacks’ and ‘freedoms/non-essentials enjoyed’ (LSS 2008)**



For the purposes of the use of ELSI in the Incomes Report it is only the calibration at the hardship end of the spectrum that is of relevance. The ELSI hardship threshold is set at 6 or more deprivations out of 16 in the calibration list. This gave a population hardship rate of 12% in 2008, just a little above the top of the bottom decile, and close to the income poverty rate using the more stringent 50% of median AHC threshold (13%).

The essentials used in the calibration exercise are listed below in **Table K.1.**

**Table K.1**

**Essentials used in the calibration exercise**

|  |  |
| --- | --- |
| **enforced lack of essentials**   * + - meal with meat, fish or chicken (or vegetarian equivalent) at least each 2nd day     - two pairs of shoes in good repair and suitable for everyday use     - suitable clothes for important or special occasions     - a good bed | **economised, cut back or delayed purchases ‘a lot’** because money was needed for other essentials (not just to be thrifty or to save for a trip or other non-essential)   * + - * fresh fruit and vegetables       * meat       * replacing worn out clothes       * put up with being cold       * visits to the doctor       * trips to the shops or other local places       * repair or replace broken or damaged appliances |
| **in arrears more than once in last 12 months** (because of shortage of cash at the time, not through forgetting)   * rates, electricity, water * vehicle registration, insurance or WoF | **financial stress and vulnerability**   * had to borrow from friends or family more than once in last 12 months to cover everyday expenses for basics * feel ‘very limited’ by the money available when thinking about purchase of clothes or shoes for self (options were: not at all, a little, quite and very limited) * could not pay an unexpected and unavoidable bill of $500 within a month without borrowing. |

Those in hardship using the ELSI measure have on average 8 deprivations out of the 16 used in the calibration list. This compares with around 1 out of 16 deprivations on average for those in the middle of the distribution (deciles 4, 5 and 6). The level at which the hardship threshold is set is therefore consistent with the relative disadvantage notion in which the poor and those in hardship have ‘resources that are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary living patterns, customs and activities’ (Townsend 1979). It identifies living standards below a minimum acceptable standard for New Zealand today, in line with the definition used in the report, through the EU and more widely.

**Table K.2**

**Composition of the indices used in this report**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Endorsements** | | **Index composition** | | | |
| **Item description** | | **‘Have’** | **EL** | **ELSI-SF** | **FRILS** | **DEP** | **MWI** |
| **Ownership** (have, don’t have and enforced lack) | | % | % |  |  |  |  |
| 1 | Phone | 99 | <1 | ✓ | ✓ | ✓ | - |
| 2 | Washing machine | 98 | 1 | ✓ | - | - | - |
| 3 | Two pairs of shoes in a good condition and suitable for you daily activities | 92 | 5 | ✓ | ✓ | ✓ | ✓ |
| 4 | Ability to keep main rooms adequately warm | 91 | 7 | ✓ | ✓ | ✓ | - |
| 5 | Suitable clothes for important or special occasions | 90 | 7 | ✓ | ✓ | - | ✓ |
| 6 | Home computer | 83 | 7 | ✓ | ✓ | - | - |
| 7 | Contents insurance | 76 | 12 | ✓ | ✓ | ✓ | ✓ |
|  | A meal with meat, fish or chicken (or veg equiv) at least each 2nd day | 93 |  | - | - | - | ✓ |
|  | A good bed |  |  | - | - | - | ✓ |
| **Social participation** (do, don’t do and enforced lack) | |  |  |  |  |  |  |
| 8 | Presents for family/friends on special occasions | 91 | 6 | ✓ | ✓ | ✓ | ✓ |
| 9 | Space for family to stay the night | 84 | 7 | ✓ | ✓ | - | - |
| 10 | Family/friends over for a meal at least once each few months | 81 | 5 | ✓ | ✓ | ✓ | - |
| 11 | Visit hairdresser at least once every three months | 62 | 12 | ✓ | - | - | - |
| 12 | Holiday away from home at least once every year | 62 | 24 | ✓ | ✓ | ✓ | ✓ |
| 13 | Night out for entertainment or socialising at least once a fortnight | 49 | 18 | ✓ | - | - | - |
| 14 | Overseas holiday at least once every three years | 42 | 39 | ✓ | ✓ | - | ✓ |
| **Economising** (not at all, a little, a lot) – to keep down costs to help in paying for (other) basic items | | | | | | | |
| 15 | Not picked up a prescription | 88 | 4 | ✓ | ✓ | ✓ | - |
| 16 | Stayed in bed to keep warm | 81 | 7 | ✓ | - | - | - |
| 17 | Postponed a visit to the doctor | 72 | 11 | ✓ | ✓ | ✓ | ✓ |
| 18 | Gone without or cut back on fresh fruit and vegetables | 66 | 10 | ✓ | ✓ | ✓ | ✓ |
| 19 | Continued wearing worn out clothes | 49 | 18 | ✓ | - | - | ✓ |
| 20 | Spent less on hobbies or other special interests than you would like | 49 | 21 | ✓ | ✓ | - | ✓ |
| 21 | Do without or cut back on trips to the shops or other local places | 46 | 15 | ✓ | ✓ | - | ✓ |
| 22 | Put off buying new clothes as long as possible | 33 | 30 | ✓ | ✓ | ✓ | - |
|  | Buy cheaper cuts of meat or bought less meat than you would like | 39 | 27 | - | - | - | ✓ |
|  | Put up with feeling cold | 64 | 10 | - | - | - | ✓ |
|  | Postpone or put off visits to the dentist | 54 | 26 | - | - | - | ✓ |
|  | Delay replacing or repairing broken or damaged appliances | 65 | 12 | - | - | - | ✓ |
| **Global self-ratings** | |  |  |  |  |  |  |
| 23 | Adequacy of income to cover basics of accommodation, food, clothing, etc | n/a | n/a | ✓ | - | **-** | **-** |
| 24 | Material standard of living | n/a | n/a | ✓ | - | **-** | **-** |
| 25 | Satisfaction with material standard of living | n/a | n/a | ✓ | - | **-** | **-** |
| **Freedoms/Restrictions** | |  |  |  |  |  |  |
|  | When buying, or thinking about buying, clothes or shoes for yourself, how much do you usually feel limited by the money available? (4 point response from ‘not limited … very limited) | n/a | n/a | - | - | - | ✓ |
|  | $300 spot purchase for an ’extra’ – how restricted? (5 point response from ‘ not restricted … couldn’t purchase’) | n/a | n/a | **-** | **-** | **-** | ✓ |
|  | $500 unexpected unavoidable expense on an essential – can you pay in a month without borrowing? (yes/no) | 81 (yes) | 19 (no) | - | - | - | ✓ |
| **Financial strain** | |  | >1 |  |  |  |  |
|  | Behind on utilities in last 12 months? (not at all, once, more than once) | n/a | 11 | **-** | **-** | **-** | ✓ |
|  | Behind on car registration, wof or insurance in last 12 months? | n/a | 9 | **-** | **-** | **-** | ✓ |
| **Housing problems** (no problem, minor problem, major problem) | |  | major |  |  |  |  |
|  | Dampness or mould | n/a | 12 | **-** | **-** | **-** | ✓ |
|  | Heating or keeping it warm in winter | n/a | 17 | **-** | **-** | **-** | ✓ |

1 EL = ‘enforced lack’ (= ‘do not have/do because of the cost’ or ‘economise a lot’ to keep costs down for other basics)

2 Have = ‘have or do’ for ownership and social participation items, and economise ‘not at all’ for the economising items.

3 The ‘Endorsement’ figures are from the 2008 Living Standards survey

4 Indented items are the new ones for the MWI – they are not in ELSI-SF, although three of them are in the full ELSI.

5 Starting with HES 2012-13, all 24 MWI items plus 5 others are in the HES, replacing the 25 ELSI short-form items.

**Comparing the results for the incomes and NMI approaches**

In the 2011 HES, 16% of the population were identified as poor using the 60% AHC CV (fixed line) measure, and 13% were in hardship as measured using ELSI Levels 1 and 2. These proportions are close enough to allow some comparisons of relative rates for selected subgroups of the population. The subgroups are based on the following individual and household or family characteristics:

* age group
* ethnicity
* family type
* number of children
* main source of income for those households and families under 65.

**Table K.3** shows that there is a reasonable similarity in actual proportions identified as ‘income poor’ or ‘in hardship’.

It is important to note however that while the subgroup relativities are very similar, there is only about a 50% overlap between those identified as poor / in hardship on the two measures.[[98]](#footnote-99) The relatively limited overlap is hardly surprising given that day-to-day living standards are determined by much more than current income (see Figure A.1 in the Introduction).

**Table K.3**

**Comparison of hardship rates based on income and non-income measures,**

**by selected individual and household/family characteristics (2011 HES)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Income AHC CV 60** | **ELSI** | **FRILS** |
| ***Age group*** |  |  |  |
| 0-17 | 21 | 21 | 22 |
| 18-24 | 21 | 17 | 20 |
| 25-44 | 15 | 13 | 16 |
| 45-64 | 14 | 8 | 10 |
| 65+ | 7 | 3 | 7 |
| ***Ethnicity (aged 15+, avg over HES 2009, 2010 and 2011)*** | | | |
| European | 10 | 10 | 11 |
| Māori/Pacific | 20 | 28 | 31 |
| ***Family type*** |  |  |  |
| SP | 52 | 36 | 39 |
| 2P | 13 | 13 | 14 |
| ***Number of children (avg over HES 2009, 2010 and 2011)*** | | | |
| One | 17 | 15 | 15 |
| Two | 16 | 14 | 14 |
| Three+ | 25 | 26 | 32 |
| ***Main source of income for families/households <65*** | | | |
| Market | 9 | 10 | 11 |
| Income-tested benefit | 65 | 51 | 51 |
| **Total population** | **16** | **13** | **15** |

**Using non-monetary indicators (NMIs) to illustrate the sorts of restrictions on living standards experienced by low-income households**

One of the values of NMIs is to describe in tangible ways what it means to be poor. The items in the HES can do this to some extent, but a wider range of information is needed to give a fuller picture of what it means in practical day-to-day terms to live in a household with very low income. The Ministry’s 2008 Living Standards Survey gathered a wide range a wide range of information on respondents and published material is available using this dataset. In particular, some of the published material uses child-specific items to show the restrictions experienced by children in households with low-income or low living standards.

The reader is referred to:

* Table C.10 in Perry (2009)
* Table 2, p14 in the Summer 2011 Newsletter from the Office of the Children’s Commissioner
* Table 6.1 in Appendix 6 in this report.

**Using non-monetary indicators (NMIs) to help assess the credibility of a given income poverty threshold**

**Figure K.2,** based on NMI data from the 2010 HES, clearly shows the much greater risk of hardship for low-income households in the lower quintile (20%) than for the rest of the population. The 11 items used are all either necessities or ones that are commonplace among the bulk of the population, or both. The graph shows the proportions reporting either an ‘enforced lack’ of an item because of the cost, or the decision to ‘economise a lot’ on the item so as to be able to pay for other basics.

The lower two deciles stand out as being quite different in their risk of hardship / degree of restriction in day-to-day living standards compared with the rest of the population. This is the essence of what ‘relative disadvantage’ is all about, as discussed in Section E.

The AHC 60% of median fixed line measure that is commended as the primary income poverty measure in this report has been steady at 15% to 16% in recent years and is therefore well within the bottom quintile (20%). The 50% and 60% of median moving line AHC measures have recently produced poverty rates of 13% and 19% respectively, again, within the bottom quintile. None of this ‘proves’ that these lines are ‘correct’, but it does provide some support for setting the thresholds where they are.

**Figure K.2**

**Proportion reporting not having / economising a lot on 4 or more of 11 basic items, because of cost:**

**all households, HES 2010**



The 11 items used in Figure 6.3 are of two types (see also Table K.1 above):

* 7 ‘enforced lacks’ of basics that the respondent ‘wants’ but cannot have or do because of the cost:
* telephone
* good pair of shoes
* heating available in all main rooms
* contents insurance
* give presents to family or friends on special occasions
* have family or friends over for a meal at least once a month
* have a week’s holiday away from home each year
* 4 ‘economising’ items. The survey gives the option of ‘not at all’, ‘a little’ and ‘a lot’ as a response. The graph uses only the more stringent ‘ lot’ response:
* gone without fresh fruit and vegetables to help keep costs down (‘a lot’)
* put off buying new clothes for as long as possible to help keep costs down (‘a lot’)
* postponed or put off visits to the doctor to help keep down costs (‘a lot’)
* did not pick up a prescription to help keep down costs (‘a lot’)

**Tracking hardship, from the 2006-07 HES to the 2010-11 HES**

**Figure K.3 (**using the ELSI measure)shows the trends in material hardship rates from 2007 to 2011 for the population overall and for selected population groups. The hardship threshold used in Figure K.2 is a relatively stringent one, giving a 2007 population hardship rate of 10%. The income poverty rate using the **50%** of median AHC poverty threshold at that time was 13%.

**Figure K.3**

**Rising material hardship for children and older one-person households, 2007 to 2011 (ELSI)**



The rise for the population overall (10% to 13%) is not unexpected, given the impact of the GFC and the economic downturn. For some groups, hardship rates remained much the same in 2011 as in 2007, but for others hardship rates increased:

* The hardship rate for older New Zealanders remained relatively low and flat at 4 to 5%, while for children it rose from 15% in 2007 to 21% in 2011.
* The hardship rate for older working-age adults living on their own (45 to 64 yrs) also increased, from 10% in 2007 to an average of 15% in 2010 and 2011, while for working- age couples without dependent children, the hardship rate was low and steady at 3 to 4%.

In Section F above it is noted that income poverty rates for children remained much the same from 2009 to 2011. One of the main reasons for the difference of trend between income poverty and material hardship measured using NMIs is that families with children with family incomes above the poverty line reported increased hardship, thus increasing measured hardship irrespective of what the income poverty trend was.

The direction of the trends shown in Figure K.4 are robust to the choice of both the threshold and the index used. The actual reported levels of hardship are of course dependent on the thresholds used.

For example, using a lower ELSI threshold (more stringent), the hardship rate for children increased from 13% to 18% from HES 2007 to 2011, while on a higher threshold (less stringent) the increase was from 18% in 2007 to 24% in 2011.

**Figure K.4** shows that using the quite differently configured FRILS measure, the hardship rate for the population increased from 12% to 15%, and for children from 16% to 22%. As in Figure K.2 (ELSI), hardship increased for older working-age people living on their own, while for working-age couples and older New Zealanders, hardship rates remained low and reasonably steady.

**Figure K.4**

**Rising material hardship for children and older one-person households, 2007 to 2011 (FRILS)**



**Using NMIs and household income together to identify the proportion of those who live in households whose incomes are below the AHC 60% of median poverty line and who are also experiencing material deprivation.**

As discussed earlier in this section, one of the features of the relationship between income poverty and material hardship as measured using NMIs is that although living in a household with an income above the poverty line reduces the risk of material hardship, it does not eliminate the risk. Some of the non-poor still experience material hardship (and some of the poor do not).

For those in hardship but with incomes reasonably above the poverty line there are grounds for expecting living standards to improve over time provided their incomes do not decline and that there are no ongoing special demands on the budget. However for those in hardship who also have low incomes, there is very little chance of improvement of living standards until incomes rise and stay up.

**Figure K.5** shows the trend in the size of the overlap group from 2007 to 2011 for the population as a whole and for children (up from 7% to 11%).

In times of economic growth where the rising standard of living is to some degree shared across the population, the trend can be expected to be unambiguously downwards. The upward trend reflects above all the impact of the shock of the GFC and the economic downturn.

**Figure K.5**

**Trends in the proportion of those who are both income poor and in hardship, 2007 to 2011**



As with the hardship trends noted above, the trend finding here is robust to the choice of both the index used and the threshold applied. For example, using the more stringent ELSI threshold described on the previous page, the overlap group for children was 6% in the 2007 HES and 10% in 2011 HES.

**Section L**

**Income mobility and low-income persistence**

The income information in the earlier sections of the report is based on data from repeat cross-sectional surveys from the Household Economic Survey (HES) series. For each survey a different sample of households is selected and different individuals are interviewed each time.

For this section, the income information is based on seven waves of longitudinal data from Statistics New Zealand’s Survey of Family, Income and Employment (SoFIE) which began in October 2002. Here the same individuals are followed from one wave of the survey to the next. Longitudinal data give a quite different perspective on trends over time and make possible a richer analysis that can address a new set of questions around income mobility and the persistence of low-income. For example:

* If 20% of New Zealand children are identified as poor in a given year, what proportion of these stay poor over several years or even longer, and for how many is the low income experience ‘just’ a temporary one?
* How much does the household income of individuals change over time? Do most people remain in much the same relative position over 5-10 years, or do most move quite a lot?
* How does income mobility in New Zealand compare with mobility in other countries?
* Higher income inequality is sometimes seen as more tolerable if there is reasonably high income mobility. How much does income mobility reduce single-year income inequality when inequality is measured for incomes averaged over increasing numbers of years?

**Source of the SoFIE analysis used in this section**

The SoFIE figures used in this section are based in the main on the analysis recently published in Carter and Imlach Gunasekara (2012). [This source document is referred to as UO from here on.] This is the first time that findings of this sort have been available for New Zealand. A few tables and findings in this section are based on unpublished SoFIE analysis kindly provided by the UO authors. The international comparisons and some secondary analysis are from Perry (2012, forthcoming).

**This section includes:**

* A brief description of the SoFIE data and some of its limitations to be aware of when interpreting the findings.
* An outline of the different ways in which income mobility is conceptualised and measured.
* Findings on income mobility with international comparisons.
* An outline of the different ways in which low-income persistence / poverty dynamics is conceptualised and measured.
* Some findings on low-income persistence and the relationship between cross-sectional (current) poverty rates and poverty rates from a longitudinal perspective.

**The SoFIE data**

The initial SoFIE sample in wave one (2002-03) comprised around 11,500 households and almost 30,000 respondents (22,000 aged 15+). By wave seven (2008-09), just under 14,000 adults (over 15 years) were left, 66% of those in wave one. The overall attrition rate (63% remaining after seven waves) is comparable to other similar international longitudinal surveys such as Australia’s HILDA (69%) and the UK’s BHPS (67%).

The analyses in UO use a ‘balanced panel’ made up of SoFIE participants who were eligible at wave 1 and who responded in all seven waves, giving a usable sample of just under 19,000.

Three features of the SoFIE data have implications for the interpretation of the findings reported in UO and in this section:

* Unweighted sample numbers are used for all the analysis. The attrition noted above was greater among Maori, those with low income and sole parents.[[99]](#footnote-100) This can lead to attrition bias. To partially address the potential bias issues arising from attrition, longitudinal surveys generally use longitudinal weights to adjust the sample back to the original sample composition. Unfortunately, no suitable longitudinal weights were available for the analysis reported in UO. This means, for example, that median and mean incomes will be over-estimated and the estimated proportion with low incomes will be under-estimated more and more in later waves
* The income measure used is gross equivalised household income – that is, household income from all sources before the deduction of income tax but including all reported transfers and Working for Families tax credits, adjusted for household size and composition. For the analysis of the distribution of income and especially for low-income (poverty) analysis, disposable equivalised household income is the standard income measure used – that is, household income from all sources less income tax, adjusted for household size and composition. Households are ranked a little differently when using gross and disposable incomes as the total household tax deduction depends on the way the household income is distributed across adult household members. Income tax is higher, for example, for a multi-adult single earner household than for a multi-adult multi-earner household with the same gross income. It also means that the usual 50% and 60% of median low-income or poverty thresholds give different proportions as ‘poor’ than when using disposable (after tax) household income. The 50% measure gives a population low-income rate of around 15% on average over the seven waves, and the 60% measure gives an average of 24%, compared with 12% and 18% using disposable household income.
* In common with all income surveys there is measurement error. This is especially the case for the bottom income decile (see Appendix 8 for information on this for the HES).

These features have three main implications for interpreting and using the findings reported in this section:

* The figures here and in the source do not support highly detailed conclusions, for example for population groups or for small changes from wave to wave. The findings reported in this section are kept at a high enough level to ensure that the figures are robust enough to support them.
* It is preferable to look at the poverty persistence findings using the 50% of median figures for gross household income as these are closer to the more usual poverty figures reported than are the ones using the 60% of median gross household income (which in effect look at the lower quartile).
* Transitions from decile one will have more noise associated with them than transitions from other parts of the distribution. This section does not use any of these decile one transitions per se in reaching any conclusions on income mobility or movement out of income poverty. The bottom quintile is the smallest low-income group used for that purpose.

**What is meant by income mobility and how is it measured?**

The income mobility that is the focus of this section is about the changes in the equivalised (gross) household income of individuals over several years.

In broad terms, these changes can come about through changes in either the level of income of the individual or of some other adult household member, or through changes in the composition of the household itself (eg older children moving out, new children being added, changes in partnering arrangements, and so on). The impacts of the latter changes are captured through the equivalisation of the household incomes. (See Section A for information about equivalisation.)

The number of years (waves) over which changes in income are observed varies from study to study. Intra-generational studies range from shorter-term (say, 2 to 10 years) to longer-term ones which cover a greater part of a person’s life-course (say, 15 to 30 years). Others look at inter-generational changes and associations where the focus is on the relationship between the income of parents and that of their children. The SoFIE study falls into the shorter-term intra-generational group with eight waves from 2002-03 to 2009-10. UO uses data from the first seven waves, 2002-03 to 2008-09.

There are several ways to conceptualise and measure income mobility.[[100]](#footnote-101) The three most straightforward to describe and implement are:

* income mobility as change in relative position
* income mobility as absolute change in income – that is, change in income in real terms
* income mobility as measured by the reduction in income inequality as longer income windows are used.

The two sub-sections that follow focus on the first two approaches, relative positional change and absolute change. Inequality analysis using SoFIE data has not yet been carried out. Some international findings on the inequality reduction aspect are planned for Perry (2012, forthcoming).

**Income mobility as change in relative position**

To describe changes in relative position individual survey participants are first ranked by their household income, then they are grouped into quantiles (eg quintiles, deciles or even smaller categories). Transitions between quantiles from one wave to the next or to later waves can then be derived.

When looking at the whole population, not everyone can be upwardly mobile on the relative position definition. In the aggregate, income mobility on this approach is close to a zero-sum analysis: for every person who moves up at least one moves down, and so on.[[101]](#footnote-102) For a population group, however, the analysis is not necessarily zero sum provided the quantiles used are those of the population as a whole, as they are in this section. A further factor to take into account is that the relative sizes of population groups may change over the course of a longitudinal study.

Some of those who are reported as changing quantiles will have moved from just under (over) a quantile boundary to just over (under) it – these are the boundary hoppers. The actual change in income from one wave to the next for these people may be quite small. In fact, some who remain within the quantile will have had a greater change in income than the boundary hoppers, but this larger change is not reflected in the quantile change statistic on the relative position approach.

Within the change-in-relative-position approach, one way to provide estimates of positional (im)mobility, taking into account the boundary hopper possibilities and measurement error, is to report on positional change as transition from, say, a given quintile in one wave to a position in a later wave which is either in the same quintile or in the decile either side, where this is possible. Another way of addressing the issue is to examine changes in real incomes per se rather than positional changes relative to the rest.

**Income mobility as change in real income**

Change in real income over several waves is a very useful indicator of income mobility, reflecting some aspects of change that the relative approach misses. For example, in contrast to the positional change approach, an increase in income for everyone counts as upward mobility even if all relative positions are unchanged. In the relative approach, this scenario would be reported as zero mobility. It is not a zero sum analysis and it is not susceptible to the boundary hopper issue that can arise in the relative position approach.

**Benchmarks for high, medium and low relative mobility?**

There is no single statistic that can satisfactorily summarise the degree of relative income mobility nor any simple set of statistics that can cover the range of questions that different users may wish to put to the data.

Nor is there any commonly accepted benchmark of what is ‘high’ mobility and what is ‘low’ mobility.

Countries that have long-running longitudinal studies are able to compare mobility in recent years with mobility a decade or more ago in their own population. New Zealand is not in that position. The best that we can do for New Zealand on this matter is to:

1. compare ourselves with other countries, using quintile or decile transitions over time periods of similar length
2. compare the relative movement of various sub-populations within New Zealand to identify those more mobile and those less so
3. decompose mobility into ‘immobility’, and ‘short-range’ and ‘longer-range’ upward and downward mobility.

**Selected findings on income mobility**

(It is planned to provide further findings on income mobility in either an update in early 2013 or in the next report planned for mid 2013.)

Wave-on-wave mobility (changes in relative position), with international comparisons

The focus of the analysis in this section is on the changes over the full seven-wave window that the UO SoFIE data covers, with some shorter windows used at times to facilitate international comparisons. These multi-year net changes reflect the cumulative effect of repeated short-run changes from one wave to the next.

**Table L.1** shows the average movement from one wave to the next for the six wave pairs w1/w2, w2/w3, and so on.[[102]](#footnote-103)

Individuals are ranked by their household’s income in one wave then grouped into quintiles. For the next wave the same individuals are again ranked and allocated to quintiles according to their household’s new income at that time. For each quintile in the first wave the percentage of individuals ending up in each of the quintiles in the next wave is calculated. For example, two thirds (65%) of those in the lower quintile remain there on average from one wave to the next, 23% move up to the second quintile, and so on. The cells on the diagonal (shaded) show the proportion remaining in the same quintile across the period.

**Table L.1**

**Income quintile transition probabilities (%) for one wave to the next:**

**averages over all 6 wave pairs, 2002 to 2008, all respondents**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **Quintile in wave (i+1)** | | | | |
|  |  | **1** | **2** | **3** | **4** | **5** |
| **Quintile in wave(i)** | **1** | **65** | 23 | 7 | 3 | 2 |
| **2** | 20 | **52** | 20 | 5 | 2 |
| **3** | 7 | 17 | **50** | 21 | 5 |
| **4** | 4 | 6 | 18 | **54** | 19 |
| **5** | 3 | 3 | 6 | 17 | **72** |

Source: Table 4 in UO

On average, 41% of the whole SoFIE sample moved to a new quintile between wave pairs – that is, 59% remained in the same quintile in the next wave.

A comparison is available for selected European countries. Nolan and Erikson (2007) use longitudinal data from the European Community Household Panel (ECHP) for most of the EU-15 countries[[103]](#footnote-104) and report that on average 55% remained in the same quintile from wave 1 to wave 2. At this very high level, at least, New Zealand’s mobility / immobility is similar to that in other more economically developed countries (MEDCs).

This general finding is supported at several places in the rest of this section.

Quintile transitions over the seven SoFIE waves, with international comparisons

The focus now moves to looking in more detail at the changes that occur over multi-wave windows, especially the full seven-wave window that the current release of SoFIE data allows.

**Figure L.1** shows that as the income window increases mobility increases (and immobility decreases), as one would expect. By w7, 60% have moved from their original quintile, 40% remain in the same one. The upper quintile has the least mobility with just over half (54%) of those in Q5 in w1 being there again in w7.

**Figure L.1**

**Proportion who move from their original quintile over the seven SoFIE waves:**

**all in sample**



Source: Author’s calculations based on unpublished decile transition tables provided by UO authors.

Figure L.1 makes it look as if there is a very large amount of movement between w1 and w2, much more than for later transitions. The reason for the difference is that whatever wave is taken as w1, the w1 to w2 transition is different from any other transition in that in all the others it is possible to return to the quintile or decile of origin (w1), whereas this is not logically possible for the w1/w2 transition. For a w1/w2 transition, an individual either stays or moves – they cannot ‘return’ to w1.

**Table L.2** shows the w1 to w7 transitions by initial location in the income distribution (and repeats some of the information shown in Figure L.1). For example, the first row in Table L.2 shows that 45% of those in the lowest income quintile in w1 were still there in w7, 29% had moved up to the second quintile and so on. The cells on the diagonal (shaded) show the proportion remaining in the same quintile across the period.

**Table L.2**

**Income quintile transition probabilities (%) from w1 to w7, SoFIE:**

**2002 to 2008, full sample**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **Quintile in w7 (2008)** | | | | |
|  |  | 1 | 2 | 3 | 4 | 5 |
| **Quintile in w1 (2002)** | 1 | **45** | 29 | 14 | 9 | 4 |
| 2 | 25 | **35** | 23 | 12 | 5 |
| 3 | 13 | 18 | **31** | 26 | 11 |
| 4 | 9 | 11 | 21 | **34** | 25 |
| 5 | 7 | 7 | 12 | 20 | **54** |

Source: Table 5 in UO

**Table L.3** shows the same types of transitions for Australia based on their HILDA survey. There are strong similarities between Tables L.2 and L.3. The only difference of note is that New Zealand seems to have more mobility out of the lower quintile than Australia does, 55% compared with 42%. It is not clear on the evidence available whether this difference is ‘real’ or simply a product of different methodologies (eg gross rather than disposable income, and unweighted rather than weighted data). What is clear is the remarkable similarity at all other points.

**Table L.3**

**Income quintile transition probabilities (%) for Australia, using HILDA,**

**2001 to 2008, whole population**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **Quintile in w8 (2008)** | | | | |
|  |  | 1 | 2 | 3 | 4 | 5 |
| **Quintile in w1 (2001)** | 1 | **58** | 23 | 10 | 5 | 4 |
| 2 | 27 | **33** | 21 | 15 | 6 |
| 3 | 14 | 21 | **30** | 23 | 13 |
| 4 | 9 | 12 | 21 | **34** | 24 |
| 5 | 4 | 8 | 15 | 22 | **51** |

Source: Table 6.6 in Wilkins et al (2011)

**Table L.4** shows that income mobility in New Zealand is similar to that in Canada over a five-wave window, with the same exception as for the comparison with Australia.

**Table L.4**

**Comparison of relative (positional) income mobility in Canada and New Zealand:**

**transition probabilities (%) to higher and lower quintiles, w1 to w5, full sample**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | **New Zealand** (2002-06) | | **Canada** (2005-09) | |
|  |  | to a higher quintile in w5 | to a lower quintile in w5 | to a higher quintile in w5 | to a lower quintile in w5 |
| **Quintile in w1** | 1 | 51 | 0 | 43 | 0 |
| 2 | 37 | 24 | 41 | 20 |
| 3 | 35 | 30 | 34 | 29 |
| 4 | 24 | 36 | 24 | 38 |
| 5 | 0 | 40 | 0 | 40 |
|  | Avg | 29 | 26 | 28 | 25 |

Source: Table A.3 in the UO Appendix, and Table 3 in Statistics Canada (2011).

**Table L.5** provides further international comparison (with EU countries this time) showing again that income mobility over 5 waves in New Zealand is very similar to that in other MEDCs.

**Table L.5**

**Income quintile transition probabilities (%) for w1 to w5, EU-15 and New Zealand: whole population**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Most of EU-15** | **NZ** |
| **Quintile in w1** | **1** | 50 | 49 |
| **2** | ‘generally about one third’ | 39 |
| **3** | 36 |
| **4** | 40 |
| **5** | 60+ | 61 |
| **Avg** | 40-45 | 45 |

Sources: Nolan and Erikson (2007) for EU figures

Author’s calculations based on unpublished decile transition tables provided by UO for the NZ figures

Note: EU-15 are the pre-2004 members of the European Union

Decile transitions over the seven SoFIE waves, with international comparisons

**Table L.6** repeats Table L.2, this time using deciles. Table L.6 is more fine-grained and used on its own or together with Table L.2 it can provide a more textured picture of income mobility and immobility. While it is more susceptible to issues arising from regression to the mean and to overstated mobility arising from boundary hoppers, with a little care it is a valuable analytical tool. One of the most notable features of Table L.6 is the very high immobility in decile 10, the highest decile: almost half of those who were there in w1 are there again in w7. This contrasts strongly with the middle deciles which experience much more mobility. Even though the lower three deciles and decile 8 have somewhat less mobility than the middle deciles, they are still relatively mobile compared with those starting in decile 10.

**Table L.6**

**Income decile transition probabilities (%) from w1 to w7:**

**2002 to 2008, all respondents**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Decile in w7 (2008)** | | | | | | | | | |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **Decile in w1 (2002)** | 1 | **24** | 21 | 14 | 13 | 7 | 6 | 6 | 4 | 3 | 3 |
| 2 | 18 | **27** | 19 | 12 | 9 | 6 | 4 | 3 | 1 | 1 |
| 3 | 10 | 20 | **24** | 15 | 11 | 10 | 5 | 3 | 3 | 1 |
| 4 | 9 | 11 | 14 | **17** | 14 | 12 | 9 | 7 | 5 | 2 |
| 5 | 8 | 6 | 8 | 13 | **19** | 17 | 11 | 10 | 6 | 3 |
| 6 | 7 | 5 | 6 | 9 | 14 | **15** | 18 | 13 | 8 | 6 |
| 7 | 6 | 4 | 6 | 6 | 9 | 15 | **17** | 17 | 13 | 8 |
| 8 | 5 | 4 | 4 | 6 | 9 | 9 | 15 | **19** | 19 | 10 |
| 9 | 5 | 2 | 4 | 5 | 5 | 9 | 10 | 15 | **26** | 20 |
| 10 | 5 | 3 | 2 | 3 | 5 | 4 | 6 | 10 | 17 | **46** |

Source: Unpublished table provided by UO.

International comparisons are available using decile transitions. They provide further support for the finding that at the population level, the overall degree of income mobility for New Zealand appears to be very similar to that for other MEDCs.

Chen (2009) gives comparisons for Canada, the USA, Germany and Great Britain using two measures based on a five-wave window, one of immobility and one of upward mobility. In **Figure L.2** and **Figure L.3** these statistics are replicated for New Zealand (albeit on gross rather than disposable income), and on these comparisons New Zealand’s mobility picture is again very similar to these other MEDCs.

**Figure L.2 Figure L.3**

**Immobility: in same decile in w5 as in w1 Upward mobility, at least one decile up, w1 - w5**



Source: Figs 2 & 3 in Chen (2009), and Table A.3.

For Great Britain Jenkins (2011, Table 5.1) reports that for 1991-1998 (using BHPS data) 54% remained in the same decile as they started in or were in an immediately adjacent decile. Jenkins refers to this as an ‘immobility index’. The New Zealand figure for seven waves was 53%.

**Table L.7** repeats Table L.6, this time limiting the respondents to those aged under 58 years. By removing those who were aged 58+ in wave one, the impact on the reported transitions of those whose incomes drop significantly when they ‘retire’, and of those aged 65+ on relatively fixed incomes, is eliminated. The deciles used in Table L.7 are population deciles, not the deciles for the group aged under 58 years. The main impact of removing those aged 58+ is on deciles 2 and 3 (higher percentage of those under 58 years move out). A slightly higher proportion remain at the top (deciles 9 and 10).

**Table L.7**

**Income decile transition probabilities (%) from w1 to w7:**

**2002 to 2008, respondents aged 0-57 years in w1**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Decile in w7 (2008)** | | | | | | | | | |
|  |  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **Decile in w1 (2002)** | 1 | **26** | 18 | 13 | 13 | 7 | 6 | 6 | 4 | 3 | 4 |
| 2 | 22 | **18** | 16 | 14 | 11 | 6 | 6 | 4 | 1 | 1 |
| 3 | 12 | 13 | **16** | 18 | 14 | 13 | 6 | 4 | 4 | 2 |
| 4 | 10 | 9 | 11 | **17** | 15 | 14 | 11 | 7 | 6 | 2 |
| 5 | 9 | 5 | 8 | 12 | **19** | 17 | 11 | 11 | 6 | 3 |
| 6 | 8 | 3 | 6 | 9 | 13 | **14** | 18 | 14 | 9 | 6 |
| 7 | 7 | 3 | 4 | 6 | 9 | 14 | **17** | 18 | 14 | 9 |
| 8 | 6 | 3 | 3 | 6 | 9 | 9 | 15 | **19** | 20 | 11 |
| 9 | 5 | 2 | 3 | 5 | 5 | 8 | 10 | 15 | **27** | 22 |
| 10 | 5 | 2 | 2 | 3 | 4 | 4 | 6 | 10 | 16 | **47** |

Source: Unpublished table provided by UO.

Based on the decile transition table for those aged 0-57 years in wave one:

* of those starting in deciles 1-3, just over half were still there in wave 7, a quarter had moved up to deciles 4 and 5, and a quarter into the top half (deciles 6-10)
* of those starting in the middle of the income distribution (deciles 4-6), 43% were still there in wave 7, 35% had moved up to deciles 7-10, and 23% had moved down.
* of those starting in the top decile, 63% were still there or were in decile 9 in wave 7.

Income mobility as change in real income (‘absolute’ mobility)

Income mobility can also be looked at in terms of changes in real (CPI-adjusted) income. On this basis it was found that (during a period when cross-sectional incomes were growing on average for all deciles):

* 20% of those starting in the lowest quintile experienced a net decrease in real income over the 7 waves, 30% doubled their income, and the remaining 50% all experienced real increases of substance, albeit less than double
* overall, 38% experienced real declines, and for a third of these the decline was significant (40%+)
* for the middle quintile, two in three (64%) experienced a real increase in income, and the increase for two thirds of these was greater than 20%
* 60% of those in the top quintile (Q5) in w1/w2 and almost half (47%) of those in Q4 experienced real decreases, with most of these experiencing decreases of more than 20%.

**What is meant by low-income persistence (poverty persistence) and how is it measured?**

In order to capture the different aspects of individuals’ low-income experiences from a longitudinal perspective and to do so in a manageable way, a range of taxonomies and categorisations are used in different studies and reports. In this report three approaches are used:

* number of waves in low income in a given window
* proportion of individuals in low income in w1 who are in low income in subsequent waves
* comparison of average income with the average poverty line over the full 7 waves to produce ‘chronic’ low-income figures.

The first two approaches are self-explanatory and straightforward to understand. One of their limitations however is that they cannot distinguish between those on the one hand who move out of low income and go well above the line and those on the other hand who go from just below the line to just above it and vice versa (the boundary hoppers).

One way to get a better understanding of these movements and to deal with the issue of boundary hoppers is to look at people’s average income over the seven waves and to compare that with the average low income (poverty) line over the seven waves. People whose average income is below the average low income (poverty) line over the seven waves are said to be in chronic low income (poverty).

**Figure L.4** uses a stylised approach to illustrate the chronic poverty concept. Both households represented in the diagrams are in (current) poverty for 2 waves out of the 7. Household A in the left-hand graph is in chronic poverty, but household B on the right is not. The window used does not have to be 7 waves. It could for example be 4 waves, and if the survey has a long enough life, a trend in the relationship between current and chronic poverty can be established.

**Figure L.4**

**Stylised diagram showing the value of the chronic low-income concept**

**for summarising multi-wave poverty**

**Household A Household B**



By examining the relationship between those in chronic poverty and those in current poverty in each wave, a useful set of findings emerges that has value in itself, but which also allows us to look at cross-sectional income poverty findings with longitudinal eyes.

**Selected findings on low-income persistence (poverty persistence)**

Some of the findings in the income mobility section above are relevant in this one too (for example, the ones under Table L.7 above on the destination after 7 waves of those starting in deciles 1-3).

Number of waves in low income (poverty)

**Figure L.5** shows the cumulative number of waves that people were in low income (poverty) over the seven waves, using both the 50% and 60% of gross median thresholds.

**Figure L.5**

**Cumulative number of waves in low income, whole population**



Source: Derived from Tables 8 and 9 in UO.

(As discussed above, it is preferable to use the figures generated using the 50% of gross median threshold when looking at income poverty persistence.) Although only a very small proportion were in poverty for all 7 waves (2%), Figure L.5 shows that 40% of the population experienced income poverty at least once in seven the seven waves. This means that more than double the number who are reported as in poverty in any one wave (15%) actually experience poverty at least once in the seven waves.

Findings of this sort are very common across countries like Australia, Canada, the UK, Germany and others in the OECD. It arises from the fact that in any wave, out of those who are identified as poor or in low income there are two groups: those who are more permanently in low income, and those who are only temporarily or sometimes in low income. This latter group becomes quite sizeable over seven waves and produces the finding above. The section below on chronic low income picks up on this theme.

Proportion in low income in w1 who are found in low income in subsequent waves

**Table L.8** uses the bottom quintile to define low income, and shows the proportion still in low income in subsequent waves. Just under half (45%) are still in or are back in low income after 7 waves and just over half (55%) have moved up.

**Table L.8**

**Persistence of low income for those in low income in a starting wave:**

**(low income = in bottom income quintile)**, **all respondents**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **In low income in this subsequent wave** | | | | | |
|  |  | w2 | w3 | w4 | w5 | w6 | w7 |
| **In low income in this starting wave** | w1 | 62 | 57 | 51 | 49 | 46 | 45 |
| w2 | - | 65 | - | - | - | - |
| w3 | - | - | 66 | - | - | - |
| w4 | - | - | - | 66 | - | - |
| w5 | - | - | - | - | 66 | - |
| w6 | - | - | - | - | - | 66 |

Source: Author’s calculations based on unpublished tables provided by UO.

Chronic low income

To be in chronic low income, an individual’s average household income over the seven waves must be less then the average low-income rate over that time (see Figure L.4 above). **Table L.9** compares the current and chronic poverty rates for the whole population, children and Maori. The chronic poverty rate is typically around 80% of the current poverty rate, a little higher for Maori.

**Table L.9**

**Current and chronic low-income rates**

|  |  |  |
| --- | --- | --- |
|  | **current (%)** | **chronic (%)** |
| **50% of gross median** |  |  |
| whole population | 15 | 11 |
| children(0-11 yrs in w1) | 19 | 16 |
| **60% of gross median** |  |  |
| whole population | 26 | 21 |
| children (0-17 yrs in w1) | 29 | 24 |
| Maori | 36 | 32 |

However, those in chronic low income do not form a subset of those in current low income. As shown in **Figure L.6** (ovals) some who are in current low income in a particular wave are not in chronic low income. Similarly, some who are in chronic low income are not in current low income in every wave. The rectangles show the full compositional and rate picture (chronic and current) using the 50% of gross threshold.The ‘+20%’ in the upper rectangle is the proportion in ‘chronic only’ compared with the number in ‘current’.

**Figure L.6**

**Current and chronic low-income rates, and overlap: population, 50% gross threshold**

**current and chronic**

**current only**

**chronic only**

**composition, (current = 100%)**

**50% 50% +20%**

Current low income rate = **15% +4%**

**rate of low income in population**

**Table L.10** reports the ‘rectangle’ findings (Figure L.6) for the whole population and children using the 50% and 60% of gross median thresholds, and for Maori using the 60% threshold.

**Table L.10**

**Composition for current only, chronic only and both, and rates for current (total) and chronic only**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **composition (% of current)** | | | **rate (as % of group)** | |
|  | **current only** | **overlap** | **chronic only** | **current (total)** | **chronic only** |
| **Whole population** |  |  |  |  |  |
| 60% gross | 35 | 65 | +15 | 26 | 4 |
| 50% gross | 50 | 50 | +20 | 15 | 4 |
| **Children** |  |  |  |  |  |
| 60% gross (0-17, w1) | 35 | 65 | +18 | 29 | 5 |
| 50% gross (0-11, w1) | 40 | 60 | +20 | 18 | 4 |
| **Maori** |  |  |  |  |  |
| 60% gross | 25 | 75 | +16 | 36 | 6 |

Using the 50% of gross median threshold that gives a current or cross-sectional population poverty rate of 15%:

* in any wave, half are in both chronic poverty and current poverty, the other half being only in current poverty (ie more temporary or transient poverty)
* the people in this more transient group change a lot over seven waves which is why it turns out that the number in poverty at least once in seven waves (40%) is more than double the number in low income at any one time (15%)
* in addition to those identified as being in current poverty in a wave there is another one in five (ie 3% of the whole population (20% of 15%)) who are in chronic but not current poverty
* for children, 60% of those in current poverty are also in chronic poverty, and there are another one in five in chronic but not current poverty at each wave
* when a higher threshold is used (60% of median gross income), the proportion of those in low-income households who are also in chronic low income increases (eg to two thirds when looking at the lower 25%)
* very similar findings have been produced for the UK and Australia.

This picture is in some ways similar to the one we have of beneficiary numbers. At any given time, a majority of those on benefit will have been on benefit for many years. A smaller number are new entrants or fairly temporary recipients. Over several years the number who have been on benefit at any time is much greater than the number on benefit at a particular point in time because of the cumulative effect of these temporary recipients.

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1. The full HES is run each three years (2003-04, 2006-07, 2009-10, and so on). Starting with 2007-08, a shortened version of the full HES will run in the two intervening years to collect data on incomes, housing cost expenditure and living standards indicators. It is referred to as the HES (Income). For more detail on the HES in general, and especially on the 2010-11 HES, see [www.stats.govt.nz/hes](http://www.stats.govt.nz/hes) [↑](#footnote-ref-2)
2. Access to the HES and SoFIE data was provided by Statistics New Zealand under conditions designed to meet the confidentiality provisions of the Statistics Act 1975. The results presented in this analysis are the work of the Ministry of Social Development except where otherwise stated. [↑](#footnote-ref-3)
3. The report shares many of the assumptions used by the New Zealand Poverty Measurement Project (Stephens et al, 1995; Waldegrave et al, 1996), Mowbray (2001) and Easton (1995a, 1995b, 1996) in their reporting on poverty trends in New Zealand. [↑](#footnote-ref-4)
4. For more information on NMIs and associated indices, see the Ministry’s website:

   [www.msd.govt.nz/about-msd-and-our-work/publications-resources/monitoring/living-standards/index.html](http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/monitoring/living-standards/index.html) [↑](#footnote-ref-5)
5. Carter and Imlach Gunasekara (2012) - (cf Ballantyne et al (2004)). [↑](#footnote-ref-6)
6. By removing those aged 58+, the impact on the reported transitions of those whose incomes drop significantly when they ‘retire’, and of those aged 65+ on relatively fixed incomes, is eliminated. [↑](#footnote-ref-7)
7. In general, income is regarded as all receipts which are received regularly or are of a recurring nature. The sources are wages and salaries, self-employed income (defined as the before-tax profit/loss of the business), social welfare benefits (including Family Support and its ‘tax credit successors, and the Accommodation Supplement and its pre-cursors), New Zealand Superannuation and war pensions, income from investment, and other regular income (such as maintenance and directors’ fees). For a business which recorded a loss in its latest balance sheet or profit and loss account, the respondent concerned is allocated a negative amount for self-employment income, the amount being the full loss or, in the case of a partnership, the respondent's share of the loss. [↑](#footnote-ref-8)
8. For 1982 to 2004, the incomes data is calculated using Taxmod, the predecessor of Taxwell. [↑](#footnote-ref-9)
9. While current household income alone cannot be expected to be a fully reliable indicator of material wellbeing, Figure A.1 suggests that differences in income more broadly understood – in terms of past income and gifts (as represented by current wealth), current income, expected future income, household production, and so on – are much more likely to explain differences in living standards. In this wider sense, it is almost all about income (cf the life-cycle and permanent-income hypotheses for understanding levels of current consumption as current income varies). [↑](#footnote-ref-10)
10. The Ministry of Social Development also monitors material wellbeing and hardship through the use of non-monetary indicators based around what people (want to) have and do, and how they rate their own relative position. It has published descriptive accounts of the distribution of living standards in New Zealand in 2000, 2004 and 2008. See Jensen et al (2002), Krishnan et al (2002), Jensen et al (2006), and Perry (2009) available at :

    <http://www.msd.govt.nz/work-areas/social-research/living-standards/index.html> [↑](#footnote-ref-11)
11. See Section K for selected findings based on non-income measures using data from the HES (2007 to 2011), and the Ministry’s Living Standards Surveys (2000, 2004 and 2008). [↑](#footnote-ref-12)
12. Ideally, equivalence scales would also take into account other factors such as the age of children, the costs of being employed, the extra costs of disability, the differing costs faced by people in different geographical locations, the different ratios needed for households of the same type but of different incomes, and so on. Such considerations further complicate an already fraught estimation process and the common practice is to settle for simpler scales as a rough-and-ready but better-than-nothing approximation. It is important to keep in mind that equivalisation is not intended (or able) to ‘fix’ the fundamental limitations of using current household income as an indicator of available resources, in particular that it does not take into account financial wealth, or previous household income. [↑](#footnote-ref-13)
13. Expert [Canberra] Group on Household Income Statistics (2001). [↑](#footnote-ref-14)
14. This is sometimes referred to as a person-weighted approach, in contrast to a household-weighted approach. The latter reports the proportion of households below various thresholds, income inequality across households, and so on. The person-weighted approach is the international standard for the sort of analysis reported in this paper. See **Appendix 4** for a comparison of poverty rates using the two approaches. [↑](#footnote-ref-15)
15. See Appendix 2 in Perry (2005) for an extended discussion on the choice of income sharing unit. [↑](#footnote-ref-16)
16. BHC income is the same as disposable or after-tax cash income. AHC income is sometimes referred to as ‘income adjusted for housing costs’, ‘disposable income net-of-housing-costs’ or ‘residual income’. [↑](#footnote-ref-17)
17. There is an argument for excluding repayment of mortgage principal from housing costs on the grounds that it is simply a form of near-compulsory saving. This report includes repayment of principal in housing costs on the grounds that for most mortgages there is little scope for adjusting principal repayments to help cope with ‘tight times’. It is in effect income not available to households in the short to medium term for other uses. See Appendix 5 for the difference it makes when mortgage principal is excluded from housing costs. [↑](#footnote-ref-18)
18. See the Statistics New Zealand website for general information about the HES, and for Statistics New Zealand’s first release reports. The Hot Off the Press release from November 2011 has analysis and general information on the 2011 HES. See

    [www.stats.govt.nz/browse\_for\_stats/people\_and\_communities/Households/household-economic-survey-info-releases.aspx](http://www.stats.govt.nz/browse_for_stats/people_and_communities/Households/household-economic-survey-info-releases.aspx) [↑](#footnote-ref-19)
19. For more detail on the imputation process and the impact on achieved response rates, see the Technical Appendix to the 2009-10 HES Hot Off the Press release (see link noted in the previous footnote). [↑](#footnote-ref-20)
20. An Appendix is being developed to report sensitivity testing on the use of Taxwell and Statistics New Zealand weights for the HES. This new Appendix is expected to be ready for next year’s report. [↑](#footnote-ref-21)
21. In reports prior to the 2010 report, the reference or base year for the fixed line poverty measures was 1998. The shift to 2007 has had an impact on the poverty levels for a given point in time, but no significant impact on the trends, nor on subgroup relativities. See pp 53f and Appendix 11 for further discussion on the choice of base or reference year for the fixed line approach to poverty measurement. [↑](#footnote-ref-22)
22. Starting with the 2007 HES, the ‘Other’ ethnicity category includes those who identified themselves as ‘New Zealanders’. Prior to this, the proportion reporting in this way was smaller, and they were included with the European/Pakeha category. [↑](#footnote-ref-23)
23. For poverty analysis, the denominator has large enough numbers, but the numerator has too few sample numbers to sustain the analysis for the Pacific group. On the other hand, poverty trends are given for people in one person 65+ households, even though this group and those in Pacific households make up about the same proportion of the population (4% to 6%). Poverty trend analysis for the former is unlikely to show the volatility that the latter can show as the 65+ group are much more homogeneous than the Pacific group who come from a wide range of household types, have a wide range of ages and incomes. [↑](#footnote-ref-24)
24. See Creedy and Tuckwell (2003) for an account of a HES re-weighting exercise carried out by the New Zealand Treasury for tax-benefit microsimulation modelling purposes using TAXMOD. [↑](#footnote-ref-25)
25. In addition to the age qualification, there are also residency requirements. [↑](#footnote-ref-26)
26. There is often a bunching in the income distributions in other countries but they tend not to have the spike that New Zealand does because of the different retirement income regimes. For example, see Figure 3.3 in Brewer et al (2004) for the UK. [↑](#footnote-ref-27)
27. This is for family or household income adjusted for family size and composition (equivalised family income). Using unadjusted family income makes little difference to this finding (95% rather than 90%). [↑](#footnote-ref-28)
28. For example, a survey conducted in 1999 by the Social Policy Research Centre (University of New South Wales, Sydney) showed that the vast majority of Australians thought that their household incomes placed them in the middle of the distribution. Around half thought they were in either the 4th or 5th deciles and virtually none thought they were in the top quintile (Saunders, 1999). A similar perception is likely to hold in New Zealand too. [↑](#footnote-ref-29)
29. Decile locations for households not included in Table B.4 can be calculated using the equivalence scale information in Table A.1. For example, a three adult household has an equivalence ratio of 1.98 (see Table A.1). To be in the top decile a household of this type would need an after-tax annual income of more than $114,400 (1.98 x 57,800). [↑](#footnote-ref-30)
30. The calculations in the table assume that any children are aged around 8 to 10 years, but the figures are close enough if the children are younger or older. [↑](#footnote-ref-31)
31. See Appendices 8 and 9 for a detailed discussion of the limitations of the income data in decile 1 in relation to its use as an indicator of (potential) living standards. [↑](#footnote-ref-32)
32. In Figure B.5 the deciles are deciles of individuals ranked according to their household’s equivalised disposable income. The difference for each decile between total income tax paid and government cash transfers received is calculated (in ordinary dollars) for the households to which the individuals belong. [↑](#footnote-ref-33)
33. Tax Working Group (2010). [↑](#footnote-ref-34)
34. # Note that Figures B.5 and B.6 are both simply cross-sectional snapshots of income re-distribution across the deciles and do not show how incomes of individuals or households change over time. At one point in time a household may be a net ‘receiver’ and at another time, a net ‘payer’.

    [↑](#footnote-ref-35)
35. See Chapter 9 in OECD (2008). [↑](#footnote-ref-36)
36. See Section D for more on the Gini and other measures of inequality. [↑](#footnote-ref-37)
37. For more detailed analysis and explanation see, for example, Easton (1996), Dixon (1998), O’Dea (2000), Hyslop and Maré (2001), Singley and Callister (2003), Hyslop and Yahanpath (2005). [↑](#footnote-ref-38)
38. Changes in tax credits or other forms of state cash assistance for families with children (such as the Working for Families package introduced over the 2004 to 2007 period) can also have significant impacts on the incomes of two-parent families, but generally do not have a great impact on the median itself as they are usually targeted at families below or well below the median. [↑](#footnote-ref-39)
39. OECD (2011), Figure 1.10, p38. [↑](#footnote-ref-40)
40. Note that if the household incomes derived from social assistance were equivalised, there would be much less of a difference in income between the different household and benefit types used in the graphs. [↑](#footnote-ref-41)
41. When the income distribution is divided into 100 equal groups each group is called a percentile (P). The top of the first decile is labelled P10 as it is also the top of the 10th percentile. [↑](#footnote-ref-42)
42. When the income distribution is divided into 100 equal groups each group is called a percentile (P). The top of the first decile is labelled P10 as it is also the top of the 10th percentile. [↑](#footnote-ref-43)
43. When using equivalised household income, virtually all the new money for WFF went to households at or below the median. When using unequivalised income, some of the WFF transfers go to higher-income families who have more dependent children. [↑](#footnote-ref-44)
44. When the income distribution is divided into 100 equal groups each group is called a percentile (P). The top of the first decile is labelled P10 as it is also the top of the 10th percentile. [↑](#footnote-ref-45)
45. In 2010, 10% of the population was in multi-adult family households (no dependent children), compared with 7% in the 1980s. [↑](#footnote-ref-46)
46. See Section I (n70) for details of the NZS ‘floor’. [↑](#footnote-ref-47)
47. Using a ‘total counts’ ethnicity approach makes no measurable difference to the findings in this report. [↑](#footnote-ref-48)
48. See the discussion in Section A on the issue of sampling error and the care needed in interpreting estimates for small subgroups like Pacific (6%) or slightly larger subgroups like Other (13%) that are very diverse groups. [↑](#footnote-ref-49)
49. In the 2008 Household Incomes Report, the strong rise in the Pacific median and the slight fall in the Maori median from 2004 to 2007 were noted. On the basis of income information from the Household Labour Force Survey (HLFS), which has a larger sample than the HES, caution was advised regarding the 2007 HES figures for each of these groups. The respective medians for 2009 and 2010 in Figure D.11 are more like what is expected from the longer-term trend and the HLFS information. The volatility of the median for those of Other ethnicity remains an issue and most likely reflects the relative heterogeneity of this group. [↑](#footnote-ref-50)
50. See Australian Bureau of Statistics (2004: pp36ff) for a useful discussion. [↑](#footnote-ref-51)
51. For international comparisons the OECD uses a different equivalence scale. The impact of this is that the OECD-based calculations give a slightly higher Gini by around 0.8 each year. See Section I for the OECD comparisons. [↑](#footnote-ref-52)
52. See Section B (p54) for some more inequality information. [↑](#footnote-ref-53)
53. A household’s wealth or net worth is its total assets (financial and non-financial) less its total liabilities (mortgage and other home-secured debt, vehicle loans, credit card and instalment debt, educational loans, loans from financial institutions, informal debt, and so on). [↑](#footnote-ref-54)
54. See also **Figure A.1** and the associated text in the Introduction (Section A). [↑](#footnote-ref-55)
55. *New Zealand Herald* *13 April 1996*. [↑](#footnote-ref-56)
56. For one of the earliest examples, see *New Zealand Herald 12 April 1996* *Section 1(5)*. [↑](#footnote-ref-57)
57. Its prevalence can be traced to the influence of Townsend’s definition, which he promoted in the early 1970s:

    Individuals, families and groups in the population can be said to be in poverty when they lack the resources to obtain the type of diet, participate in the activities and have the living conditions and amenities which are customary, or at least widely encouraged, or approved, in the societies to which they belong. Their resources are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary living patterns, customs and activities.(Townsend 1979:31) [↑](#footnote-ref-58)
58. See Perry (2002) for a summary of the international literature and for detailed discussion on the issue, and Iceland and Bauman (2007) for a perspective from the US. For a more recent and more developed account see chapter 6 in Nolan and Whelan (2011). [↑](#footnote-ref-59)
59. The ELSI measure has been further refined since 2008 and ‘ELSI mark 2’ has been developed - the Material Wellbeing Index (MWI). The MWI retains around half the 25 items from the ELSI short-form version and replaces the deleted items with new ones. The new set of 24 items for the MWI are now in the 2012-13 HES. ELSI-based technical and descriptive accounts of the distribution of living standards in New Zealand in 2000, 2004 and 2008 are available in Jensen et al (2002), Krishnan et al (2002), Jensen et al (2006), and Perry (2009). Technical and descriptive accounts for the MWI are expected next year in Perry (2013, forthcoming). The already published material is available at <http://www.msd.govt.nz/work-areas/social-research/living-standards/index.html> . [↑](#footnote-ref-60)
60. See Table I.2. [↑](#footnote-ref-61)
61. Carter and Imlach Gunasekara (2012) [↑](#footnote-ref-62)
62. Reports of WFF financial support going to above average and even to high-income households with children are normally based on incomes not adjusted for household size and composition. [↑](#footnote-ref-63)
63. See Section D in Perry (2009). [↑](#footnote-ref-64)
64. It is not clear why there was such a drop in mean income for low-income households in the 1990 HES compared with all other years. [↑](#footnote-ref-65)
65. Estimates of poverty rates by ethnicity are too volatile to provide reliable information on survey by survey trends. See the discussions in Section A (Introduction) and Section B. Trends in median household incomes by ethnicity are given in Section D, and indicative relativities between ethnic groups are given in this Section, and in Section H for children. [↑](#footnote-ref-66)
66. Some of the embedded SP EFUs are in the HH grouping ‘sole-parent HHs with (any) dependent children’ (along with adult children), and some are in the grouping ‘Other family HHs with children’. Note that individuals retain the equivalised income of their household of origin for this analysison the grounds that those in the wider households share to a reasonable degree in the benefits of the wider households and the economies of scale. [↑](#footnote-ref-67)
67. Preliminary analysis using non-income measures from the 2008 Living Standards Survey indicates that the hardship rates for sole parent families in households on their own are very close to those for sole parent families living with others in a wider household. This is a quite different finding from the income-based one in this report . Further investigation is being undertaken to better understand the difference. [↑](#footnote-ref-68)
68. The risk ratio is also equal to the ratio of the sub-group’s proportion of the poor to the sub-group’s proportion of the total population (eg if 60% of poor children are from beneficiary families, and 20% of children come from beneficiary families overall, the risk ratio for these children is 3.0). [↑](#footnote-ref-69)
69. The income poverty relativities from the HES for children from the Maori and European/Pakeha ethnic groups are generally relatively stable from survey to survey and are similar to those reported from the 2008 Living Standards Survey (hardship rates of 32% and 14% respectively – see Perry (2009)). Rates for Pacific children are more volatile as the Pacific population is around half that for Maori and the sample numbers are that much smaller too. [↑](#footnote-ref-70)
70. Preliminary analysis using non-income measures from the 2008 Living Standards Survey indicates that the hardship rates for sole parent families in households on their own are very close to those for sole parent families living with others in a wider household. This is a quite different finding from the income-based one in this report . Further investigation is being undertaken to better understand the difference. [↑](#footnote-ref-71)
71. In 2010, 38% of children were in households with 3 or more children, 39% with 2 or more and 23% in one child households. [↑](#footnote-ref-72)
72. There is some repetition here from earlier in this Section. Information from this Incomes Report and from elsewhere is brought together in one place for the reader’s convenience. [↑](#footnote-ref-73)
73. The proportion of children in beneficiary families is unlikely to ever match either of the other two lines for several reasons: (a) a beneficiary family may live in a household where an adult is in FT work (eg a sole parent family living with the mother’s parents or other relatives), (b) some beneficiary families receive income from PT employment, and (c) the beneficiary information is a snapshot at 30 June whereas the HES based figures are an average over the full year. [↑](#footnote-ref-74)
74. The material wellbeing of older New Zealanders is determined by more than just their incomes. Physical and financial assets are very important too, as are special demands on the budget such as high health-related costs. These issues are discussed in the Introduction. See especially Figure A.1 and the reference there to the Ministry of Social Development’s research using non-income measures of wellbeing. Nevertheless, income does matter, and in line with the focus of this Incomes report, this section reports only on incomes of older New Zealanders. [↑](#footnote-ref-75)
75. HES 2009 rather than 2010 is used as the latest figures that Statistics New Zealand have sent the OECD are from HES 2009. When the OECD publishes an update, this report and the OECD should square off. [↑](#footnote-ref-76)
76. For older New Zealanders living alone, NZS is paid at 65% of the married couple rate. The equivalence ratio for a one-person household relative to a couple household is 0.65 (for the equivalences usually used in this report). This means that equivalised household income is the same for older (65+) one person and couple households where there is little or no other income over and above NZS. [↑](#footnote-ref-77)
77. The net weekly rates of NZS/VP must by law be adjusted on 1 April each year, in line with any annual percentage increase in the Consumers Price Index (CPI) for the year ending the previous 31 December. After this adjustment, the after-tax weekly amount of NZS/VP payable to a married couple (where both qualify) must be at least 65 per cent of the average wage after tax (NAOTWE), but cannot be greater than 72.5 per cent of the average wage after tax. It is current Government policy to ensure that the after-tax married couple rate is maintained at a minimum of 66 per cent of the average wage after tax. If the after-tax married couple rate after the CPI adjustment is less than 66 per cent of the average wage after tax, a further adjustment is made to bring the rate up to this level. Following the price and wage adjustment, the single sharing and living alone rates are set at:

    • a lower rate of 60 per cent of the married couple rate for single people sharing accommodation

    • a higher rate of 65 per cent of the married couple rate for single people who are living alone (and qualify for the Living Alone Payment). [↑](#footnote-ref-78)
78. The ‘blip’ in 2007 reflects the unusually large number of older New Zealanders reporting incomes below the level of NZS in that survey. [↑](#footnote-ref-79)
79. The HES gathers information on those in private residences. This means that older New Zealanders in residential care are not included in the survey findings. [↑](#footnote-ref-80)
80. # In all other places this report uses the household as the income sharing unit, as the focus is usually on (household) income as an indicator of material wellbeing. This subsection has a different focus – the sources of income for older New Zealanders – and it uses the EFU as the income sharing unit rather than the household, as the EFU is better suited for the task. Some older New Zealanders live in wider households and share in and/or contribute to the overall standard of living of the household, sometimes having their living standards raised by the participation and sometimes having them lowered (eg where the rest of the household contributes little other income). Using the EFU enables the analysis to look just at the 66+ units to report their income sources, distinct from the incomes of the rest of the household. A small proportion of 66+ EFUs have dependent children. Inclusion of these EFUs has no significant impact on the analysis which follows.

    [↑](#footnote-ref-81)
81. That is, $100 nominal in 2007, 2008 and 2009. [↑](#footnote-ref-82)
82. The latest OECD syntheses of the national reports are found in the 2011 *Society at a Glance* and *Pensions at a Glance* publications, and papers prepared for OECD Social Ministers meetings held in May 2011. There is also valuable material in *Growing Unequal: income distribution and poverty in OECD countries*, published in 2008. [↑](#footnote-ref-83)
83. See Appendix 3 for comparisons of trends using different equivalence scales. [↑](#footnote-ref-84)
84. See, for example, Fahey (2007). [↑](#footnote-ref-85)
85. See Boarini and Mira d’Ercole (2006), and OECD (2008). [↑](#footnote-ref-86)
86. See Perry (2009), Section D, pp29ff. [↑](#footnote-ref-87)
87. Because international league tables almost always use ‘moving line’ (REL) thresholds, the income poverty rate for a country whose median income is falling in real terms can show a decrease in poverty, whereas a country whose median incomes are rising through strong economic growth can show a rise in poverty, even if in both cases the incomes of those with low incomes remain much the same in real terms. [↑](#footnote-ref-88)
88. Treasury’s Taxwell weights rather than Statistics New Zealand weights are used for the 2009 and 2010 New Zealand HES-based figures on this page. See Section H for further discussion on this. [↑](#footnote-ref-89)
89. The rate for Ireland also changed by a large amount, although in their case the rate fell from 2004 (31%) to 2009 (13%). Figures for Australia rose from 27% to 39%. Changes for almost all other OECD countries were in the zero to three percentage point range. [↑](#footnote-ref-90)
90. OECD (2007:11). [↑](#footnote-ref-91)
91. There are slight differences between the New Zealand Gini scores here and those given in Section D (Table D.9). These differences arise because of the different equivalence scales used. The overall trends and so on are not affected by the choice of equivalence scale. See Appendix 3, Figure 3.2. [↑](#footnote-ref-92)
92. Table J.9 uses the ‘modified OECD’ equivalence scale for both countries, whereas Figure J.2 for the 2008-09 comparisons uses the ‘square root scale’. See Appendix 3 for more information. [↑](#footnote-ref-93)
93. For the 2007-08 survey year, the ABS applied improved income reporting standards in the SIH. One impact of these changes is that the 2007-08 inequality figures are higher than they would have been on the previous protocols (eg a Gini of 33.1 rather than 31.7). The older OECD league tables therefore have Australia with a lower inequality score than New Zealand. [↑](#footnote-ref-94)
94. A household’s wealth or ‘net worth’ is its total assets (financial and non-financial) less its total liabilities (mortgage and other home-secured debt, vehicle loans, credit card and instalment debt, educational loans, loans from financial institutions, informal debt, and so on). [↑](#footnote-ref-95)
95. The Gini score can range from 0 to 100. The higher the score, the greater the inequality. [↑](#footnote-ref-96)
96. See Nolan and Whelan (2011) for a recent and comprehensive overview of the use of NMIs in Europe. [↑](#footnote-ref-97)
97. See Perry (2009) for more detail. [↑](#footnote-ref-98)
98. See Perry (2002) for a summary of the international literature and for detailed discussion on the issue, and Iceland and Bauman (2007) for a more recent perspective from the US. [↑](#footnote-ref-99)
99. See UO Table A:1 for detail. [↑](#footnote-ref-100)
100. See Jenkins (2011) for a recent and comprehensive discussion of these and other approaches using British data (BHPS). [↑](#footnote-ref-101)
101. It is rare that the number of rises is exactly the same as the number of falls. Consider for example the situation where a person moves from decile one in wave one to decile ten some waves later. If that person were the only one with a change in income, then one goes up and nine go down in relative position. With a large sample and the usual employment, wage and demographic changes that occur over several years, the movements are such that the number of rises is usually fairly close to the number of falls. [↑](#footnote-ref-102)
102. Table L.1 shows the average for the six two-wave pairs. The proportions are in fact very similar for each of the two-wave pairs. [↑](#footnote-ref-103)
103. The EU-15 countries are those who were EU members prior to the enlargement in 2004. Nolan and Erickson (2007) report on 12. [↑](#footnote-ref-104)