**The material wellbeing of New Zealand households: trends and relativities using non-income measures, with international comparisons**

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**Changes since last report**

* The 2016 Non-income Measures (NIMs) report updates the 2015 issue with new data from Statistics New Zealand’s 2014-15 Household Economic Survey.
* The two sections on the make-up and rationale for the two, the DEP-17 and the MWI (material wellbeing index), have been re-arranged and expanded.
* While the focus remains on using clusters of items in the DEP-17 and MWI indices, this issue provides more information on individual items.
* The Overview and Key Findings document shows how to calculate where your household ranks on the material wellbeing index (MWI).

**Companion Household Incomes report**

* This NIMs report is a companion report to the Household Incomes Report. They are intended to be used together, but are kept separate for ease of access for users.
* The 40-page Overview and Key Findings document brings together the key definitions and concepts, the key findings and overall story from both reports.

**Next report**

* The next NIMs report is scheduled for mid 2017, and is expected to contain new analysis as well as updates using the 2016 HES data.

**Availability on MSD website**

* Both reports and the Overview are available on the MSD website

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

**Updates since publication on Thu 8 Sep 2016**

* Nil

**Introduction**

This report uses non-income measures (NIMs) to examine the material wellbeing of New Zealand families and households.[[1]](#footnote-1) NIMs focus on the actual day-to-day living conditions of households in terms of the basics of food, clothing, accommodation, heating, and transport, and more widely in terms of their ability to maintain or replace broken household appliances, purchase desirable non-essentials, cope with unexpected demands on the household budget, and so on. They allow a ranking of households using a more direct measurement approach compared with the more indirect and partial approach using household income. The NIMs report sits alongside the Household Incomes Report: together they give a comprehensive account of the relativities between different groups and of trends over time.

The report also shows where New Zealand ranks internationally using material hardship or deprivation measures, a more robust approach to international comparisons of low material wellbeing than using household incomes.

Each NIM can provide valuable information in its own right, and the report includes information on individual items, but the focus of the report is on the use of selected NIMs used together in two types of index:

* material hardship or deprivation indices – one from the EU and one from MSD’s own work (DEP-17)
* the material wellbeing index (the MWI) which allows comparisons across the spectrum from low to high material living standards, rather than just focussing on the low end.

The MWI is a revised version of the prototype ELSI (Economic Living Standards Index) measure developed by MSD in 2002.

The analysis in the report uses data from MSD’s 2008 Living Standards Survey (LSS) and Statistics New Zealand’s Household Economic Survey (HES) which has included a suite of NIMs since 2006-07. There is some limited use of analysis based on Statistics New Zealand’s longitudinal Survey of Family, Income and Employment (SoFIE), and their General Social Survey (GSS).

Though much of the survey data itself is from Statistics New Zealand, the analysis and findings are the work and responsibility of the Ministry of Social Development.[[2]](#footnote-2)

As with the Household Incomes Report, the plan for this NIMs report is to not only update the findings each year but also to add new analysis as time and data availability allow.

The key findings and key messages from both the Incomes Report and the NIMs report are brought together and summarised in the “Overview and Key Findings” document which is available on MSD’s website at:

<http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/monitoring/household-incomes/index.html>

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outlines the income-wealth-consumption-material-wellbeing framework that is used in both the Household Incomes Report and in this companion report using non-income measures (NIMs), and discusses how poverty and material hardship (unacceptably low material wellbeing) are conceptualised and defined in the reports.

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gives an overview of the deprivation and material wellbeing indices used in this report and in other MSD research, and of the NZiDEP measure used in SoFIE and elsewhere. It also notes the main data sources available for NIMs in New Zealand.

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compares New Zealand’s hardship rates for the whole population, children and those aged 65+ with those in other countries through the use of the EU’s new 13-item material deprivation index (EU-13) which we can closely replicate for New Zealand. Previous MSD research on international hardship comparisons used a 9-item EU index. Hardship rates for New Zealand are very similar on both indices and country rankings are reasonably similar. EU-13 is however a more robust and reliable index.

*Sections D and E describe the DEP-17 and MWI indices and establish their credentials in the main using data from the 2008 Living Standards Survey. In Section F, the MWI and DEP-17 are used with HES, GSS and LSS data to describe the distribution of material wellbeing across the New Zealand population as a whole and across different sub-groups.*

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introduces MSD’s 17-item material deprivation index (DEP-17) and establishes its credentials. It identifies a plausible range of hardship thresholds (from less to more severe) by examining the lived experience of hardship for children using a set of child-specific deprivation items.

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shifts the focus from the hardship end of the spectrum to looking at the wider distribution of material wellbeing from low to high. It gives a detailed account of the 24-item Material Wellbeing Index (the MWI), the upgraded version of the prototype Economic Living Standards Index (ELSI) developed by MSD in 2002. It also shows how the MWI works as a material hardship measure at its lower end, mimicking DEP-17. The section finishes with a description of MWI-9, a 9-item short-form of the MWI, which can be used in surveys where there is a need to produce analysis by broad material wellbeing groupings.

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**Section A**

**Income, wealth, consumption and material wellbeing:**

**a framework for the two reports**

Household income is often used as an indicator of household material wellbeing. Household income is a very important factor in determining a household’s level of material wellbeing – especially for those with a minimal stock of basic household goods and appliances and low or zero cash reserves – but it is not the only factor.

The diagram below provides a framework for thinking through the relationship between household income, financial and physical assets, other factors and material wellbeing or living standards.

* Household income and financial and physical assets together largely determine the economic resources available to most households to support their consumption of goods and services and therefore their material standard of living.
* Households with resources that are not adequate for supporting consumption that meets basic needs (those experiencing poverty or material hardship) are of special public policy interest.
* For low-income households that have very limited or no financial assets their income is the main in-house resource available to generate their standard of living. Such households not only struggle in varying degrees to meet basic needs, but are also very vulnerable to the negative impacts of “shocks” such as even a small drop in income or an unexpected expense.
* The framework recognises that factors other than incomes and assets can also impact on material wellbeing. These factors are especially relevant for low-income / low-asset households, and can make the difference between “poverty/hardship” and “just getting by”.

**Financial and physical assets**

**Other factors**

eg assistance from outside the household (family, community, state), housing costs, high or unexpected health or debt servicing costs, lifestyle choices, ability to access available resources

**Basic needs / essentials**

**Discretionary spend / desirable non-essentials**

**Material wellbeing or living standards**

**Resources available for consumption**

**Household income**

**DEP-17**

**MWI**

* To measure material wellbeing more directly the NIMs report uses both MSD’s material wellbeing index (MWI) which covers the whole spectrum from low to high material living standards, and its deprivation index (DEP-17) which focuses on the low living standards end of the spectrum. The MWI and DEP-17 rank households in almost exactly the same order for the lower 20% of the population.
* The framework shows how it can be that not all households with low incomes are in hardship, and not all in hardship have low incomes. The overlap between similar-sized groups of those identified as in material hardship and those with low incomes is typically only 40 to 50%, not 100%, as there are many factors in addition to income that determine a household’s level of material wellbeing (living standards).

**The framework and government policy to address poverty and material hardship**

The income-wealth-consumption-material-wellbeing framework together with its elaboration in Appendix 5 in relation to child poverty and hardship provide a high-level check-list for discussion, debate and policy development for addressing poverty and hardship.

For example, thinking about poverty alleviation from the perspective of the household, and how that intersects with government policy, the framework points to the following as the pathways for addressing or alleviating poverty:

* increasing household income (whether it be from higher total earnings or increased government cash assistance or reduced tax)
* having the demands on the core household budget reduced (for example, through government services and government subsidies such as those for free doctor’s visits for under 13s, reduced fees for Community Services Card holders, child care subsidies)
* getting better at using a given income to meet basic needs (through improved budgeting, healthy family functioning (tension and chaos reduce efficiency), improving life skills, better access to government and community services, and so on).

The framework makes it clear that improving the day-to-day living standards of households is about more than income, though income remains a very important factor.

When the focus is on raising incomes for households with children the framework points to three factors that impact on child poverty rates and on the proportion of poor children who come from various subgroups of families with children (that is, on the composition of the poor):

* the economy and the labour market (impacting for example on employment and unemployment rates, wage rates, benefit numbers (including numbers of sole-parent families), and interest rates)
* 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 that have a direct impact on income (eg policy changes around benefit rates, income-related rents, the Accommodation Supplement and Working for Families settings all have clear impacts on the child poverty rates for children from working and workless households, and on the relativities between the two groups).

[See the June 2016 report to the Ministerial Committee on Poverty which sets out the Government’s ongoing approach to alleviating poverty in New Zealand, available at:

<http://www.dpmc.govt.nz/sites/all/files/publications/3862574-mcop-govt-actions-on-poverty-2016.pdf> ]

**Three ways of measuring material wellbeing and ranking households**

The reports use three different measures of material wellbeing to rank households from high to low. Both income measures adjust for household size and composition to enable more realistic comparisons between different household types.

* BHC income (income before deducting housing costs):

Household income from all household members from all sources after paying income tax gives an indication of the different levels of financial resources available to different households, all else being equal.

But all else is not equal, as the diagram on the previous page makes clear. There are many factors other than current income that make a difference to the actual day-to-day living standards of households. For example, the largest item on the household budget for many households is accommodation costs, and yet for others in mortgage-free homes these costs are much lower. Accommodation costs cannot usually be changed in the short-term. To better compare the material wellbeing of households when using incomes the Incomes Report also uses household income after deducting housing costs (AHC incomes), especially for “poverty” measurement.

* AHC income (income after deducting housing costs):

AHC income (ie BHC income after deducting housing costs) is a very useful measure for understanding the real-life differences in consumption possibilities for households when looking at income alone. AHC income is sometimes called “residual income”.

There are other factors (in addition to income and housing costs) that also contribute to a household’s material wellbeing. The combined impact of all these factors on a household’s material wellbeing can be captured by examining more directly the actual living conditions and consumption possibilities that households experience. The MWI does this.

* MWI (Material Wellbeing Index)

The MWI is made up of 24 items that each give direct information on the day-to-day actual living conditions that households experience. They are about the basics such as food, clothes, accommodation, electricity, transport, keeping warm, maintaining household appliances in working order, and so on, and also about the freedoms households report to purchase and consume non-essentials that are commonly aspired to. See **Section E** for a list of the MWI items.

Differences in MWI scores reflect the differing impact on living standards of the income, assets and other factors in the framework on page 5. The MWI rankings reflect the different levels of consumption for different households in a way that gets around the need to carry out the very demanding analysis required to create a dollar value for each household’s consumption. The tables in **Section E** give a picture of the different living standards profiles at different MWI levels, using both MWI items and several not in the MWI.

MSD also uses two deprivation / material hardship indices which focus only on the low end of the spectrum:

* DEP-17: this gives the same results as the MWI when looking at the bottom quintile (20%), but the scoring is more intuitive (eg a score of 7+/17 simply means “missing 7 or more basics from the list of 17”) – see **Section D**
* EU-13: this 13-item index is used in Europe and we use it monitor how New Zealand ranks internationally – it ranks households much the same as DEP-17 does. See **Section C.**

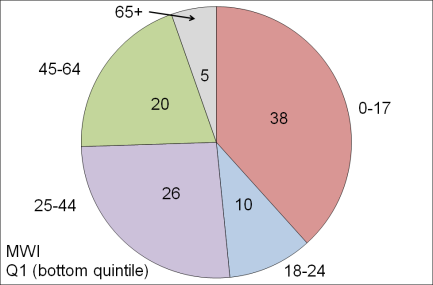
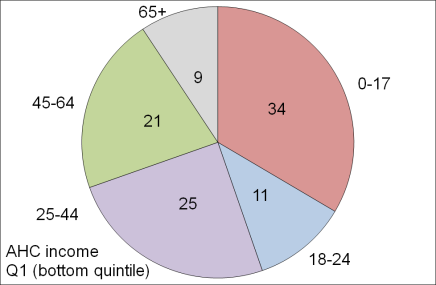
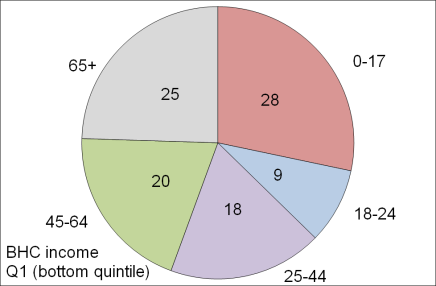
**Where do you and your household rank?**

* **Appendices One and Two** in the Overview and Key Findings document show how to calculate where your household ranks.

**The different measures can show different pictures of who is in the higher and lower material wellbeing levels**

Different pictures can emerge depending on which measure of material wellbeing is used. This is most clearly illustrated when looking at how different age groups rate relative to each other on the three measures.[[3]](#footnote-3)

* The charts below show how the bottom quintile (bottom 20%) becomes “younger” when the ranking measure changes from BHC to AHC to the MWI: the proportion of older New Zealanders in the bottom quintile decreases (25% to 9% to 5%) and the proportion of children increases (28% to 34% to 38%).
* The differences arise in part because mortgage-free home ownership is very high among older New Zealanders (ie housing costs are very low for most), so when moving from BHC to AHC incomes a large re-ranking happens with many older New Zealanders moving up and many families with children moving down relative to each other. The table shows the result of the movement from Q1 (BHC) to Q2 (AHC) for many older New Zealanders.

**The make-up of the bottom quintile (20%) for the three measures, by age groups (HES 2015)**

* The differences in the make-up of the bottom quintile on the three measures are also a reflection of the life-cycle fact that in addition to a mortgage-free home many aged 65+ have all the household appliances and furniture they need and many have other financial reserves they can call on. This explains the large change for older New Zealanders when comparing their numbers in Q5 (see table below which covers all five quintiles): using the MWI, 44% of older New Zealanders are in this higher living standards group, whereas for AHC only 20% are.
* The table also shows that around one in three older New Zealanders (35%) have BHC incomes that place them in the bottom BHC income quintile, but only one in fourteen (7%) are in the lowest MWI quintile.

**Where older New Zealanders are found across all quintiles (%), three measures (HES 2015)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** | **TOTAL** |
| **BHC** | 35 | 18 | 16 | 14 | 16 | 100 |
| **AHC** | 13 | 32 | 18 | 16 | 20 | 100 |
| **MWI** | 7 | 10 | 15 | 24 | 44 | 100 |

**Low material wellbeing: what is meant by “poverty” and “material hardship”?**

In the more economically developed countries (MEDCs) poverty is generally understood as exclusion from a minimum acceptable way of life (standard of living) in one’s own society because of inadequate financial and material resources. A household is considered “poor” when its resources are not adequate to meet its consumption needs for the basics or necessities.

While it is not an absolute subsistence notion (“third world starvation”), neither is it “just relative”. Poverty is not just about having “less than”, it is about “not having enough”. There will always be debate about where to set the threshold and even about the use of the “poverty” word itself, but most would agree that there are people in New Zealand today whose actual day-to-day living standards are below a minimum acceptable level. It is not just that these people have less than others who are better off, it is that they are going without too many of the things that the bulk of New Zealand society considers that all should have and none should be without.

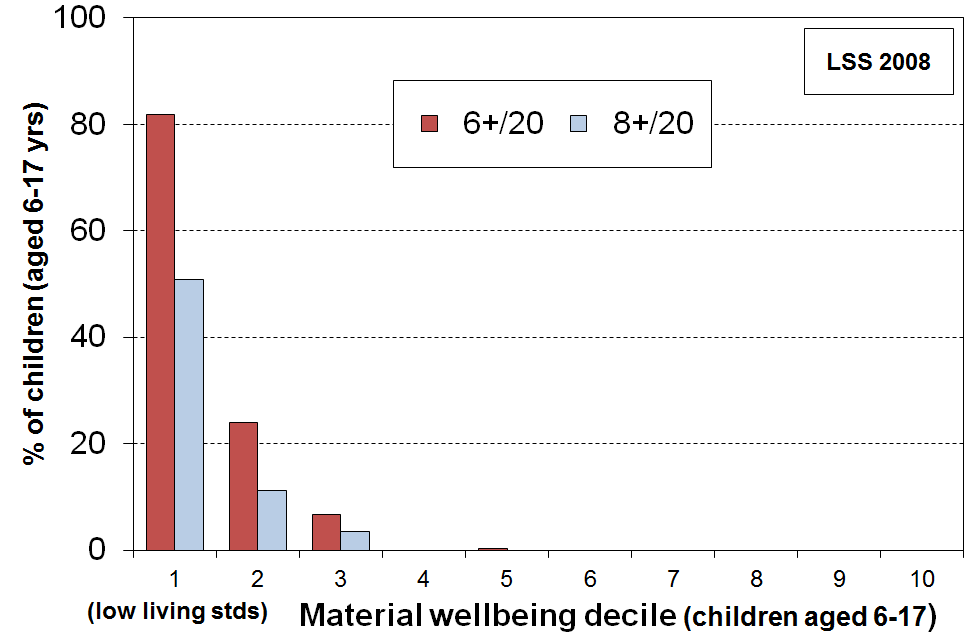
There is a particular public policy interest in children whose material wellbeing is below a minimum acceptable level – those identified as living in significant material hardship or deprivation. The concept of material hardship used in this report can be illustrated in the case of children using child-specific items, as below.

**Figure A.2** shows how different life is for children in households with low living standards. Children are ranked by their households’ material wellbeing (living standards) from high to low using MSD’s material wellbeing index (MWI). The children are grouped into deciles (ten equal groups). Then, for each child in each household, the number of enforced lacks of basics is counted out of a list made up of 12 child-specific items and 8 general household items that relate to household deprivation.

The day-to-day life experiences of children from families experiencing material hardship are typically very different from those of the vast bulk of the children (eg the top 75 to 80%), whose families report virtually no deprivations at all from the list.

**Figure A.2**

**Life for children in families with low living standards is very different than for the vast majority of children: % with 6+ and 8+ deprivations out of a set of 20 (8 general household, 12 child-specific), children aged 6-17 yrs**



The 20 items used in the calibration list for Figure A.2 are specified in Tables D.9 and D.10 in Section D.

Examples of the 12 child specific items: no waterproof coat, no warm winter clothes, no separate bed, incomplete school uniform, unable to have friends to birthday party, participation in sport restricted “a lot” (because of lack of money or the need to use available money for other basics).

Examples of the 8 general household deprivations: inability to keep main rooms warm, dampness and mould a major problem, received help with food / clothes from a food bank or community group more than once in last 12 months (same reasons as for child items).

Note that even in the bottom MWI decile (ie even for the 10% of children in most severe hardship) **it is not the case that all these children suffer all or even most of the deprivations listed**. It is rather (a) that society expects that no child should lack any one of the specified items / all children should have them all, and (b) that this group on average experiences a good number of these lacks, whereas the vast majority of children do not experience any of them at all.

While the use of material deprivation or hardship indices in addition to income measures is a welcome advance, there are some fundamental aspects of the notion of “poverty” that mean that it will always be an awkward term. For example:

* Judgement calls are needed to decide where to draw the lines to identify the (income) poor or those in material hardship. Different judgements lead to different reported levels of hardship or poverty, though the range of plausible thresholds is in practice relatively narrow once all the evidence is considered. This ambiguity and difference in value judgements can be dealt with in part by accepting that poverty and hardship exist on a spectrum from more to less severe, and by regularly and as a matter of course using a range of measures to track progress. This is further discussed in **Section D**, where the report sets out its approach to setting hardship thresholds.
* Whatever else poverty is understood to be, it is in its essence an unacceptable state-of-affairs – it carries with it the implication that something should be done about it. How best to address poverty, especially child poverty, is a vigorously contested area where empirical evidence, social norms, personal values, views on inter-generational equity, political philosophy and pragmatic compromise all play legitimate parts. Different judgements on these matters lead to different “solutions”.
* Yet, just as with the question of where to set low-income or material hardship thresholds, there is in practice a fairly limited range of options for governments when it comes to seeking to reduce child poverty. All richer countries have adopted a multi-pronged approach, reflecting the range of causes of poverty. The difference from one government to another and one state to another reflects to a large degree the different understandings of the relative size of the impact of different causes, decisions on trade-offs with other priorities, and the consequent different weightings given to the different interventions.

**Factors behind the rise in the use of**

**non-monetary indicators (NMIs) or non-income measures (NIMs)**

There is increasing acceptance internationally that in addition to income-based measures, non-monetary indicators (NMIs) / non-income measures (NIMs) 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.

The impetus for pursuing this other perspective comes from several factors:

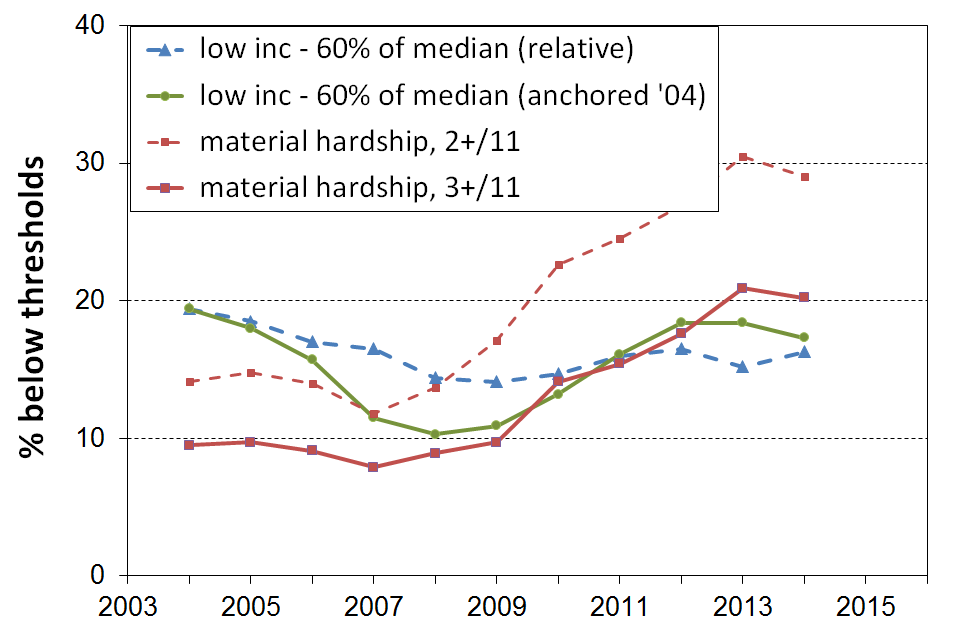
* an interest in developing a better understanding of the actual material circumstances of households with low incomes
* an increasing awareness of the limitations of relying on income-based measures alone for assessing household material wellbeing and hardship (as shown in the diagram on p5), and especially so in periods of economic upheaval (cf Whelan and colleagues, 2016)
* 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 data based on NIMs.

**The value of a multi-measure perspective**

The chart below (**Fig A.3**) shows the differing trends for Ireland in recent years using moving and anchored line income poverty measures and two material hardship measures (based on non-monetary indicators). The fully relative income poverty measure barely picked up the impact of the GFC downturn because the median was falling, masking the increasing numbers whose real incomes were falling. This latter was picked up by the anchored line income poverty measure. The material hardship measures also picked up the impact on households of the downturn, and more recently, of the beginnings of recovery.

**Figure A.3**

**Low income and material hardship in Ireland**



The chart for Ireland also shows how material hardship measures can show greater percentage point changes compared with what is shown for even anchored line income poverty measures over the same period. This does not mean for Ireland, for example, that material hardship became “really bad” whereas income poverty just became “a little worse”. It simply reflects two features of the use of material deprivation indices for time series: (a) by their construction they are more sensitive than income measures to changing household circumstances, when looking at percentage point changes, and (b) many households live in an “only-just-getting-by” mode and even a small loss in income can easily lead to them moving below a hardship threshold.

**Including causes, consequences and correlates: a wider use of “poverty”**

Sometimes “poverty” is used very widely to cover an extended range of aspects of social and material disadvantage, including some of the mooted causes and consequences of low income and material hardship. It then becomes a catchall term for a long list of social and material bads which is not helpful for clear and productive discussion.

The MSD reports encourage the practice of keeping a clear distinction between the core experiences of low income and material hardship on the one hand, and their causes and consequences and other associated disadvantage on the other. To have a more complete understanding it is of course important to monitor trends and levels in all these aspects

**Section B**

**Data sources and Indices**

This sectionnotes the main New Zealand data sources that include non-income measures that can be used to assist in monitoring material hardship or material wellbeing more widely, and in the table below gives a brief overview of the deprivation and material wellbeing indices used in this report and in other MSD research.

There are three types of NIMs that are of relevance to this report: general household items (eg being able to keep the house warm); individual adult respondent items (eg having a set of clothes for important or special occasions); and child-specific items (eg two sets of warm winter clothes for each child, a separate bed for each child).

* MSD’s Living Standards Surveys (2004, 2008) have a large number of items of each type.
* Statistics New Zealand’s Household Economic Survey (HES) includes a set of 25 items of the general household and adult respondent types from 2006-07 to 2011-12, then a revised set of 29 items from 2012-13 on. The 29-item set uses 12 of the earlier 25 items. Starting with the next HES (2015-16), a suite of 21 child-specific items will be included each three years.
* Statistics New Zealand’s General Social Survey (GSS) has the same 25 items as the HES in 2008, 2010 and 2012, then a smaller 9-item set in 2014.
* Statistics New Zealand’s longitudinal Survey of Family, Income and Employment (SoFIE) has an 8 item set of the general household and adult respondent types (NZiDep).

|  |  |  |
| --- | --- | --- |
| **Index** | **Description** | **Data sources** |
| EU-9 | A 9 item material deprivation index used officially by the EU. | LSS 2008 |
| EU-13 | A 13 item material deprivation index likely to be formally adopted by the EU to replace EU-9. | LSS 2008  HES 2015-16 and later |
| DEP-17 | A 17 item deprivation index developed and used by MSD (sometimes referred to as “MSD’s material deprivation index”) [[4]](#footnote-4). | LSS 2008  HES 2012-13 and later |
| ELSI  ELSI-SF | ELSI is MSD’s prototype full-spectrum index using 40 NIMs to cover the range from low to high material living standards. The short-form (SF) version uses 25 items. The ELSI has been replaced by the MWI. | LSS 2000, 2004 and 2008  HES 2006-07 to 2011-12 have the 25 ELSI-SF items  GSS 2008, 2010 and 2012 have the 25 ELSI-SF items |
| MWI  MWI-9 | MSD’s Material Wellbeing Index (MWI) is a 24 item index covering the full spectrum of material wellbeing from low to high. It was developed as a ‘mark 2 ELSI’, incorporating what was learnt from using the prototype. The short-form version has 9 items. | LSS 2008  HES 2012-13 and later  GSS 2014 (MWI-9 only) |
| NZiDep | NZiDep is an 8 item deprivation index developed by Wellington School of Medicine researchers. | SoFIE (and the 2006-07 and 2013-14 NZ Health Surveys) |
| NZDep | Unlike all the indices above, NZDep is not a household- or family-based index. It is based on information from households within a small area, using Census items such as income, benefit status, home ownership, car ownership and so on. NZDep uses the average score from all households in the area, then ranks the small areas using a decile system. There is naturally some variation of material wellbeing across households in a given small area, even though they all have the same NZDep score. | Census |

**Sections C, D and E**

**describe and establish the credentials of the EU-13, DEP-17 and MWI indices**

Sections C, D and E use LSS 2008 data (and a little from HES 2013-14 and HES 2014-15) to describe and establish the credentials of MSD’s 17-item deprivation index (DEP-17) and 24-item material wellbeing index (MWI) which is the revised and upgraded version of the prototype ELSI (Economic Living Standards Index) which it replaces.

**Sections F, G and H then apply DEP-17 and the MWI to HES data**

These sections describe the distribution of material wellbeing across the population as a whole and across subgroups, and report on trends in hardship rates at different depths from 2006-07 to 2014-15

**Section C**

**International comparisons of material hardship using EU-13**

GDP per capita and similar measures are commonly used as indicators of economic performance and social progress. Such measures have a range of well-known limitations for these purposes. One of particular relevance for this report is that while, at best, they can give an indication of trends in average living standards, they do not give any information on the distribution of living standards across households within countries.[[5]](#footnote-5)

International comparisons of the distribution of living standards or material wellbeing at the household level are traditionally done by using household incomes. When the focus is on financial hardship, “poverty lines” are often set at 50% or 60% of the median household income. International league tables which rank countries on their income poverty (low-income) rates are now commonly created and published.

There is however growing unease about the robustness of the household income approach for international comparisons of material wellbeing, and especially for “poverty” comparisons. These concerns arise from both theoretical-conceptual and empirical considerations. For example:

* The income-wealth-material wellbeing framework used in this report and elsewhere (see Figure A.1 above) draws attention to the fact that there are several key factors other than income that determine a household’s material wellbeing or living standards. Thus, household income can only be a rough proxy for material wellbeing.
* The income approach can produce incongruous results for “poverty” rates in richer countries. For example, on this approach the Czech Republic has a poverty rate of 9%, lower than the rates for Denmark and Finland (12%), and Germany (16%), yet the poverty lines in each of the latter three countries are all above the median household income level for the Czech Republic.[[6]](#footnote-6)

Partly in response to these concerns, the EU developed and in 2009 adopted a 9-item deprivation index based on non-income items / deprivations as one of its primary social inclusion indicators. At the time there was a limited pool of items in the source data from the EU-SILC (Survey of Income and Living Conditions). The pool was enlarged in 2009 and EU researchers have developed a new 13-item index based on this expanded dataset.[[7]](#footnote-7) The EU is in the final stages of adopting the new index as its official one.

In developing the 2008 Living Standards Survey (2008 LSS), the EU’s plans for their 9-item index (EU-9) and their 2009 EU-SILC enlargement were monitored and MSD included the relevant questions in the 2008 LSS. Deprivation scores for New Zealand have been created for EU-9, with comparative international findings published in Perry (2009). The new and improved EU index (EU-13) is made up of the thirteen items listed in **Table C.1** below**.** The items are scored as “enforced lacks” – that is, the items were not possessed because of the cost rather than for some other reason. For EU-13 those with 5 or more enforced lacks are described as experiencing (“standard”) material deprivation, and those with 7 or more as in “severe” material deprivation.

A comparison of the make-up of EU-13 and EU-9 is provided in **Appendix 1.**

**Table C.1**

**Composition of EU-13**

|  |
| --- |
| have a meal with meat, fish or chicken every second day |
| keep the home adequately warm |
| replace worn-out clothes by some new ones |
| have two pairs of properly fitting shoes |
| replace worn-out furniture |
| have access to a car / van for personal use |
| avoid arrears in mortgage or rent, utility bills or HP instalments |
| spend a small amount of money each week on oneself |
| have both a computer and an internet connection |
| have regular leisure activities |
| have a get together with friends/family for a drink/meal at least monthly |
| have one week’s annual holiday away from home |
| ability to face unexpected expenses of NZD1500[[8]](#footnote-8) |

A feature of EU-13 and many other similar indices is that they use a mix of items that tap into or reflect different depths of material deprivation. For example, there is a strong consensus that “keeping the home adequately warm” is a necessity on any standard, whereas “having a week’s holiday away from home” is not necessary for survival, but is considered a necessity by around 50% (in the EU) for having a “minimum acceptable standard of living”.[[9]](#footnote-9) Rather than being a weakness of the index, the use of a range of items is a strength as it allows for the fact that there is some variation among those less well-off as to precisely what they cut back on to try to make ends meet. An index with an almost total focus on the very bottom end could not reflect these nuances in its rankings.[[10]](#footnote-10)

When using material deprivation indices such as EU-13 it is important to recognise what they are and what they are not:

* They are designed as instruments to rank households by their differing degrees of material hardship, using a mix of items that tap into differing levels of hardship and which are reasonably equally applicable to people in different age groups and household types.
* They do not purport to use the (13) most important or most serious deprivations – the selection process for such an approach would be fraught and would not be likely to command widespread support.

In the international comparisons that follow, the graphs use 20 European countries (19 EU countries plus Norway), and the tables use 27 (all the EU countries at the time of the survey (27) less Bulgaria and Romania, plus Norway and Iceland).

At the time of the 2009 EU-SILC survey the EU had 27 member states (**Table C.2**) – the 15 “old” member states from western and southern Europe, the 10 “new” member states added in 2004 (Malta, Cyprus and eight eastern European countries), plus Bulgaria and Romania added in 2007. Bulgaria and Romania are omitted from the graphs and tables that follow as their general standard of living is much lower than New Zealand’s. Malta and Cyprus are very small and are also omitted from the graphs. There is no tradition of comparing New Zealand with Hungary, Poland, Latvia and Lithuania, so they too are omitted from the graphs. Estonia, Slovenia, Slovakia and the Czech Republic are included as their rankings are now often in the same ballpark as New Zealand and some of the “old” EU-15. Norway is not a member of the EU, but data is generally available for Norway as it participates in EU-SILC. The international comparisons that follow therefore use 20 European countries for the graphs (27-2-6+1), though a fuller suite is reported on in the tables.

**Table C.2**

**EU countries**

|  |  |  |  |
| --- | --- | --- | --- |
| **“Old” Member States** |  | **“New” Member States** |  |
| Belgium | BE | *2004 Enlargement* |  |
| Denmark | DK | Czech Republic | CZ |
| Germany | DE | Estonia | EE |
| Ireland | IE | Cyprus | CY |
| Greece | EL | Latvia | LV |
| Spain | ES | Lithuania | LT |
| France | FR | Hungary | HU |
| Italy | IT | Malta | MT |
| Luxembourg | LU | Poland | PL |
| Netherlands | NL | Slovenia | SI |
| Austria | AT | Slovakia | SK |
| Portugal | PT |  |  |
| Finland | FI | *2007 Enlargement* |  |
| Sweden | SE | Bulgaria | BG |
| United Kingdom | UK | Romania | RO |

Material hardship comparisons with OECD countries not in the EU (eg Japan, USA, Australia and Canada) are not possible as there are as yet no national surveys in these countries with all the relevant items in them.[[11]](#footnote-11)

**Comparisons for the whole population (2008-09)**

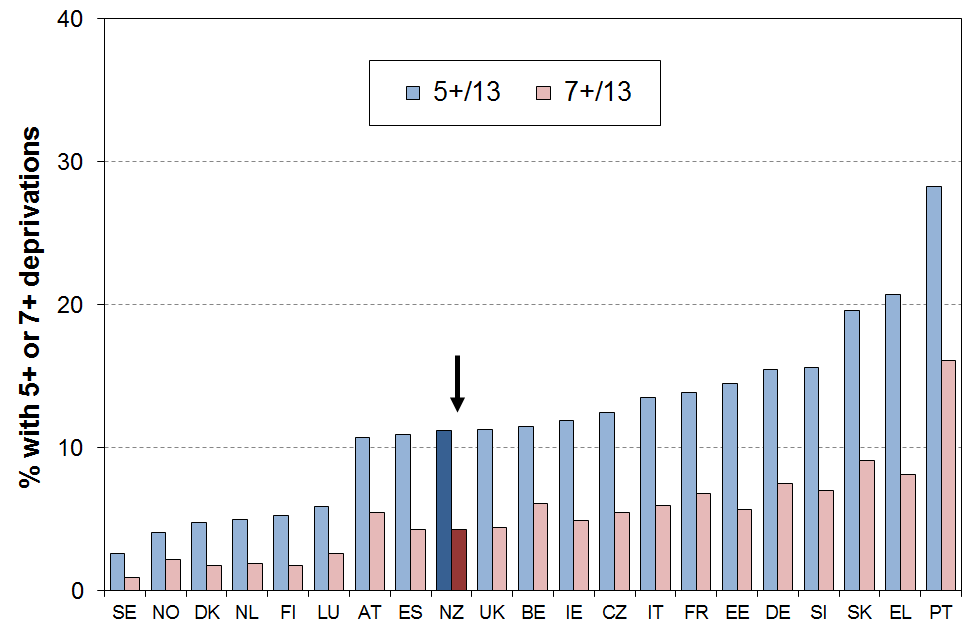
Using the EU-13 index, 11% of the New Zealand population had 5 or more enforced lacks, ranking New Zealand alongside Austria, Spain, the UK, Belgium and Ireland, at the median for the 20 selected European countries and a little below the median for the full 27 EU members (12%). Many of the newer EU countries had much higher rates of deprivation, as did Portugal and Greece. See **Figure C.1** and **Table C.3**.

Using the EU’s “severe” material deprivation measure (7+/13), country rankings were very similar to those using the 5+/13 measure (correlation =0.98). New Zealand’s “severe deprivation” rate of 4% was a little below the EU’s median “severe” rate of just under 6%.

**Figure C.1**

**Material deprivation rates (% with 5+ and 7+ enforced lacks), EU-13, whole population**

**20 European countries + NZ, ranked on % with 5+, (EU-SILC 2009, NZ LSS 2008)**



**Table C.3**

**Material deprivation rates (% with 5+ and 7+ enforced lacks), EU-13, whole population**

**EU-25 + NO + IS + NZ, ranked on % with 5+, (EU-SILC 2009, NZ LSS 2008)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **% with 5+/13**  **“standard” MD** | **% with 7+ /13**  **“severe” MD** |  |  | **% with 5+/13**  **“standard” MD** | **% with 7+ /13**  **“severe” MD** |
| Sweden | SE | 3 | 1 | Czech Republic | CZ | 13 | 6 |
| Iceland | IS | 3 | 2\* | Italy | IT | 14 | 6 |
| Norway | NO | 4 | 3\* | France | FR | 14 | 7 |
| Denmark | DK | 5 | 2 | Estonia | EE | 15 | 6 |
| Netherlands | NL | 5 | 2 | Germany | DE | 16 | 8 |
| Finland | FI | 5 | 2 | Slovenia | SI | 16 | 7 |
| Luxembourg | LU | 6 | 3 | Malta | MT | 19 | 7 |
| Austria | AT | 11 | 6 | Slovakia | SK | 20 | 9 |
| Spain | ES | 11 | 4 | Greece | EL | 21 | 8 |
| **New Zealand** | **NZ** | **11** | **4** | Poland | PL | 26 | 14 |
| United Kingdom | UK | 11 | 4 | Portugal | PT | 28 | 16 |
| Belgium | BE | 11 | 6 | Lithuania | LT | 31 | 18 |
| Ireland | IE | 12 | 5 | Latvia | LV | 43 | 26 |
| Cyprus | CY | 12 | 4 | Hungary | HU | 44 | 26 |

\* Estimated by author.

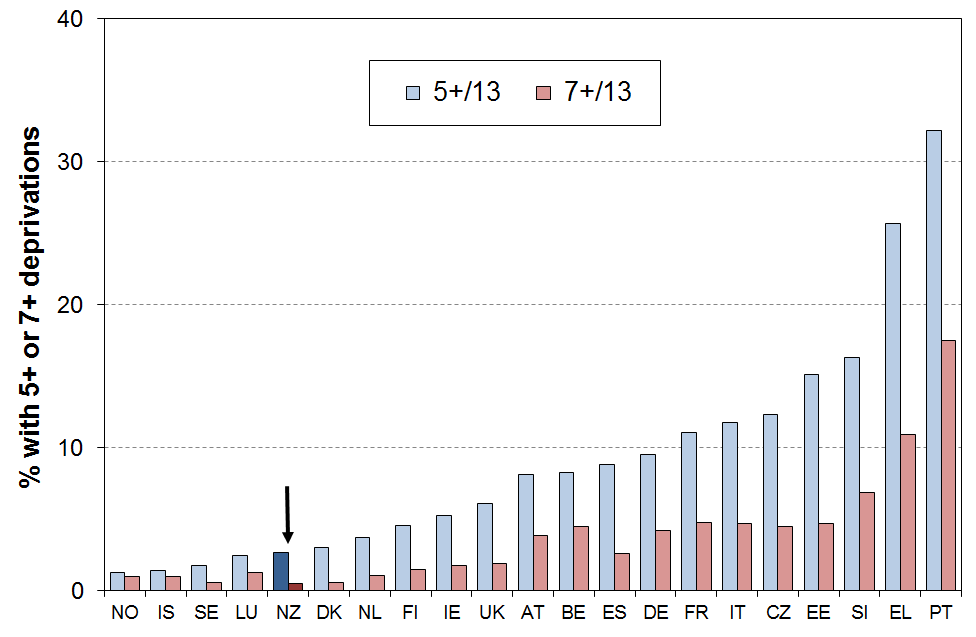
**Comparisons for those aged 65+ (2008-09)**

Older New Zealanders have a much lower material deprivation rate (3%) than their counterparts in almost all European countries (**Figure C.2** and **Table C.4**). New Zealand ranks alongside Norway, Sweden, Denmark and the Netherlands for having very low material deprivation rates for those aged 65+, using the 5+ threshold with the EU-13 index. Using the “severe deprivation” threshold of 7+/13, New Zealand still ranks at the top of the chart. Even richer western European countries such as Germany (10%) and France (11%) have much higher rates than New Zealand. Many of the newer eastern European EU members have very high rates (eg Hungary at 36%), with Portugal only a little better at 32%.

**Figure C.2**

**Material deprivation rates (% with 5+ and 7+ enforced lacks), EU-13, those aged 65+**

**20 European countries + NZ, ranked on % with 5+, (EU-SILC 2009, NZ LSS 2008)**



**Table C.4**

**Material deprivation rates (% with 5+ and 7+ enforced lacks), EU-13, those aged 65+**

**EU-25 + NO + IS + NZ, ranked on % with 5+, (EU-SILC 2009, NZ LSS 2008)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **% with 5+/13**  **“standard” MD** | **% with 7+ /13**  **“severe” MD** |  |  | **% with 5+/13**  **“standard” MD** | **% with 7+ /13**  **“severe” MD** |
| Norway | NO | 1 | <1\* | France | FR | 11 | 5 |
| Iceland | IS | 1 | <1\* | Italy | IT | 12 | 5 |
| Sweden | SE | 2 | 1 | Czech Republic | CZ | 12 | 5 |
| Luxembourg | LU | 3 | 1 | Estonia | EE | 15 | 5 |
| **New Zealand** | **NZ** | **3** | **1** | Cyprus | CY | 16 | 5 |
| Denmark | DK | 3 | 1 | Malta | MT | 16 | 6 |
| Netherlands | NL | 4 | 1 | Slovenia | SI | 16 | 7 |
| Finland | FI | 5 | 2 | Slovakia | SK | 23 | 10 |
| Ireland | IE | 5 | 2 | Greece | EL | 26 | 11 |
| United Kingdom | UK | 6 | 2 | Poland | PL | 29 | 13 |
| Austria | AT | 8 | 4 | Portugal | PT | 32 | 18 |
| Belgium | BE | 8 | **5** | Hungary | HU | 36 | 19 |
| Spain | ES | 9 | 3 | Lithuania | LT | 36 | 21 |
| Germany | DE | 10 | 4 | Latvia | LV | 47 | 25 |

\* Estimated by author.

**Comparisons for children (aged 0-17 years) (2008-09)**

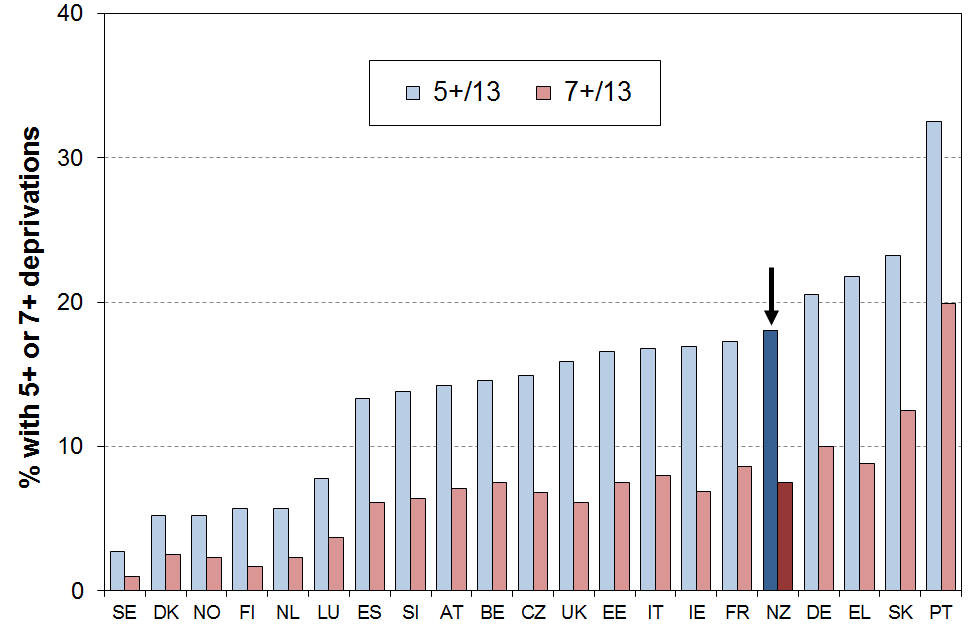
New Zealand children have a material hardship rate of 18% on the EU-13 measure (5+/13 threshold). This ranks New Zealand at the ‘low’ (ie higher hardship rates) end of the old EU for hardship rates for children, similar to Italy, Ireland and France (17%), and the UK (16%), and better than Germany (21%) and Greece (22%). In contrast to the comparisons for those aged 65+, New Zealand’s child deprivation rates are much higher than countries like Sweden, Denmark, Norway, Finland and the Netherlands (3-6%). See **Figure C.3** and **Table C.5**.

Using the “severe” deprivation threshold (7+/13), New Zealand’s rate for children is 8%. This is a little higher than the median, similar to Belgium, Italy and France. There is however no evidence of any greater depth of hardship for New Zealand children when compared with countries with similar “standard” EU hardship rates (ie the ratio of the more “severe” hardship rate to the “standard” rate is in the middle of the bunch).

**Figure C.3**

**Material deprivation rates (% with 5+ and 7+ enforced lacks), EU-13, those aged 0-17 years**

**20 European countries + NZ, ranked on % with 5+, (EU-SILC 2009, NZ LSS 2008)**



**Table C.5**

**Material deprivation rates (% with 5+ and 7+ enforced lacks), EU-13, 0-17 yrs**

**EU-25 + NO + IS + NZ, ranked on % with 5+, (EU-SILC 2009, NZ LSS 2008)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **% with 5+/13**  **“standard” MD** | **% with 7+ /13**  **“severe” MD** |  |  | **% with 5+/13**  **“standard” MD** | **% with 7+ /13**  **“severe” MD** |
| Sweden | SE | 3 | 1 | Estonia | EE | 17 | 8 |
| Iceland | IS | 4 | 2 | Italy | IT | 17 | 8 |
| Denmark | DK | 5 | 2 | Ireland | IE | 17 | 7 |
| Norway | NO | 5 | 2 | France | FR | 17 | 9 |
| Finland | FI | 6 | 2 | **New Zealand** | **NZ** | 18 | 8 |
| Netherlands | NL | 6 | 2 | Germany | DE | 21 | 10 |
| Luxembourg | LU | 8 | 4 | Greece | EL | 22 | 9 |
| Cyprus | CY | 10 | 4 | Malta | MT | 23 | 9 |
| Spain | ES | 13 | 6 | Slovakia | SK | 23 | 13 |
| Slovenia | SI | 14 | 6 | Poland | PL | 27 | 15 |
| Austria | AT | **14** | **7** | Lithuania | LT | 30 | 19 |
| Belgium | BE | 15 | 8 | Portugal | PT | 33 | 20 |
| Czech Republic | CZ | 16 | 7 | Latvia | LV | 45 | 30 |
| United Kingdom | UK | 16 | 6 | Hungary | HU | 52 | 33 |

\* Estimated by author.

Another aspect to be considered in assessing how children in New Zealand are faring relative to their counterparts in other countries is to compare the child deprivation rate with that for the population as a whole. The ratio of these two figures is called the risk ratio (see Box below).

**Figure C.4** shows that for most countries the risk ratio is greater the 1.0, meaning that for most countries children are over-represented in hardship figures (the median is 1.2).

The child hardship risk ratio for New Zealand is 1.6, higher than for any of the 20 European countries in the comparison.

When the other EU countries (except for Bulgaria and Romania) are added to the comparison, the median risk ratio drops a little below 1.2 as more of the extra countries have ratios below 1.2 (eg Poland and Cyprus) than above 1.2 (eg Iceland and Malta). New Zealand’s relative position remains unchanged when these other countries are included.

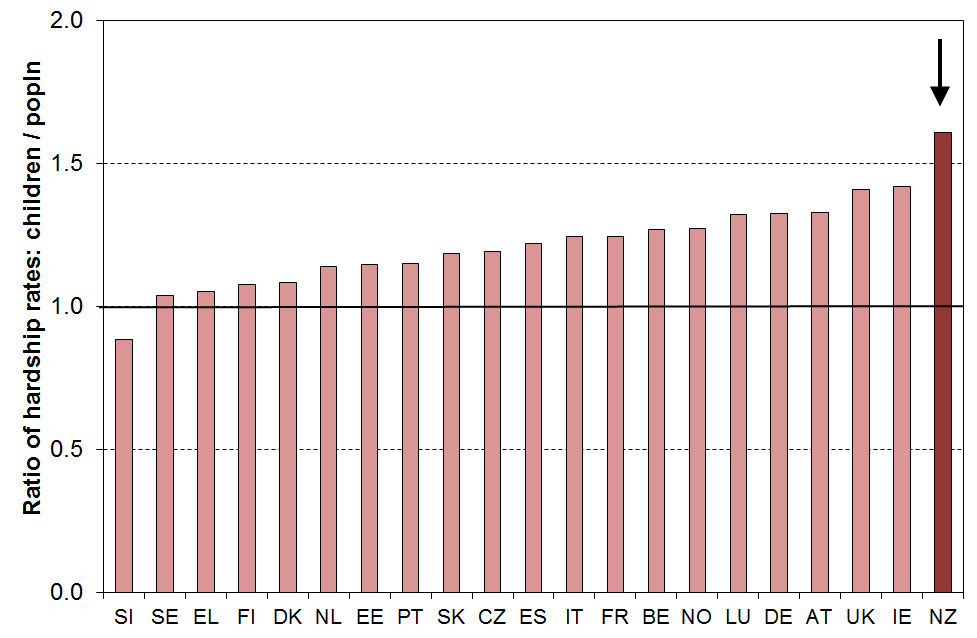
Using the original 9-item index, the ratio for New Zealand is 1.4, higher than all the other countries except the UK (1.5). The median ratio was 1.2 using the EU-9 index.

**Figure C.4**

**Deprivation rates for children (0-17 yrs) relative to overall population deprivation rate**

**(% with 5+ enforced lacks using the EU-13 index)**

**20 European countries + NZ, (EU-SILC 2009, NZ LSS 2008)**



**Risk ratio**

The risk ratio is a very useful statistic that can be used to succinctly summarise the over- or under-representation of a population subgroup in a hardship category.

The risk ratio can most easily be understood as the ratio of the subgroup’s hardship rate to that for the population as a whole.

An example illustrates the idea. If children have a hardship rate of 20% on a particular measure and the population hardship rate is 10%, then the risk ratio for children is 2 (20/10).

It also means that if children made up 25% of the population overall, then they would make up 50% (2 x 25%) of those in hardship.

Both aspects – the actual deprivation rates and the risk ratios – are important for assessing differences across countries. **Figure C.5** combines information from Figures C.3 and C.4 on the one graph.

The countries in the bottom left quadrant (eg Denmark, Netherlands, Finland and Sweden) have below median child deprivation rates and below median risk ratios for children.

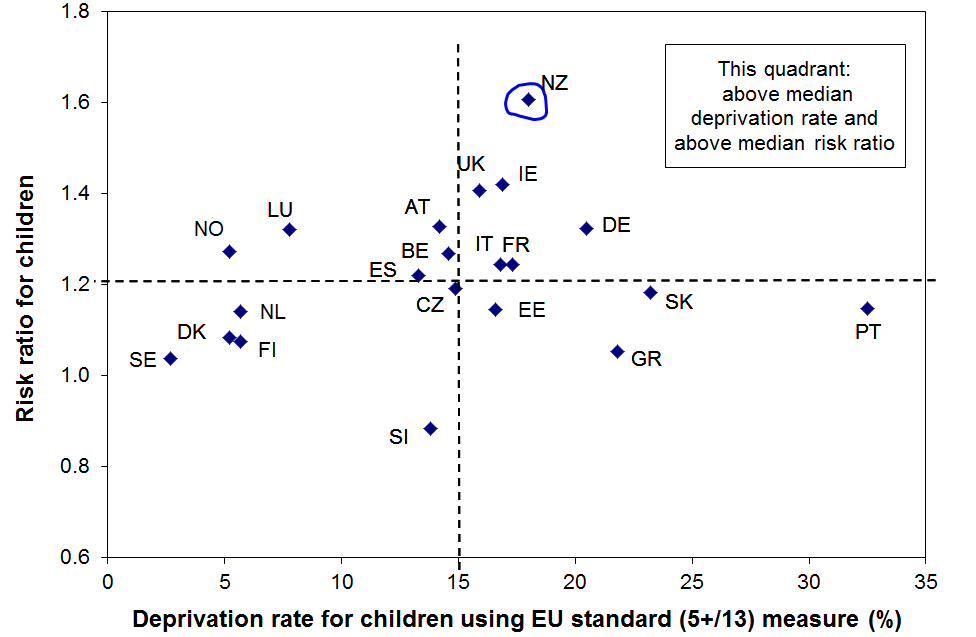
In contrast, countries in the top right quadrant (eg the UK, Ireland, Germany and New Zealand) have both above median child deprivation rates and above median risk ratios.

**Figure C.5**

**Deprivation rates for children relative to overall population deprivation rate**

**(% with 5+ enforced lacks using the EU-13 index)**

**20 European countries + NZ (EU-SILC 2009, NZLSS 2008)**



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

EU-13 data was collected for a second time in the 2013 EU-SILC wave, but there is no publicly available analysis as yet.

**Section D**

**DEP-17: a deprivation index for**

**measuring material hardship in New Zealand**

The Section:

* defines DEP-17, a 17-item material deprivation index for measuring material hardship in New Zealand
* establishes DEP-17’s credentials
* addresses the question of where to set a reasonable material hardship threshold (cf “the poverty line” for income measures)
* compares selected findings for DEP-17 and EU-13

This Section uses data from the 2008 Living Standards Survey to illustrate and establish the above.

Starting with the 2012-13 survey, Statistics New Zealand’s Household Economic Survey (HES) has all the DEP-17 items in it.

See **Section F** for more detailed DEP-17 analysis and findings based on both the HES and LSS data.

(The EU-13 index is a robust index with strong credentials. Starting with the 2015-16 survey the EU-13 items will be available in the HES for New Zealand analysis, updating the LSS 2008 findings. The 2013 wave of EU-SILC also has the EU-13 items in it but there is no publicly available analysis of this data for reporting on material hardship.)

**The composition of DEP-17**

The 17 items are shown in **Table D.1** below. The DEP-17 score for each respondent (one per household) is simply the sum of all reported enforced lacks or deprivations. This score is attributed to the respondent and to each other person in the respondent’s household, where there are any. This is the same approach as is taken with household income.

The right-hand columns in Table D.1 show respectively the proportion of all individuals and of children who live in households where the respondent indicated a deprivation of the particular item. Note that five cells are left blank for children to avoid the potential confusion that can arise from the figures there looking as if they are giving information on those specifics for children. Information on child-specific deprivations has been collected in the 2015-15 HES and the plan is to report on them in the 2017 update. Information about a range of child-specific items is provided in a later table (Table D.8), and in Section F.

**Table D.1**

**Composition of DEP-17 (LSS 2008),**

**and the % of people in households for which the respondent reported various deprivations**

|  |  |  |  |
| --- | --- | --- | --- |
| **Item** | | **ALL** | **0-17 yrs** |
| **Enforced lack of essentials** (for respondent or household as a whole) | |  |  |
|  | meal with meat, fish or chicken (or vegetarian equivalent) at least each 2nd day | 2 | - |
|  | two pairs of shoes in good repair and suitable for everyday use | 5 | - |
|  | suitable clothes for important or special occasions | 7 | - |
|  | presents for family and friends on special occasions | 6 | 7 |
|  | home contents insurance | 12 | 16 |
| **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) | |  |  |
|  | went without or cut back on fresh fruit and vegetables | 10 | 14 |
|  | bought cheaper cuts of meat or bought less than wanted | 27 | 37 |
|  | put up with feeling cold to save on heating costs | 10 | 14 |
|  | postponed visits to the doctor | 11 | - |
|  | postponed visits to the dentist | 26 | - |
|  | did without or cut back on trips to the shops or other local places | 15 | 21 |
|  | delayed repairing or replacing broken or damaged appliances | 12 | 19 |
| **In arrears more than once in last 12 months** (because of shortage of cash at the time, not through forgetting) | |  |  |
|  | rates, electricity, water | 11 | 18 |
|  | vehicle registration, insurance or warrant of fitness | 9 | 15 |
| **Financial stress and vulnerability** | |  |  |
|  | borrowed money from family or friends more than once in the last 12 months to cover everyday living costs | 13 | 19 |
|  | 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 limited, and very limited) | 19 | 29 |
|  | could not pay an unexpected and unavoidable bill of $500 within a month without borrowing | 19 | 25 |

Reading note for table:

The figures in Table D.1 are based on the information provided by the household’s respondent. For example, in the fresh fruit and vegetables row, 10% of the population were in households where the respondent said they (or their partner) went without or cut back “a lot” (rather than “a little” or “not at all”), and 14% of children (aged 0-17yrs) were in such households. Whether all these children (ie 14%) went without fresh fruit and vegetables depends on the arrangements within the household

**The distribution of DEP-17 scores across the population**

**Tables D.2 and D.3 and Figure D.1** below show the distribution of DEP-17 scores for the population and for children (aged 0-17 yrs) using the 2008 LSS data.

The bulk of the population (71%) lives in households reporting two or fewer deprivations from the list of 17, and 6% report 9 or more out of the 17.

**Table D.2**

**Distribution of the DEP-17 scores (% individuals), LSS 2008**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Score** | **0** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11+** |
| **ALL (%)** | 46 | 15 | 10 | 7 | 5 | 4 | 3 | 3 | 2 | 1 | 1 | 3 |
| **0-17 yrs (%)** | 33 | 14 | 11 | 10 | 6 | 6 | 4 | 4 | 4 | 2 | 2 | 6 |

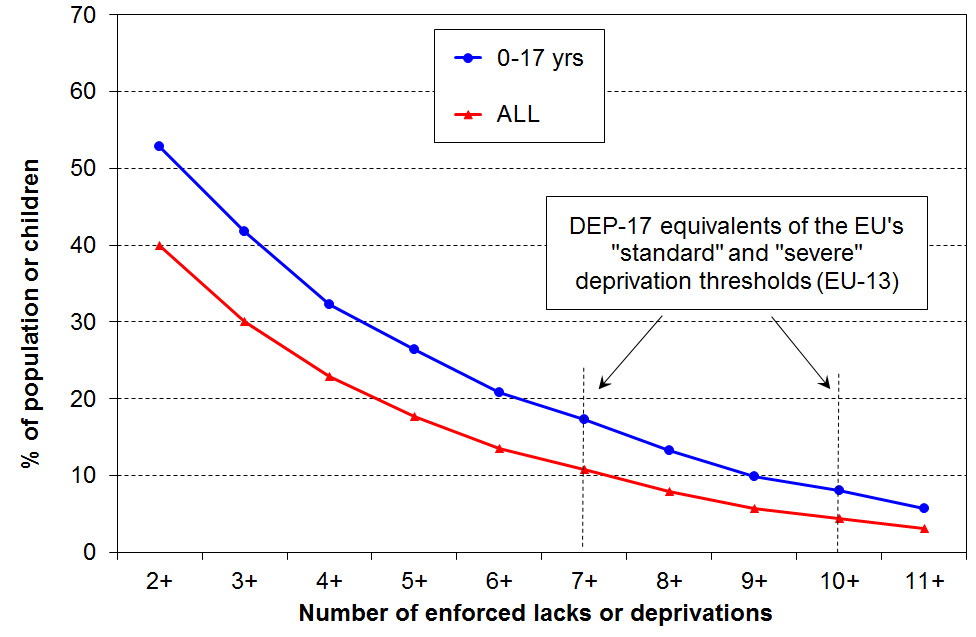
**Table D.3**

**Cumulative distribution of the DEP-17 scores (% individuals), LSS 2008**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Score** | **0+** | **1+** | **2+** | **3+** | **4+** | **5+** | **6+** | **7+** | **8+** | **9+** | **10+** | **11+** |
| **ALL (%)** | 100 | 54 | 40 | 30 | 23 | 18 | 14 | 11 | 8 | 6 | 4 | 3 |
| **0-17 yrs (%)** | 100 | 67 | 53 | 42 | 32 | 26 | 21 | 17 | 13 | 10 | 8 | 6 |

**Figure D.1**

**Cumulative distribution of the DEP-17 scores for the population and for those aged 0-17 yrs**



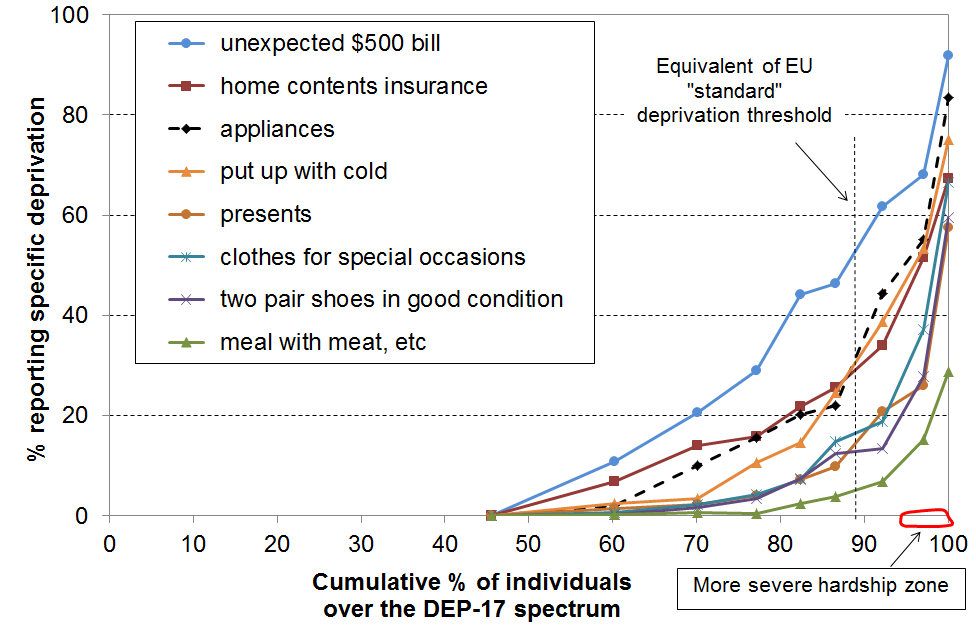
Note: where the table reports, for example, that 17% of children have a DEP-17 score of 7+/17, it means that 17% of children live in households with a DEP-17 score of 7+/17. This is the same approach as the Incomes Report takes for household income. A “poor” child is one that lives in a household with a household income below a selected threshold.

**The different items discriminate at different parts of the material hardship spectrum**

**Figure D.2** uses selected items from DEP-17 to illustrate how the different component items discriminate across different parts of the DEP-17 spectrum. For example, the “meal with meat” item is focussed on the severe hardship end, whereas the “putting up with being cold” item applies to some households above the hardship zone, while still being very predominant among those with higher DEP-17 scores (high deprivation). Being unable to cope with “an unexpected $500 bill” is something reported by a good number of households above the hardship zone, but still has very high relevance for identifying the more seriously deprived. **Table D.4** has all items.

**Figure D.2**

**Reported deprivations by DEP-17 score: different items discriminate at different parts of the spectrum**



**Table D.4**

**Proportion of population in households whose respondent reported an enforced lack of component items for DEP-17, by DEP-17 score (LSS 2008)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **ALL** | **0** | **1** | **2** | **3** | **4** | **5-6** | **7-8** | **9-10** | **11+** |
| **Population % with a given DEP-17 score 🡺** | 46 | 15 | 10 | 7 | 5 | 7 | 5 | 3 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |
| **Component items**  (see Table D.1 above for full descriptions) | | |  |  |  |  |  |  |  |  |
| meal with meat, fish, chicken, etc | 2 | 0 | 0 | 0 | 0 | 2 | 4 | 9 | 20 | 29 |
| two pair of shoes | 5 | 0 | 0 | 2 | 4 | 8 | 13 | 17 | 31 | 60 |
| presents | 6 | 0 | 2 | 2 | 4 | 7 | 13 | 23 | 28 | 58 |
| clothes for special occasions | 7 | 0 | 0 | 2 | 4 | 7 | 16 | 23 | 47 | 67 |
| arrears in vehicle bills (reg or WoF) | 9 | 0 | 2 | 5 | 8 | 18 | 28 | 34 | 47 | 73 |
| fruit and vegetables | 10 | 0 | 0 | 6 | 11 | 17 | 25 | 49 | 51 | 78 |
| put up with feeling cold | 10 | 0 | 3 | 3 | 11 | 15 | 27 | 47 | 57 | 75 |
| doctor postponed | 11 | 0 | 2 | 8 | 12 | 20 | 28 | 41 | 53 | 75 |
| arrears in electricity / water | 11 | 0 | 3 | 7 | 16 | 25 | 25 | 44 | 53 | 76 |
| home contents insurance | 12 | 0 | 7 | 14 | 16 | 22 | 30 | 37 | 58 | 67 |
| appliances – repair / replace | 12 | 0 | 0 | 10 | 16 | 20 | 28 | 48 | 64 | 84 |
| borrowed from family or friends | 13 | 0 | 4 | 11 | 22 | 23 | 36 | 44 | 60 | 76 |
| local trips | 15 | 0 | 8 | 19 | 21 | 29 | 38 | 48 | 65 | 77 |
| “very limited” re purchase of clothes or shoes | 19 | 0 | 8 | 20 | 25 | 36 | 55 | 74 | 79 | 94 |
| cannot pay unexpected $500 bill | 19 | 0 | 11 | 21 | 29 | 44 | 51 | 63 | 73 | 92 |
| dentist postponed | 26 | 0 | 26 | 35 | 58 | 58 | 58 | 65 | 69 | 92 |
| cheaper/less meat | 27 | 0 | 23 | 35 | 44 | 52 | 66 | 82 | 89 | 94 |

Note: ‘0’ means <1.5% in this table.

When using deprivation indices such as DEP-17 (and EU-13) it is important to recognise what they are and what they are not:

* They do not purport to use the 17 (or 13) most important or most serious deprivations – the selection process for such an approach would be fraught and would not be likely to command widespread support.
* Rather they are designed as instruments to rank households by their differing degrees of material hardship, using a balanced set of indicators that cover a range of domains and degrees of depth of deprivation, reflect the same underlying concept (or “latent variable”), and which apply reasonably well to people in different age groups and household types.
* Not every conceivable deprivation item has to be used to create a valid and useful index. What is needed is a judiciously selected set of items which tap into the same underlying latent variable. Those lacking these basics are more often than not without other potential index items. That is why EU-13 and DEP-17 give similar results. There is good evidence of a relatively widespread consensus on what basic needs etc are.[[12]](#footnote-12)

**Selection of items and the validity and reliability of DEP-17**

Validity is about the index measuring what it claims it measures (material hardship). There is no single test to establish validity – it is built up from a range of evidence.

**Figure D.2** and **Table D.4** provide some of that evidence. **Table D.5** uses items from LSS 2008 that are not DEP-17 items, but which are very likely to be strongly associated with material hardship. The information in the table both fills out the profile for living conditions for the various DEP-17 scores and also provides evidence to support the validity of DEP-17 as measuring what it claims to measure, at least at this clumped level.

The figures in the columns in the body of the table are percentages of those with a given DEP-17 score who report the respective deprivations, financial stress, housing problems, and so on.

The gradients are clear and strong in each case, all showing the expected much greater hardship for those with higher DEP-17 scores, and much lower for those with lower DEP-17 scores. This gives good support not only for the validity of DEP-17 (“concurrent validity”), but also shows that there are clear distinctions in living conditions for those with the higher DEP-17 scores.

**Table D.5**

**Proportion of population in households whose respondent reported an enforced lack of selected non-component items for DEP-17, by DEP-17 score (LSS 2008)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **DEP-17 score 🡺** | **0** | **1** | **2** | **3** | **4** | **5-6** | **7-8** | **9-10** | **11+** | **ALL** |
| **Population % with a given DEP-17 score 🡺** | 46 | 15 | 10 | 7 | 5 | 7 | 5 | 3 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |
| good bed for respondent(enforced lack) | 0 | 2 | 3 | 9 | 8 | 11 | 13 | 27 | 44 | 5 |
| attend funeral / tangi (enforced lack) | 0 | 1 | 2 | 7 | 10 | 13 | 21 | 23 | 45 | 21 |
| hairdresser once every three months (enforced lack) | 1 | 4 | 9 | 14 | 19 | 32 | 39 | 58 | 61 | 12 |
| a night out at least once a fortnight (enforced lack) | 4 | 14 | 23 | 25 | 32 | 40 | 46 | 52 | 67 | 18 |
| used food bank or other community assistance (more than once in previous 12 mnths) | 0 | 1 | 1 | 3 | 8 | 11 | 19 | 23 | 38 | 4 |
| pawned goods to get cash for necessities (more than once in previous 12 mnths) | 1 | 2 | 5 | 6 | 7 | 11 | 22 | 32 | 40 | 6 |
| small amt of money for self each week (up to $10)? (no) | 6 | 15 | 20 | 22 | 22 | 29 | 48 | 54 | 67 | 17 |
| major problem with draughts in accommodation | 3 | 8 | 10 | 13 | 16 | 19 | 26 | 41 | 48 | 11 |
| major problem with damp and mould in accommodation | 3 | 7 | 12 | 16 | 20 | 28 | 41 | 33 | 54 | 12 |
| house too small | 3 | 6 | 8 | 8 | 15 | 16 | 24 | 27 | 32 | 8 |
| self-rated physical quality of house – poor or very poor | 1 | 3 | 5 | 6 | 7 | 8 | 20 | 20 | 35 | 5 |
| crime/vandalism in area (major problem) | 4 | 6 | 8 | 10 | 14 | 15 | 18 | 25 | 31 | 8 |
| self-rated material standard of living (low / very low) | 1 | 4 | 7 | 9 | 16 | 23 | 35 | 47 | 44 | 9 |
| self-rated health, poor or fair (<65) | 8 | 11 | 15 | 18 | 24 | 30 | 43 | 45 | 62 | 17 |
| dissatisfied / very dissatisfied with life (from HES) | 3 | 5 | 6 | 10 | 21 | 13 | 22 | 39 | 49 | 9 |

The strong gradients in Table D.4 raise the question – “*if these items show the gradients so clearly why are they not in DEP-17?*”

The simplest response is that an index with a large number of items becomes unwieldy and very unattractive to use in surveys, crowding out other items given a fixed time budget for survey length. There has to be some rationing of items, so some good items are inevitably left out.

The more substantial rationale has to do with maintaining the integrity and validity of the index. For example, while the items in Table D.4 show clear gradients at the clumped level of each DEP-17 score, they may not meet the required criteria at the household level. Also, an item may not be appropriate or relevant for all sub-groups (eg hair cut for those without hair), an item may not be wanted by the vast majority (eg 32% of respondents either did not want a night out each fortnight, or had a reason other than cost for not doing so), or the item may not pass the factor analysis test for being sufficiently correlated with the rest of the items (eg house has a major problem with draughts).

The concurrent validity can be examined another way. The conceptual opposite of an enforced lack or of a forced economising (“a lot”) is a “freedom to consume”.

**Table D.6** shows the gradient for cumulative freedoms out of a list of 13:

* having a holiday away from home each year for at least a week
* having an overseas holiday every three years
* never having to economise or spend less than desired on meat, fresh fruit and vegetables, hobbies, repairing/replacing furniture, repairing/replacing appliances, local trips to shops etc, visiting family or friends (7 items)
* no restriction when considering purchase of new clothes or shoes for self
* no restriction when considering a spot purchase of a non-essential $250 item;
* can easily find $2000 for an unexpected bill
* self-rating of standard of living is “high” on five point scale from low to high.

The gradients are not only in the expected direction but are quite steep which is what is wanted for a deprivation index (ie a useful and persuasive deprivation index should show that those with moderate to high deprivation scores do not report too many “freedoms to consume”).

**Table D.6**

**Proportion of population in households whose respondent reported multiple “freedoms to consume”,**

**by DEP-17 score (LSS 2008)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **DEP-17 score 🡺** | **0** | **1** | **2** | **3** | **4** | **5-6** | **7-8** | **9-10** | **11+** | **ALL** |
| **Population % with a given DEP-17 score 🡺** | 46 | 15 | 10 | 7 | 5 | 7 | 5 | 3 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |
| 4+ ‘freedoms’ from a list of 13 | 97 | 82 | 69 | 53 | 46 | 26 | 13 | 6 | 0 | 72 |
| 6+ ‘freedoms’ from a list of 13 | 87 | 58 | 35 | 21 | 12 | 9 | 2 | 0 | 0 | 54 |
| 8+ ‘freedoms’ from a list of 13 | 68 | 27 | 11 | 5 | 3 | 0 | 0 | 0 | 0 | 36 |

As with any evidence for validity, this does not prove it for DEP-17, but it does add strong support to the case.

Reliability

DEP-17 shows a more than satisfactory level of reliability (internal consistency), using Cronbach’s alpha. For indices of this sort a Cronbach’s alpha of 0.7 to 0.8 is considered respectable, and 0.8 to 0.9 is very good. DEP-17 has an alpha of 0.87, with very good scores for sub-groups as well. The EU-13 scores are given for comparison.

**Table D.6**

**Cronbach’s alpha for DEP-17 and EU-13 (LSS 2008)**

|  |  |  |
| --- | --- | --- |
|  | **DEP-17** | **EU-13** |
| Whole population | 0.87 | 0.78 |
| 0-17 yrs | 0.84 | 0.76 |
| 65+ yrs | 0.84 | 0.74 |
| Maori | 0.86 | 0.76 |
| Rural | 0.87 | 0.76 |

**Choosing a hardship threshold for DEP-17 ?**

The tables and graph above invite the question – where should the line be drawn so that we can say how many are in hardship and how many are not?

The challenge here is much the same as the one faced when using household income as the indicator of material wellbeing – what low-income threshold or thresholds should be used to identify those in “income poverty” and those “not in poverty”? Material hardship, like income poverty, comes in degrees. There is no clear delineation between those “in hardship” and those “not in hardship” that science can identify independent of judgment. This is not to say that any threshold will do nor that all are equally open to challenge. Some thresholds are clearly much more plausible and defensible than others.

This report uses DEP-17 thresholds in the range of 6+ to 11+ out of 17 to examine the characteristics of households with low living standards. It makes no attempt to set “the” threshold, but works within a framework of material hardship existing on a spectrum from less to more severe. The more severe hardship zone is taken as 9+ or more and there would be few who would consider such households to not be in hardship at all (ie not experiencing unacceptably low living standards). There is more room for debate as to where the “less severe hardship” zone should start and finish. For the 2008 LSS data this report uses 7+ as the start of the less severe hardship zone. It also reports using 6+ for sensitivity analysis. The more detailed analysis of the data for children in the next sub-section provides support for this judgment call.

For the purposes of reporting on the composition of those at different depths of hardship and for tracking hardship rates over time for different hardship levels, the approach adopted here is pragmatic, defensible, and produces findings useful for public debate and policy development.

For the purposes of being able to say “New Zealand’s material deprivation rate is Y%”, or “there are X thousand children in hardship in New Zealand”, this approach does not deliver. That is a consequence of the position taken above in the second paragraph. It is in fact the same position as is taken in the Household Incomes Report for “income poverty”. It means that the focus can be on understanding what is happening at different depths of hardship, avoiding what are often sterile debates about exactly how many are deemed to be “in hardship”, a debate based on the erroneous assumption that such a simple binary division can be robustly made. Using the approach adopted in this report, it could be argued that “success” would be for trend lines at all levels (7+ to 11+)  to fall over the medium term. This is a demanding standard.

**Table D.7** shows the hardship rates for the whole population and for children using different depths of hardship (in the 7+ to 11+ range), together with the 6+ rates for sensitivity analysis. For children it also shows the number of children and numbers of households with children under the different thresholds.

**Table D.7**

**Cumulative distribution for higher DEP-17 scores (% individuals), LSS 2008**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **DEP-17 score** | **6+** | **7+** | **8+** | **9+** | **10+** | **11+** |
| **ALL (%)** | 14 | 11 | 8 | 6 | 4 | 3 |
| **0-17 yrs (%)** | 21 | 17 | 13 | 10 | 8 | 6 |
| **# of children** | 220k | 180k | 140k | 100k | 80k | 60k |
| **# of households with children** | 110k | 90k | 70k | 50k | 40k | 30k |

**Calibrating DEP-17: rationale for the report’s choice of the 7+ to 11+ range for its monitoring and analysis of child material hardship**

DEP-17 is a good ranking instrument for households with low living standards, but there is no straightforward way of just looking at the DEP-17 item list and concluding that a household is experiencing material hardship (ie unacceptably low living standards) if it has, say, 4+ or 8+ or some other count of the 17 deprivation items. This is in part because DEP-17 includes a few items that some would say are not “absolute essentials” for a minimum acceptable standard of living in New Zealand in 2015 as discussed above. This makes it difficult to use the internal logic of the index by itself to set a range of defensible thresholds that would command widespread support.

To provide support for the report’s choice of the particular range of thresholds (7+ to 11+ out of 17, with 6+ used for further sensitivity analysis), the analysis which follows makes use of 18 child-specific items that are also in the 2008 LSS dataset. There is a very good case for considering them to be essentials for children, items that no child should have to go without. The 18 child-specific items are listed in **Table D.8.** None of them are used in DEP-17.

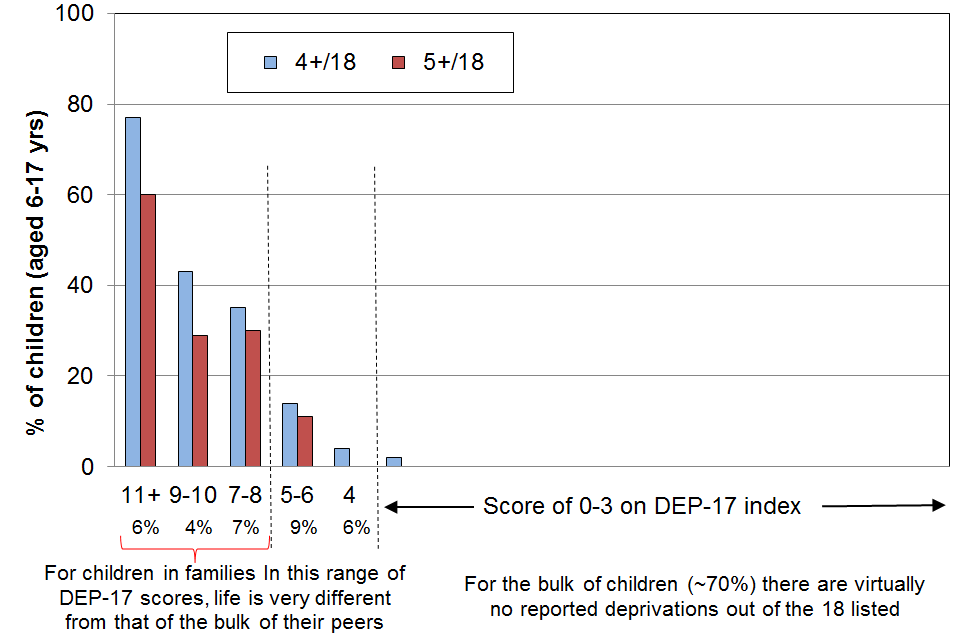
**Table D.8**

**18 child-specific items used for calibrating DEP-17 for school-aged children (aged 6-17 yrs)**

|  |  |  |
| --- | --- | --- |
| **Enforced lack of essentials** | | **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) |
|  | Two pairs of shoes in a good condition that are suitable for daily activities (for each child) | Child(ren) continued wearing shoes or clothes that were worn out or the wrong size |
|  | Two sets of warm winter clothes for each child | Postponed child’s visit to the dentist |
|  | A waterproof coat for each child | Postponed child’s visit to the doctor |
|  | Fresh fruit and vegetables daily | Did not pick up child’s prescription |
|  | A meal with meat, fish or chicken (or vegetarian equivalent) each day | Unable to pay for a child to go on a school trip or other school event |
|  | A separate bed for each child | Child(ren) went without music, dance, kapa haka, art, swimming or other special interest lessons |
|  | Enough bedrooms so that children aged over 10 of the opposite sex are not sharing a room | Had to limit your child(ren)’s involvement in sport |
|  | Have children’s friends around to play and eat from time to time | Made do with very limited space for children to study or play |
|  | Have children’s friends to a birthday party |  |
|  | All the school uniform required by the school(s) for each child |  |

**Figure D.3** shows that children in families with scores of 7+ on DEP-17 have a significantly higher chance of missing out on 4 or more of these child-specific items that most would consider essentials for all school-aged children, and which the vast majority of children have or do.

**Figure D.3: Multiple deprivation for children aged 6-17, using child-specific items (LSS 2008)**



Using a mix of child-specific and general household items to calibrate DEP-17

Children live in households. The more general household items that some households do not possess or the financial stress some households live with also have an impact on children. Using a mix of child-specific and general household deprivation items can give a broader-based and more comprehensive calibration.[[13]](#footnote-13)

In what follows, 20 items are used that relate specifically to school-aged children or to their households. All the items are at the more severe end of the spectrum. Only four of the 20 items are in DEP-17 itself (see **Table D.9** below). The children are ranked by the DEP-17 score of their respective households, then the number of deprivations from the list of 20 is calculated for each school-aged child.

**Table D.9**

**20 items used for calibrating DEP-17 for school-aged children (aged 6-17 yrs)**

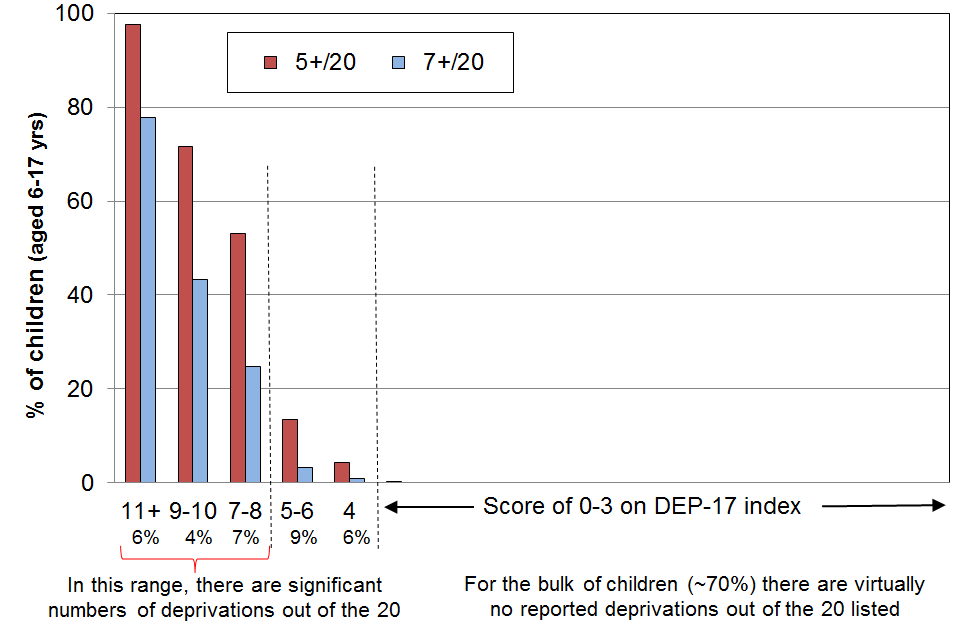
|  |  |
| --- | --- |
| **Child-specific items** | **General household items** |
| * warm winter clothes for each child * two pairs good shoes for each child * waterproof coat for each child * children continued wearing worn out clothes and shoes * separate bed for each child * separate bedroom for older and opposite sex children * able to have friends to birthday party * each child has all school uniform required by school(s) * able to pay for school trips for each child * able to attend music, dance, art and swimming lessons * sport participation   postponed doctor for children | * could not keep main rooms warm * cut back or went without fresh fruit and vegetables “a lot” * delayed repair or replacement of appliances (“a lot”) * late payment of vehicle wof /reg (more than once in last year) * late payment of electricity / water / gas (more than once) * received help from food bank or other community group (more than once) * dampness or mould in dwelling (major problem) * crime/vandalism in the area (major problem) |

Note: the 4 shaded items are also in DEP-17

**Figure D.4** and the associated **Table D.10** (next page) show again how different life is for those children in lower living standards households. In particular, they show the significant rise in the numbers missing out on the basics for DEP-17 scores of around 7+/17.

**Figure D.4**

**Multiple deprivation for children aged 6-17: using a mix of child-specific and general household items (LSS 2008)**



**Table D.10**

**Multiple deprivation for children aged 6-17 years, using 20 items listed in Table D.6 (LSS 2008):**

**% of the 12 child specific and 8 general household basics missing**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Distribution of children (6-17yrs) across DEP-17 (%)** | **0-1** | **2** | **3** | **4** | **5-6** | **7-8** | **9-10** | **11+** | **All** |
| 47 | 11 | 10 | 6 | 9 | 7 | 4 | 6 | 100 |
| 5+ out of 20 | 0 | 0 | 0 | 4 | 13 | 53 | 72 | 98 | 14 |
| 6+ out of 20 | 0 | 0 | 0 | 4 | 8 | 35 | 60 | 95 | 11 |
| 7+ out of 20 | 0 | 0 | 0 | 0 | 3 | 25 | 43 | 78 | 8 |
| 8+ out of 20 | 0 | 0 | 0 | 0 | 2 | 18 | 24 | 70 | 7 |
| avg number of deprivations out of 20 | 0 | 0 | 0 | 2 | 3 | 5 | 6 | 10 | **1.9** |

Note: any cell with under 1.5% is reported as”0”.

**Comparison of hardship rates for selected population groups using EU-13 and DEP-17**

**Table D.11** shows that the hardship figures produced by the “standard” EU threshold (5+/13) are almost identical to those produced by the 7+ threshold using DEP-17 for the population as a whole and for sub-groups. The EU’s “more severe” deprivation threshold (7+/13) gives figures that lie in the “more severe” range for DEP-17. This does not prove that this report’s selection of a threshold range is correct, but it does provide strong independent support for it.

**Table D.11**

**Comparisons of hardship rates for different sub-groups**

**using different indices (EU-13 and DEP-17) and two thresholds**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **LSS 2008** | **“Standard” EU hardship** | | **“More severe” EU hardship** | |
|  | **EU-13 (5+)** | **DEP-17 (7+)** | **EU-13 (7+)** | **DEP-17 (10+)** |
| ALL | 11 | 11 | 4 | 4 |
| 0-17 | 18 | 17 | 8 | 8 |
| 65+ | 3 | 2 | ~1 | ~1 |
| 2P <65 | 11 | 9 | 4 | 3 |
| SP <65 | 35 | 38 | 17 | 22 |
| Couple <65 | 5 | 5 | 2 | 1 |
| European (total) | 8 | 8 | 3 | 3 |
| Maori (total) | 24 | 25 | 9 | 11 |
| Children (market) | 11 | 10 | 4 | 4 |
| Children (benefit) | 51 | 51 | 24 | 28 |

Reading note: for the purposes of this comparison, the ‘more severe’ threshold for DEP-17 was selected to make the DEP-17 population hardship rates equal to or very close to the same as the EU rates (4%).

**Provided care is taken over item choice, quite different sets of items (ie indices) rank households in very similar ways**

EU-13 and DEP-17 have only three items in common and two others that are broadly similar. The bulk of the items in one are therefore not in the other.

One of the general findings about the use of non-income measures of material wellbeing and of deprivation indicators in particular is that material hardship indices with quite different sets of component items rank households in similar ways, provided that the indices are constructed following careful protocols for item selection.[[14]](#footnote-14)

**Section E**

**The Material Wellbeing Index (MWI):**

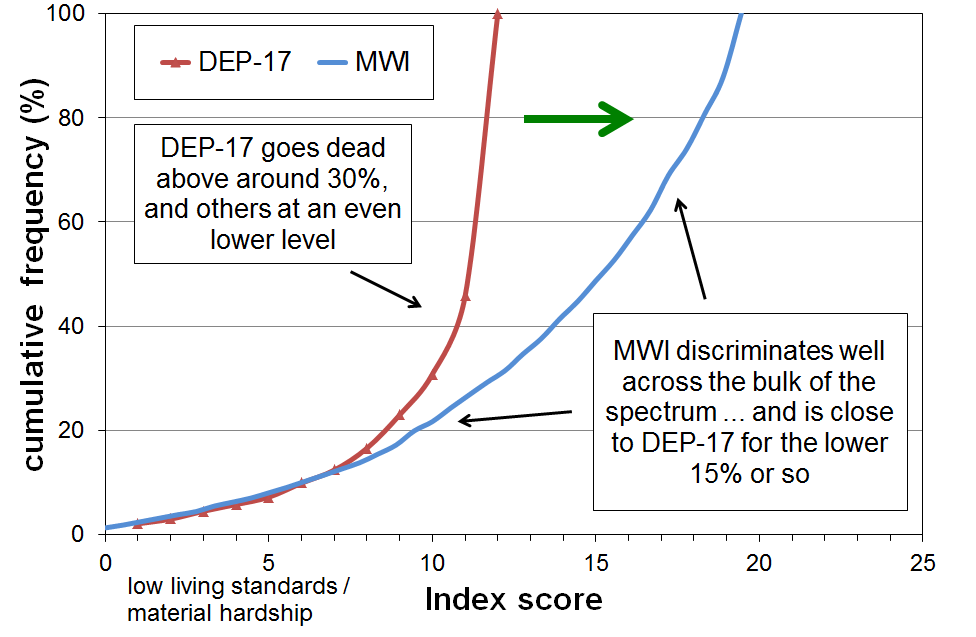
**material wellbeing across the spectrum (from low to high)**

Material hardship or deprivation indices such as EU-13 and DEP-17 do a good job in discriminating between households in differing depths of hardship, and also in identifying those in “near hardship”. While they provide valuable information on the lower 20-30% or so of the material wellbeing distribution, such indices are unable to make meaningful distinctions for the remaining 70-80% of households.

The development of the Material Wellbeing Index (MWI), building off the earlier work on the Economic Living Standards Index (ELSI), enables usable distinctions between households across the bulk of material wellbeing spectrum, albeit the discriminating ability decreases as the level of material wellbeing increases. The stylised diagram in **Figure E.1** shows the difference in the distributions of DEP-17 and MWI scores. While still itself functioning as a deprivation index at its lower end, the MWI enables distinctions to be made within the 70-80% of the population who have very low scores on deprivation indices such as DEP-17 (ie have living standards above the hardship zone.

**Figure E.1**

**Moving from a deprivation index to a full material wellbeing index**



Reading note for Fig G.1: the stylised comparison was constructed by deducting the DEP-17 scores from 12 (thus reversing the scale), and re-scaling the MWI scores.

This section:

* outlines the rationale for the way the MWI is constructed
* lists the MWI’s component items and how they are scored to give the overall index score
* establishes the credentials of the MWI as a valid instrument for ranking households by their material wellbeing through:
  + showing the internal coherence between the index items and the scoring structure on the one hand and the underlying notion of material wellbeing on the other
  + demonstrating the strong correlation between the MWI and items that are not in the index but which could be expected to reflect variation in material wellbeing
* provides information to help calibrate the index (ie give practical meaning to the scores at different levels)
* discusses and defines the MWI hardship thresholds used in the report
* shows in detail the relationship between DEP-17 scores and MWI scores, and how MWI is equivalent to a deprivation index at low MWI scores
* introduces the MWI-9, a 9-item short-form of the MWI, which has potential use in surveys that wish to produce information for analysis by broad material wellbeing groupings.

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Starting with the 2012-13 survey, Statistics New Zealand’s Household Economic Survey (HES) has all the MWI items in it. See **Section F** for more detailed MWI analysis and findings based on both the HES and LSS data.

**The Material Wellbeing Index (MWI)** [[15]](#footnote-15)

When developing the MWI, building off the prototype Economic Living Standards Index (ELSI), several criteria were used to guide item selection:

* Like ELSI, the revised index (MWI) needs an item set that decompresses the distribution that is typically produced by material hardship indices such as DEP-17 (see Figure E.1 above), so that there is good discrimination for the 60-70% of households above the hardship and near hardship zones …
* … while ensuring that tastes and preferences that impact on consumption choices for many aspects of higher living standards do not invalidate the index.
* The items and the index need to be built on a conceptualisation of material wellbeing and living standards that is credible and measureable: it needs to be in accord with the commonplace notion of higher living standards being about having the basics and in addition having more freedom to participate in a wider range of activities and to consume a wider range of goods and services of choice.
* The item set should cover a range of domains such as food, accommodation (and therefore implicitly, clean water on tap and sanitation / flushing toilets), heating, clothing, transport, household goods, leisure pursuits, access to health care, and the ability to cope with modest shocks to the household budget, and some desirable non-essentials to assist with identifying households with higher living standards.
* The item set must reflect goods and services and activities that are commonly aspired to, thus giving assurance that the resulting index will apply reasonably well to a good range of ages and household types.
* The index must satisfy reasonable statistical evidence of internal coherence and of the items reflecting a common latent variable.
* The items and the index need to be able to pick up changes in material wellbeing per se over time. This means, for example, that the item set should not include items which are in the midst of rapidly changing levels of ownership (eg home computers in the early 2000s).
* The index should perform well as a deprivation index at its lower end.

The greatest challenge to the satisfactory development of an index which delivers a usable ranking of households across the full spectrum from lower to higher material wellbeing, rather than just having a focus on the lower 20-30% as with DEP-17, is the differing tastes and preferences that individuals and households have for the consumption of non-necessities. This means that the “enforced lack” approach cannot simply be extended to a list including non-necessities as a “don’t have or do” response could either be because of constraints or because of tastes and preferences. An index would lack credibility and validity if the rankings were impacted by differing preferences.

To illustrate – while items such as “not having a decent meal at least once a day” or “having to put up with being cold” are almost always a matter of financial constraint rather than personal preference and are appropriate for deprivation indices, the enforced lack of items such as “dines out at a good quality restaurant at least once a week” or “has an extensive range of tools and workshop equipment for DIY activities” or “has a sauna“ or “has two cars” are of no use for developing a broader index of wellbeing as there is not a sufficiently widespread common aspiration to possess these, even among the better-off. While possessing these sorts of items do for some reflect higher living standards, too many respondents would state that the reason they do not have the item is not lack of money, but because they simply do not want them. Their non-possession does not necessarily indicate low living standards. Other well-off individuals or households may have tastes and preferences that lead them instead to possessing high quality vehicles, or very well-appointed homes with high quality furniture and appliances, or private health insurance, and so on.

There are some intermediate items which are neither “necessities” nor “luxuries or near luxuries”, but which can be characterised as desirable non-essentials that most aspire to (for example, “a holiday away from home for at least a week once a year”), but this sort of item is not easy to find.

The challenge therefore is to find several “non-necessities”, the presence or absence of which reflects differences in levels of material wellbeing rather than in the main being reflections of tastes or preferences. To achieve this, the MWI uses the four approaches outlined in **Table E.1.** The left-hand column describes the strategies employed and the right-hand column notes the way the strategies are operationalized for the MWI.

**Table E.1**

**MWI items that assist in discriminating between households above the hardship / near hardship zone**

|  |  |
| --- | --- |
| **Type of survey item that helps produce discrimination between households in the 60-70% above the “hardship” and “near hardship” zones** | **Application in MWI** |
| no enforced lack for two desirable non-essentials | * a week’s local annual holiday away from home * an overseas holiday at least once each three years |
| economising “not at all”  (ie never having to cut back on or put off key purchases or activities such as those listed) | * purchasing fresh fruit or vegetables * making trips to the shops or other local places * replacing or repairing broken or damaged appliances * visiting the doctor or dentist * spending less on hobbies or other special interests than you would like |
| financial strain “not at all”  (ie never being in arrears or late on payments because of lack of money) | * for rates and utilities * for vehicle registration or warrant of fitness |
| freedom to purchase  (degrees of constraint or freedom indicate different levels of material wellbeing) | * clothes and shoes for self * spot purchase of a $300 non-necessity * ability to pay an unexpected and unavoidable $500 bill within a month |

The 24 MWI items and the scoring for each are listed in **Table E.2** (next page).

The raw MWI scores range from 0 to 43, with higher scores meaning higher material living standards. For convenience, the actual MWI scores are converted to a 0 to 35 range, with any raw scores of 8 or less being classed as “0”. This does not lead to any loss of usable information as there are typically only 1-2% in this latter category.

A 9-item short form (MWI-9) is available and is defined and discussed at the end of this section.

**When using the MWI it is important to recognise what it is and what it is not:**

* The MWI ranks households and their members from low to high material wellbeing or living standards.
* The ability to discriminate between households at different levels of material wellbeing is strong at the lower end and decreases across the spectrum.
* The MWI cannot reliably discriminate among households in the top, say, 20%, and users are advised to clump this group or a wider group rather than to try to break it down.
* The MWI is an ordinal index, a ranking instrument. A household with an MWI score of 20 does not have a level of material wellbeing that is double that of a household with a score of 10, it just has a higher level of material wellbeing. (Similarly, a household with double the income of another is not considered to have a standard of living that is double the other’s.
* The items that make up the MWI do not purport to be “the” list of necessities or “the” list of freedoms. Rather they are a balanced set of items that meet the criteria given above on the previous page, reflecting the same underlying notion of material wellbeing.

**Table E.2**

**The 29 non-income items in the HES (from 2012-13), the composition of the MWI and DEP-17,**

**and the scoring of items for the two indices**

|  |  |  |  |
| --- | --- | --- | --- |
|  | |  |  |
| **Item description** | | **MWI** | **DEP-17** |
| **Ownership or participation** (have/do, don’t have/do and enforced lack (EL))  *For DEP-17, score an EL as 1, otherwise 0*  *For MWI, score an EL as a 0, otherwise 1* | |  |  |
| 1 | Two pairs of shoes in a good condition and suitable for daily activities | ✓ | ✓ |
| 2 | Suitable clothes for important or special occasions | ✓ | ✓ |
| 3 | Contents insurance | ✓ | ✓ |
| 4 | A meal with meat, fish or chicken (or vegetarian equivalent) at least each 2nd day | ✓ | ✓ |
| 5 | A good bed | ✓ | - |
| 6 | Presents for family/friends on special occasions | ✓ | ✓ |
| 7 | Holiday away from home at least once every year | ✓ | - |
| 8 | Overseas holiday at least once every three years | ✓ | - |
| **Economising** (not at all, a little, a lot) – to keep down costs to help in paying for (other) basic items  *For DEP-17, score ‘a lot’ as 1, otherwise 0*  *For MWI, score ‘not at all as 2, ‘a little’ as 1, and ‘a lot’ as 0* | | | |
| 9 | Gone without or cut back on fresh fruit and vegetables | ✓ | ✓ |
| 10 | Buy cheaper cuts of meat or bought less meat than you would like | ✓ | ✓ |
| 11 | Continued wearing worn out clothes | ✓ | - |
| 12 | Put up with feeling cold | ✓ | ✓ |
| 13 | Do without or cut back on trips to the shops or other local places | ✓ | ✓ |
| 14 | Delay replacing or repairing broken or damaged appliances | ✓ | ✓ |
| 15 | Spent less on hobbies or other special interests than you would like | ✓ | - |
| 16 | Postponed visits to the doctor | ✓ | ✓ |
| 17 | Postponed visits to the dentist | ✓ | ✓ |
| **Housing problems** (no problem, minor problem, major problem)  *For MWI, score as 2, 1 and 0 respectively.* | |  |  |
| 18 | Dampness or mould | ✓ | - |
| 19 | Heating or keeping it warm in winter | ✓ | - |
| **Freedoms/Restrictions** | |  |  |
| 20 | 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)  *For DEP-17, score ‘very limited’ as 1, otherwise 0.*  *For MWI, score as 3, 2, 1 and 0 respectively.* | ✓ | ✓ |
| 21 | $300 spot purchase for an ’extra’ – how restricted? (5 point response from ‘ not restricted … couldn’t purchase’)  *For MWI, score as 4, 3, 2, 1 and 0 respectively.* | ✓ | - |
| 22 | $500 unexpected unavoidable expense on an essential – can you pay in a month without borrowing? (yes/no)  *For DEP-17, score no’ as 1, and ‘yes’ as 0*  *For MWI, score ‘yes’ as 2 and ‘no’ as 0* | ✓ | ✓ |
| **Financial strain** (in last 12 months) (not at all, once, more than once)  *For DEP-17, score ‘more than once’ as 1, otherwise 0*  *For MWI, score ‘not at all’ as 2, ‘once’ as 1, ‘more than once’ as 0* | |  |  |
| 23 | Behind on rates or utilities | ✓ | ✓ |
| 24 | Behind on car registration, wof or insurance | ✓ | ✓ |
| 25 | Behind on rent or mortgage | - | - |
| 26 | Borrowed from family or friends to meet everyday living costs | - | ✓ |
| 27 | Received help in the form of food, clothes or money from a welfare or community organisation such as a church or food bank | - | - |
| **Global self-ratings** | |  |  |
| 28 | Adequacy of income to cover basics of accommodation, food, clothing, etc | - | - |
| 29 | Satisfaction with life | - | - |

Note: An EL is an enforced lack – an item that is wanted but not possessed because of the cost

**The underlying conceptualisation of material wellbeing or living standards in the MWI**

To create the MWI scores, the component items are scored from two different perspectives:

* From an *enforced lack perspective* in which respondents report not having essential items or necessities because of the cost, or having to severely cut back on the purchase or consumption of such items because the money is needed for other essentials: for example, being unable to have regular good meals, two pairs of shoes in good repair for everyday activities, or visit the doctor; or having to put up with the cold, and so on because money is needed for other basics.
* From the perspective of the degree of restriction or freedom reported for having or purchasing desirable non-essentials (while having the essentials) – *a freedoms enjoyed perspective*, for short: for example, having all the essentials on the list, and in addition not having to cut back on local trips, not having to put off replacing broken or damaged appliances, being able to take an overseas holiday every three years or so if desired, not having any great restrictions on purchasing clothing, and being able to spend on hobbies and special interests as desired, and so on.

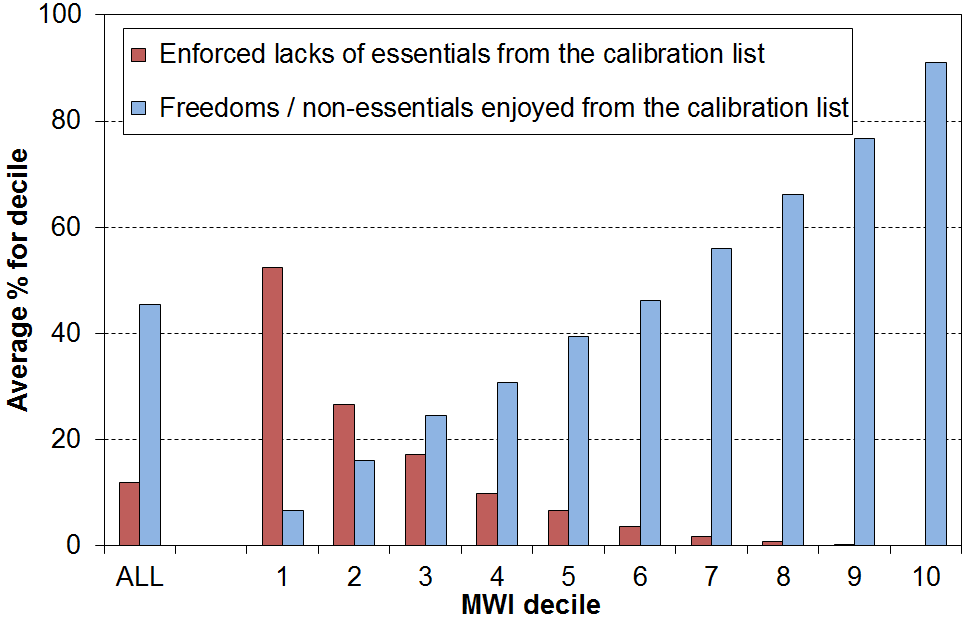
Material hardship (unacceptably low material wellbeing) is characterised by having many enforced lacks of essentials and few or no freedoms. Higher living standards are characterised by having all the essentials (no enforced lacks of essentials), and also having many or all the freedoms and few or none of the restrictions in relation to the non-essential items that are asked about.

This is in line with the material wellbeing concept in the income-wealth-consumption-material-wellbeing framework discussed in Section A.

**Figure E.2** below shows how those in the different MWI deciles fare in terms of both enforced lacks of essentials and also of freedoms enjoyed, using the selected MWI items listed in **Tables E.3A** and the non-shaded part **of Table E.3B** on the next page.

**Figure E.2**

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



The distributions are in line with the underlying conceptualisation of material wellbeing used in the MWI. For example, those in the lowest material wellbeing decile (decile 1) experience on average just over half the 16 enforced lacks and virtually none of the 9 freedoms, whereas those in the top decile have on average 90% of the freedoms and none of the enforced lacks.

When the extra four freedoms from the shaded cell in Table E.3B are included in the analysis (these items are not in the MWI), the only noticeable difference is that the freedoms average for decile 10 drops a little from 91% to 86%. This reflects the fact that two of the extra freedoms (“high standard of living” and “able to access $2000 within a month without borrowing”) are quite demanding relative to the other 11 freedoms.

**Table E.3A**

**Essentials used in the calibration exercise for Figure E.2**

|  |  |
| --- | --- |
| **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 | **in arrears more than once in last 12 months** (because of shortage of cash at the time, not through forgetting)   * rates and utilities   + - * vehicle registration, insurance or WoF |
| **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       * repairing or replacing broken or damaged appliances | **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. |

**Table E.3B**

**“Freedoms” or non-essentials used in the calibration exercise for Figure E.2**

|  |  |
| --- | --- |
| **no enforced lacks for holidays**   * + - at least one week away from home each year     - at least once each three years overseas | **“not at all restricted”**   * + - when considering buying clothes or shoes for self     - when considering a $250 spot purchase of a non-essential |
| **no economising, cutting back or delaying of purchases** because money was needed for other essentials   * + - * fresh fruit and vegetables       * meat       * trips to the shops or other local places       * repair or replace broken or damaged appliances       * hobbies | **extras**   * self-rated standard of living is “high” (from 5 point scale from low to high) * never had to borrow from friends or family in last 12 months to cover everyday expenses for basics   + - * no delay for repairing or replacing worn out or broken furniture due to shortage of money * could pay an unexpected expense of $2000 within a month without borrowing |

Figure E.2 above shows that households with low living standards (eg those in decile one) have few non-essentials compared with those with better living standards, which is not surprising. This does however point to a slight advantage that the MWI has over DEP-17 and the like. Imagine two households in the same street, both with the same DEP-17 score, indicating high deprivation, but with one having more of the non-essentials or freedoms on the list than the other. This household gets a slightly higher MWI score than the other one, reflecting its slightly higher material living standards.

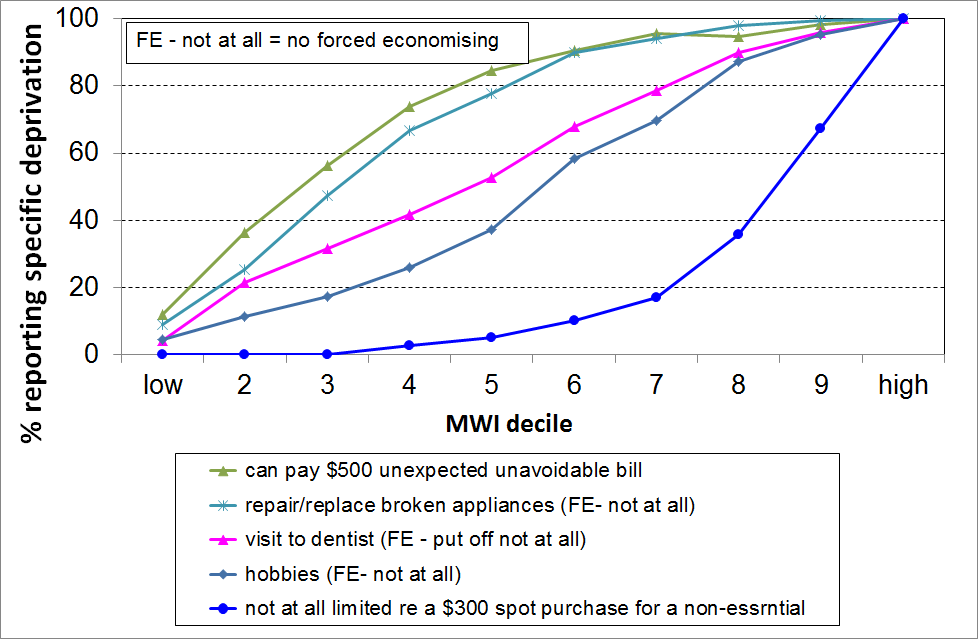
**The different MWI items discriminate at different parts of the material wellbeing spectrum**

**Figures E.3, E.4** and the associated **tables** use selected items from the MWI to illustrate how the different component items discriminate across different parts of the MWI spectrum.

For example, in Figure E.3 below the “spot purchase” item discriminates very well in the upper deciles, whereas the item about “not-at-all having to put off visits to the dentist” is a good discriminator across the whole spectrum. “Being able to pay an unexpected but unavoidable $500 bill” is very useful across the lower five deciles.

**Figure E.3**

**MWI Items with a positive association with MWI scores, HES 2014 and 2015 (avg %), by MWI decile**



**Table E.4**

**MWI Items with a positive association with MWI scores, HES 2014 and 2015 (avg %), by MWI decile**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **MWI decile 🡺** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **ALL** |
| can pay unexpected unavoidable $500 bill | 12 | 36 | 56 | 74 | 85 | 91 | 96 | 95 | 98 | 100 | 76 |
| delayed replacing or repairing appliances that were not working because of costs [not at all] | 9 | 25 | 47 | 67 | 78 | 90 | 94 | 98 | 99 | 100 | 72 |
| put off going to dentist because of costs [not at all] | 4 | 21 | 31 | 42 | 53 | 68 | 79 | 90 | 96 | 100 | 60 |
| spent less time on hobbies or special interests because of costs [not at all] | 4 | 11 | 17 | 26 | 37 | 59 | 70 | 87 | 95 | 100 | 52 |
| have a holiday overseas at least once every 3 yrs (<65) | 5 | 17 | 25 | 35 | 44 | 51 | 60 | 67 | 69 | 80 | 43 |
| not limited in $300 spot purchase of a non-essential | 0 | 0 | 0 | 3 | 5 | 10 | 17 | 36 | 67 | 100 | 24 |

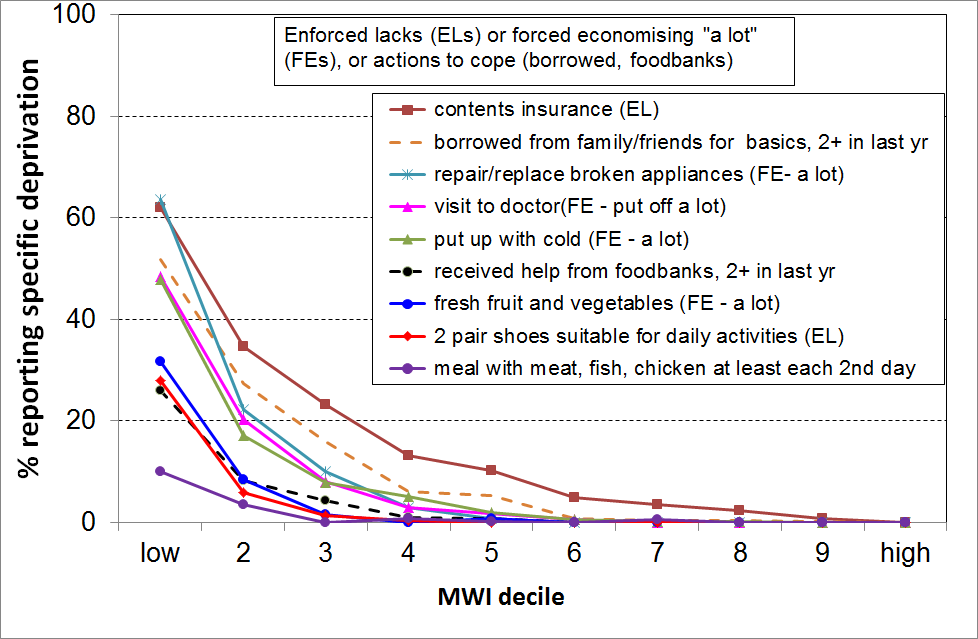
The same applies in **Figure E.4** below, except that the focus is on items with a negative association with MWI scores.

For example, the lower four lines are for items that are very serious deprivations, or in the case of receiving help from foodbanks or other community groups shows the extreme measures that households have to go to sometimes to survive. They all discriminate well at the very low end.

On the other hand, the contents insurance item discriminates well across the lower four deciles.

**Figure E.4**

**MWI Items with a negative association with MWI scores, HES 2014 and 2015 (avg %), by MWI decile**



**Table E.5**

**MWI Items with a negative association with MWI scores, HES 2014 and 2015 (avg %), by MWI decile**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **MWI decile 🡺** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **ALL** |
|  |  |  |  |  |  |  |  |  |  |  |  |
| contents insurance [EL] | 62 | 35 | 23 | 13 | 10 | 5 | 4 | 2 | 1 | 0 | 14 |
| put up with feeling cold [a lot] | 56 | 22 | 13 | 5 | 4 | 1 | 1 | 0 | 0 | 0 | 10 |
| put off repairing or replacing broken appliances [a lot] | 64 | 22 | 10 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 9 |
| put off doctor’s visits [a lot] | 48 | 20 | 8 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 7 |
| went without fresh fruit and vegetables [a lot] | 32 | 8 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 |
| clothes for special or important occasions [EL] | 28 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2 pair of shoes in good condition for everyday activities [EL] | 28 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| meal with meat, fish or chicken (or vegetarian equivalent) at least each second day [EL] | 10 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| borrowed from family or friends to meet everyday living costs [more than once in last 12 months] | 54 | 29 | 21 | 10 | 9 | 4 | 2 | 2 | 0 | 0 | 13 |
| **The ‘foodbanks” item below is not in MWI, but is included here for illustrative purposes** |  |  |  |  |  |  |  |  |  |  |  |
| received help from food banks or other community groups [more than once in last 12 months] | 26 | 8 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 4 |

EL = ‘enforced lack’

**The MWI and other indicators of material wellbeing: evidence in support of the MWI’s validity as a material wellbeing index**

Figure E.2 above shows that there is an internal coherence between the MWI scores and the underlying conceptualisation of material wellbeing that the index is built on. Figures E.3 and E.4 underline that.

Another aspect of testing and establishing the validity of the index is to examine how the index correlates with items that are **not** MWI items, but which are very likely to be positively correlated with material wellbeing or living standards as commonly understood and as used for the MWI.

This analysis is shown in **Table E.6**. The figures in the columns in the body of the table are the percentages of those in a given MWI decile whose household respondent reported the various freedoms to consume, the ability face unexpected bills, and so on. The gradients are clear and strong in each case, all showing the expected higher proportions of reported freedoms for those with higher MWI scores. This gives good support for the validity of the MWI (“concurrent validity”) – there is good evidence that it measures what it claims it measure, material wellbeing or material living standards.

The MWI is also designed to function as a deprivation index across its lower scores. **Table E.7** uses items from LSS 2008 that are not MWI items, but which reflect aspects of material hardship or deprivation. The gradients are again clear and strong in each case, with the more severe items (eg use of food banks) applying only to those in the very low end of the MWI scale. This supports the validity of MWI’s use for measuring material hardship.

The strong gradients in Tables E.6 and E.7 raise the question – *“if these items show the gradients so clearly why are they not in the MWI?”*

The simplest response is that an index with too large a number of items becomes unwieldy and very unattractive to use in surveys (crowding out of other items given a fixed time budget for survey length). There has to be some rationing of items, so some good items are inevitably left out.

The more substantial rationale has to do with maintaining the integrity and validity of the index. For example, while the non-MWI items in the tables show clear gradients at the clumped level of each decile, they may not meet the required criteria at the household level. An example of this is the “quality of kitchen” item. Also, an item may not be appropriate or relevant for all sub-groups (eg hair cut for those without hair), or an item may not be wanted by the vast majority (eg 32% of respondents either did not want a night out each fortnight, or had a reason other than cost for not doing so).

**Table E.6**

**Non-MWI Items with a positive association with MWI scores (LSS 2008),**

**plus the distribution across MWI deciles for three “freedom” items used in the index (%)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **MWI decile 🡺** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **ALL** |
| **Items not in the MWI** |  |  |  |  |  |  |  |  |  |  |  |
| have private health insurance | 14 | 18 | 27 | 40 | 44 | 48 | 51 | 52 | 52 | 62 | 41 |
| have employed a cleaner on a regular basis in last 12 months | 2 | 2 | 3 | 4 | 7 | 9 | 7 | 11 | 18 | 18 | 7 |
| quality of car / motor vehicle for <65 [‘top of the range’ or ‘good quality’ on a 4 point scale with other options being ‘mid-range’ or ‘budget or lower’] | 19 | 29 | 31 | 36 | 40 | 46 | 53 | 49 | 63 | 69 | 42 |
| quality of kitchen appliances, layout, storage etc [‘top of the range’ or ‘good quality’ on a 4 point scale with other options being ‘mid-range’ or ‘budget or lower’] | 11 | 23 | 31 | 31 | 34 | 46 | 46 | 53 | 61 | 70 | 41 |
| overall physical condition of accommodation [‘very good’ on a 5 point scale through to ‘very poor’] | 9 | 17 | 23 | 24 | 30 | 38 | 41 | 44 | 51 | 64 | 34 |
| could pay unexpected expense of $2000 within a month without borrowing | 14 | 35 | 44 | 63 | 72 | 83 | 87 | 88 | 97 | 98 | 68 |
| enough or more than enough money to meet essentials of food, accommodation, and so on | 4 | 10 | 18 | 36 | 42 | 53 | 64 | 75 | 82 | 91 | 48 |
| money for self each week [more than $50] | 7 | 8 | 14 | 23 | 32 | 42 | 48 | 62 | 66 | 80 | 38 |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Subjective wellbeing (‘very satisfied with life’) - average of HES 12/13 & 13/14 | | | | | | | | | | | |
| Ranked by MWI | 3 | 9 | 16 | 20 | 23 | 28 | 33 | 40 | 46 | 55 | 28 |
| Ranked by AHC household incomes | 15 | 13 | 20 | 25 | 26 | 24 | 29 | 31 | 40 | 51 | 28 |
| Ranked by BHC household incomes | 16 | 22 | 17 | 25 | 21 | 27 | 28 | 33 | 39 | 49 | 28 |

Note: The subjective wellbeing rows show that the MWI rankings are likely to be much more highly correlated with subjective wellbeing rankings than are the BHC or AHC income rankings. Using the decile approach is a fairly crude analysis as (a) deciles 2, 3 and 4 are very bunched for incomes, and (b) standard practice is to take the logarithm of incomes in recognition of the fact that a $1000 gain for high income households means less than does an extra $1000 to low income households. Nevertheless, the simple point is illustrated – there is likely to be a higher correlation between MWI rankings and subjective wellbeing rankings.

**Table E.7**

**Non-MWI Items with a negative association with MWI scores (LSS 2008),**

**plus the distribution across MWI deciles for three “enforced lack” items used in the index (%)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **MWI decile 🡺** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **ALL** |
| **Items not in the MWI** |  |  |  |  |  |  |  |  |  |  |  |
| used food bank or other community assistance (more than once in previous 12 months) | 24 | 12 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| pawned goods to get cash for necessities (more than once in previous 12 months) | 28 | 14 | 7 | 3 | 2 | 2 | 1 | 0 | 0 | 0 | 6 |
| keep main rooms warm [EL] | 35 | 14 | 7 | 4 | 2 | 1 | 1 | 0 | 0 | 0 | 7 |
| house too small [major problem] | 29 | 17 | 11 | 7 | 8 | 3 | 3 | 1 | 2 | 0 | 8 |
| overall physical condition of accommodation [poor or very poor on 5 point scale] | 25 | 9 | 7 | 4 | 3 | 1 | 1 | 0 | 0 | 0 | 5 |
| crime or vandalism in the area [major problem] | 24 | 15 | 11 | 7 | 7 | 6 | 5 | 4 | 4 | 2 | 8 |
| hairdresser once every three months [EL] | 51 | 29 | 18 | 8 | 5 | 2 | 2 | 1 | 0 | 0 | 12 |
| a night out at least once a fortnight [EL] | 56 | 41 | 31 | 21 | 15 | 10 | 5 | 2 | 1 | 0 | 18 |
| self-rated health, poor or fair (<65) | 50 | 30 | 19 | 11 | 13 | 10 | 10 | 6 | 7 | 10 | 17 |

EL = ‘enforced lack’

**Calibration of the MWI when the focus is on the lower end of the spectrum – that is, when the MWI is being used as a material hardship index**

For an index like the MWI to be used for measuring and monitoring material wellbeing it needs to be calibrated so as to give some tangible meaning to the different scores. There is no purely objective way of doing this as there is no external natural or consensus-based standard to calibrate against. This is a similar challenge to that faced when using a deprivation index, but in this case the challenge covers the whole spectrum of material wellbeing from low to high, not just the lower end. This section first outlines how the MWI hardship thresholds are set, then looks at the wider calibration question across the full range of scores.

Choosing hardship thresholds for the MWI, and the relationship between DEP-17 and MWI scores

Choosing hardship thresholds for the MWI is a subset of the fuller calibration exercise.

The challenge here, as it was for DEP-17 in Section D, is much the same as the one faced when using household income as the indicator of material wellbeing – what low-income threshold or thresholds should be used to identify those in “income poverty” and those “not in poverty”? Material hardship, like income poverty, comes in degrees. There is no clear delineation between those “in hardship” and those “not in hardship” that science can identify independent of judgment. This is not to say that any threshold will do nor that all are equally open to challenge. Some thresholds are however much more plausible and defensible than others.

This report uses MWI scores for the hardship zone that are consistent with the decisions made on the DEP-17 hardship zone. See **Tables E.8A and 8B** on the next page for conversions between MWI and DEP-17 scores for low living standards.

MWI scores of 9 or less are used to examine the characteristics of households with low living standards. This gives numbers that are virtually the same as when using a DEP-17 score of 7 or more out of 17. This section makes no attempt to set “the” threshold, but works within a framework of material hardship existing on a spectrum from less to more severe. The more severe hardship zone is taken as an MWI score of 5 or less. This is equivalent to a DEP-17 score of 9 or more out of 17. It also reports using an MWI score of 10 or less (DEP-17 score of 6+) for sensitivity analysis.

For the purposes of reporting on the composition of those at different depths of hardship and for tracking hardship rates over time for different hardship levels, the approach adopted here is pragmatic, defensible, and produces findings useful for public debate and policy development.

For the purposes of being able to say “New Zealand’s material deprivation rate is Y%”, or “there are X thousand children in hardship in New Zealand”, this approach does not deliver. That is a consequence of the position taken above in the first paragraph of this calibration section. It is in fact the same position as is taken in the Household Incomes Report for “income poverty”. It means that the focus can be on understanding what is happening at different depths of hardship, avoiding what are often sterile debates about exactly how many are deemed to be “in hardship”, a debate based on the erroneous assumption that such a simple binary division can be robustly made. Using the approach adopted in this report, it could be argued that “success” would be for trend lines at all hardship levels to fall over the medium term (ie using MWI thresholds of 9 or less, 7 or less and 5 or less. This is a demanding standard.

**Table E.8A**

**Comparisons of MWI and DEP-17 for LSS 2008 and three HES years, using a range of thresholds:**

**whole population**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **MWI** | | | | **DEP-17** | | | |  |
| **MWI** | LSS 2008 | HES 2012-13 | HES 2013-14 | HES 2014-15 | LSS 2008 | HES 2012-13 | HES 2013-14 | HES 2014-15 | **DEP-17** |
| **13 -** | 17 | 15 | 13 | 14 | 18 | 15 | 12 | 14 | **5+** |
| **12 -** | 15 | 14 | 11 | 12 |  |  |  |  |  |
| **11 -** | 13 | 12 | 10 | 11 | 13 | 12 | 10 | 11 | **6+** |
| **10 -** | 12 | 11 | 9 | 10 |  |  |  |  |  |
| **9 -** | 10 | 9 | 8 | 8 | 11 | 9 | 7 | 9 | **7+** |
| **8 -** | 9 | 8 | 7 | 7 |  |  |  |  |  |
| **7 -** | 7 | 7 | 6 | 6 | 8 | 6 | 6 | 7 | **8+** |
| **6 -** | 7 | 6 | 6 | 5 |
| **5 -** | 6 | 5 | 5 | 5 | 6 | 5 | 5 | 5 | **9+** |
| **4 -** | 5 | 4 | 4 | 4 |  |  |  |  |  |
| **3 -** | 4 | 3 | 3 | 3 | 4 | 3 | 3 | 4 | **10+** |
| **2 -** | 3 | See note below | |  | 3 | See note below | |  | **11+** |

**Table E.8B**

**Comparisons of MWI and DEP-17 for LSS 2008 and two HES years, using a range of thresholds:**

**0-17 years**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **MWI** | | | | **DEP-17** | | | |  |
| **MWI** | LSS 2008 | HES 2012-13 | HES 2013-14 | HES 2014-15 | LSS 2008 | HES 2012-13 | HES 2013-14 | HES 2014-15 | **DEP-17** |
| **13 -** | 26 | 23 | 20 | 22 | 26 | 23 | 20 | 21 | **5+** |
| **12 -** | 24 | 21 | 19 | 19 |  |  |  | 17 |  |
| **11 -** | 21 | 19 | 17 | 18 | 21 | 18 | 16 | 17 | **6+** |
| **10 -** | 18 | 17 | 16 | 16 |  |  |  |  |  |
| **9 -** | 16 | 15 | 14 | 14 | 17 | 15 | 12 | 14 | **7+** |
| **8 -** | 14 | 13 | 12 | 12 |  |  |  |  |  |
| **7 -** | 13 | 12 | 11 | 11 | 13 | 10 | 10 | 11 | **8+** |
| **6 -** | 12 | 10 | 10 | 9 |
| **5 -** | 10 | 9 | 8 | 8 | 10 | 8 | 8 | 9 | **9+** |
| **4 -** | 8 | 7 | 7 | 7 |  |  |  |  |  |
| **3 -** | 7 | 6 | 6 | 6 | 8 | 5 | 5 | 6 | **10+** |
| **2 -** | 6 | See note below | |  | 6 | See note below | |  | **11+** |

Reading notes for **Tables E.8A and 8B:**

* 5+ means 5 or more, and 13- means 13 or less
* The deeper (DEP-17 = 11+) level of hardship was reported in Section D using LSS 2008 (sample of 5000). The HES sample is smaller (~3000) and the numbers get very low in this row, especially for sub-groups (eg children, 0-17 yrs). The percentages are therefore not reported.

The shaded rows in the tables above indicate where the hardship zone starts for this report (DEP-17 score of 7+ ≡ MWI score of 9 or less). The rationale for this judgement call is outlined in Section D for DEP-17. It should be taken as a guide only and not as a definitive or official cut-off. The report also uses more stringent thresholds below “MWI = 9 or less” to monitor hardship and also thresholds above it to monitor those in “near hardship”.

**Comparing the material hardship rankings produced by EU-13, DEP-17 and MSD’s Material Wellbeing Index (MWI)**

Even though EU-13 and DEP-17 have only three items in common and two others that are broadly similar they rank households and sub-groups in very similar ways. Similarly, the MWI at the lower end of its range ranks households in a very similar way to both EU-13 and DEP-17. For example:

* When using DEP-17 and the MWI to rank households, there is a 97% overlap for the lower 20% on each and a 95% overlap for the lower 11%. (11% was chosen to tie in with Table E.7 below.)
* The degree of concordance is further illustrated in **Table E.9** where the material hardship rates for selected sub-groups are compared across the three indices. The three indices produce very similar hardship rates for the different population groups and for two hardship thresholds.

**Table E.9**

**Comparisons of hardship rates for different sub-groups**

**using different indices (EU-13, DEP-17 and the MWI), and two thresholds, LSS 2008**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **“Standard” EU hardship** | | | **“More severe” EU hardship** | | |
|  | **EU-13 (5+)** | **DEP-17 (7+)** | **MWI (9-)** | **EU-13 (7+)** | **DEP-17 (10+)** | **MWI**  **(3-/4- avg)** |
| ALL | 11 | 11 | 10 | 4 | 4 | 4 |
| 0-17 | 18 | 17 | 18 | 8 | 8 | 8 |
| 65+ | 3 | 2 | 2 | <1 | <1 | <1 |
| 2P <65 | 11 | 9 | 10 | 4 | 3 | 3 |
| SP <65 | 35 | 38 | 38 | 17 | 22 | 20 |
| Couple <65 | 5 | 5 | 6 | 2 | 1 | 2 |
| European (total) | 8 | 8 | 9 | 3 | 3 | 3 |
| Maori (total) | 24 | 25 | 27 | 9 | 11 | 11 |
| Children (market) | 11 | 10 | 11 | 4 | 4 | 4 |
| Children (benefit) | 51 | 51 | 51 | 24 | 28 | 26 |

Reading note:

For the purposes of illustrating the fact that the three indices rank households in much the same way, thresholds for DEP-17 and the MWI were selected to make the DEP-17 and MWI population hardship rates equal to or very close to the same as the two EU rates (11% and 4%). For the “more severe” threshold for the MWI figures, the average of the rates for two close thresholds was used to ensure a rate as close to 4% as possible.

This is an illustration of one of the more general findings about the use of non-income measures of material wellbeing and of deprivation indicators in particular which is that indices with quite different sets of component items rank households at the lower end in similar ways, provided that the indices are constructed following careful protocols for item selection. Four important protocols are that:

* items need to cover a range of domains and a range of hardship depths;
* items need to be applicable to all age groups and to both market income and state income households;
* the index needs to have around 10 or more items;
* there needs to be good indications from some sort of factor analysis which shows that the same underlying notion is being reasonably well reflected by the selected items.

*This all raises the question – why have three indices? why not keep it simple and just have one index?*

**Why have three indices (EU-13, DEP-17 and MWI) ? Why not just one?**

The short answer is given in **Table E.10** below – to meet the goals or criteria in the left-hand column, all three are needed as no one measure can do it all.

**Table E.10**

**The MWI, DEP-17 and EU-13 assessed against high-level criteria**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **MWI** | **DEP-17** | **EU-13** |
| **adequately ranks on material hardship?** | **🗸** | **🗸** | **🗸** |
| **can do from low to high material wellbeing?** | **🗸** | **x** | **x** |
| **international comparisons?** | **x** | **x** | **🗸** |
| **is a time series available?** | **🗸**  (with ELSI from 2006-07 to 2011-12, then MWI) | (only from HES 12-13 on) | **x** |
| **communication – meaning of scores?** | not as easy as for DEP-17 and EU-13, but not impossible | **🗸** | **🗸** |

*Why do we need DEP-17 – why not just use EU-13?*

Given that the EU-13 has good credentials in the EU, allows New Zealand to be located relative to other higher income nations, and produces rankings very similar to DEP-17, why not keep things simpler by just having one deprivation index, EU-13?

The basic answer is straightforward – it is/was an issue of data availability. The survey items needed for EU-13 are available for New Zealand in the 2008 LSS, but nowhere else to date. On the other hand DEP-17 was able to be constructed from both LSS 2008 and from the refreshed HES dataset, starting with the 2012-13 HES.

In the 2015-16 HES, some extra items were added to enable EU-13 to be constructed, but the first use of this won’t be until the 2017 reports, with a time series not being usable for several more years.

The other rationale is that DEP-17 has some differences from EU-13 which make it a more robust instrument and one that can give a more fine-grained (less “clunky”) analysis at the lower end.

* As discussed above, DEP-17, like the EU-13 and many other similar indices, uses a mix of items that tap into or reflect different depths of material deprivation. For example, not being able to have a good meal each day would generally be considered to be a more serious deprivation than having to delay repairing or replacing broken appliances, and having to repeatedly put up with feeling cold to save on heating costs more serious than not being able to afford contents insurance. There is a good argument to be made that all four are however needed for a household to be able to sustain a minimum acceptable and independent standard of living in a country like New Zealand.
* DEP-17 differs from EU-13 in that it has a larger proportion of items covering the more severe end of the hardship spectrum and a smaller proportion of items covering the less severe end of the hardship spectrum. For example, DEP-17 does not use the “one week’s holiday away from home” item nor the “leisure activities” item, and its question on emergency savings is set at $500 rather than the $1500 figure in EU-13. DEP-17 also covers a wider range of domains in which material deprivation can be revealed.
* DEP-17 nevertheless still uses a range of items reflecting differing degrees of hardship. Rather than being a weakness of the index, the use of this range of items is a strength as it allows for the fact that there is some variation among those less well-off as to what they cut back on to try to make ends meet. An index with an almost total focus on the severe hardship end could not reflect these nuances in its rankings.

DEP-17 also has a slightly better level of reliability (internal consistency) than EU-13, 0.87 compared with 0.78 using Cronbach’s alpha (see Table D.6 above).

*Why have DEP-17 – why not just use the lower end of MWI?*

MSD’s Material Wellbeing Index (MWI) covers the full spectrum of material living standards from low to high. At its lower end the MWI performs very well as a deprivation index, and produces rankings very similar to DEP-17. As noted above there is a 97% overlap for the lower 20% on each index, and the hardship rates for a range of subgroups are very close on both measures (see Table E.7 above).

The concordance between DEP-17 rankings and MWI rankings at the lower end of the MWI scale is further illustrated in **Tables E.9 and E.10** below which examine child-focussed deprivation using the two indices. Table E.9 uses DEP-17 to rank households, and Table E.10 uses the MWI. The numbers in both tables are very close, showing that DEP-17 and the low end of the MWI ranking give an almost identical picture for school-age children.

**Table E.9**

**Using DEP-17 to rank households**

**Multiple deprivation for children aged 6-17 years, LSS 2008**

**Multiple deprivation – using 20 items: 12 child-specific items and 8 general household items**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DEP-17 score | **0-1** | **2** | **3** | **4** | **5-6** | **7-8** | **9-10** | **11+** | **All** |
| **Distribution of children (6-17yrs) across DEP-17 (%)** | 47 | 11 | 10 | 6 | 9 | 7 | 4 | 6 | 100 |
| 5+ out of 20 | 0 | 0 | 0 | 4 | 13 | 53 | 72 | 98 | 14 |
| 6+ out of 20 | 0 | 0 | 0 | 4 | 8 | 35 | 60 | 95 | 11 |
| 7+ out of 20 | 0 | 0 | 0 | 0 | 3 | 25 | 43 | 78 | 8 |
| 8+ out of 20 | 0 | 0 | 0 | 0 | 2 | 18 | 24 | 70 | 7 |
| 9+ out of 20 | 0 | 0 | 0 | 0 | 0 | 8 | 10 | 56 | 4 |
| 10+ out of 20 | 0 | 0 | 0 | 0 | 0 | 6 | 5 | 47 | **3** |
| avg number of deprivations out of 20 | 0 | 0 | 0 | 2 | 3 | 5 | 6 | 10 | **1.9** |

Reading note: any cell with under 1.5% is reported as zero.

**Table E.10**

**Using the MWI to rank households**

**Multiple deprivation for children aged 6-17 years, LSS 2008**

**Multiple deprivation – using 20 items: 12 child-specific items and 8 general household items**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DEP-17 score | **0** | **1** | **2** | **3** | **4** | **5-6** | **7-8** | **9-10** | **11+** | **All** |
| MWI score |  |  |  |  |  | **14-11** | **10-6** | **5-3** | **2-** |  |
| **Distribution of all children (0-17 yrs) across DEP-17 (%)** | MWI and DEP-17 do not mimic each other for these “well-above-hardship” scores … as DEP-17 is a deprivation index, not a full-spectrum index | | | | | 11 | 8 | 4 | 6 | 100 |
| **Distribution of children (6-17yrs) across DEP-17 (%)** | 10 | 8 | 4 | 6 | 100 |
| 5+ out of 20 | - | - | - | - | - | 11 | 42 | 72 | 94 | 14 |
| 6+ out of 20 | - | - | - | - | - | 7 | 29 | 61 | 91 | 11 |
| 7+ out of 20 | - | - | - | - | - | 3 | 21 | 44 | 72 | 8 |
| 8+ out of 20 | - | - | - | - | - | 0 | 14 | 31 | 61 | 7 |
| 9+ out of 20 | - | - | - | - | - | 0 | 5 | 21 | 49 | 4 |
| avg number of deprivations out of 20 | - | - | - | - | - | 4 | 5 | 6 | 10 | **1.9** |

Note: the 20 items used in Tables E.9 and E.10 are listed in Table E.11 below.

**Table E.11**

**The 20 items used in Tables E.9 and E.10 above**

|  |  |
| --- | --- |
| **Child-specific items** | **General household items** |
| * warm winter clothes for each child * two pairs good shoes for each child * waterproof coat for each child * children continued wearing worn out clothes and shoes * separate bed for each child * separate bedroom for older and opposite sex children * able to have friends to birthday party * each child has all school uniform required by school(s) * able to pay for school trips for each child * able to attend music, dance, art and swimming lessons * sport participation   postponed doctor for children | * could not keep main rooms warm * cut back or went without fresh fruit and vegetables “a lot” * delayed repair or replacement of appliances (“a lot”) * late payment of vehicle wof /reg (more than once in last year) * late payment of electricity / water / gas (more than once) * received help from food bank or other community group (more than once) * dampness or mould in dwelling (major problem) * crime/vandalism in the area (major problem) |

Note: the 4 shaded items are also in the MWI.

So, *why have both MWI and DEP-17? Why not just use the MWI?*

It would certainly be simpler to just use the one New Zealand index, the MWI. It covers the full range of material wellbeing as well as acting as a deprivation index at the lower end.

The real value DEP-17 is that it is simpler for readers and users to grasp the meaning of index scores. For example, the meaning of a DEP-17 score of “9+” is very clear – this household reports 9 or more of the 17 deprivation items. On the other hand an MWI score of “9” is a composite score constructed from the number of enforced lacks of essentials (deprivations) that a household reports and the number of non-essentials that are possessed or accessible for use. The direct meaning of an MWI score is not as easy to communicate as that of a DEP-17 score.

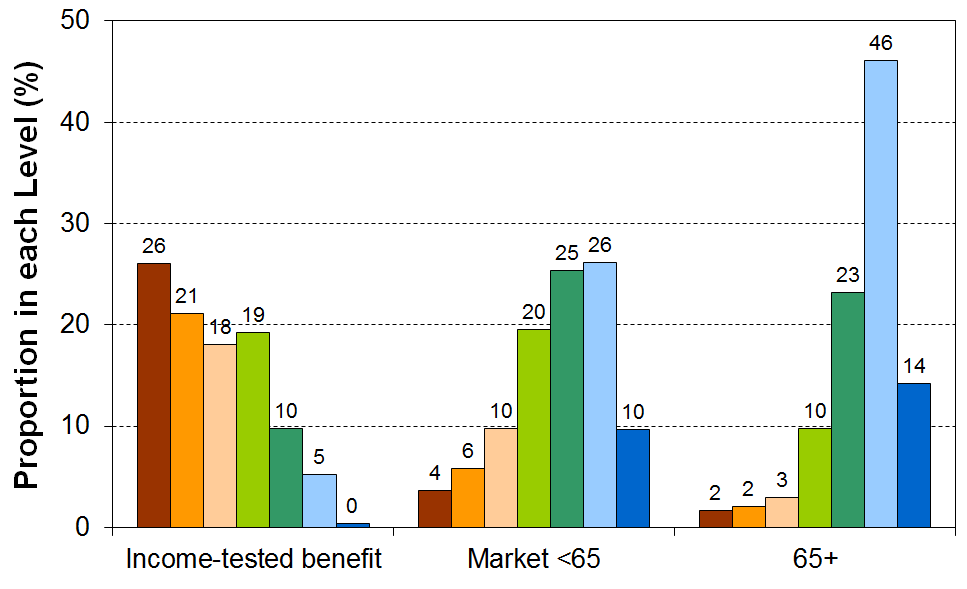
Both are therefore needed.

**Calibration across the whole spectrum – needs more**

For communication purposes, the ELSI-based reports divided the ELSI spectrum into seven levels, ranging from two hardship levels through to ‘comfortable’, ‘good’ and ‘very good’ levels. This is illustrated in **Figure E.12** for three groups with different main sources of income: government transfers for under 65s, market income for under 65s, and for older New Zealanders, the bulk of whom are heavily reliant on New Zealand Superannuation and little else. The two hardship levels are on the left for each group. The graphs immediately communicate to the reader.

**Figure E.12**

**Distribution of ELSI scores (material wellbeing) by income source and age (2008)**



One of the challenges of creating material wellbeing levels and labelling them is that they easily become reified, as if there is such category as “very good” living standards, independent of a judgement call. Findings such as those illustrated in Figure E.3 can be reported or taken to mean that “research has found that 14% of older New Zealanders have very good living standards”, whereas the actual finding is that “research has shown that, using a scale on which 8% of New Zealanders are classed as having “very good” living standards, 14% of older New Zealanders are in that category”.

To avoid or prevent this misinterpretation and many more like it, one strategy is to simply break the spectrum up into deciles or quintiles. This is useful sometimes, but something more like ELSI approach using Levels is needed both for communication purposes and because for some adjacent deciles there is very little difference in living standards.

MWI Levels and their labels are still under development. In the meantime, the decile and quintile approach is being used. Table E.15 below uses a 4-way division for MWI-9.

**MWI-9, a short-form of the full MWI**

The full 24-item MWI is too long for the time available for such questions in some surveys. The MWI-9 is a short-form that enables users to examine the distribution of other variables across the material wellbeing spectrum. The 2014 GSS has the MWI-9 items in it, as does the HES from 2012-13 on (the HES also has the other 15 items that make up the full set of MWI items).

**Table E.13** lists the MWI-9 items and the scoring for each item.

**Table E.13**

**The composition of MWI-9, a short-form of the full MWI, and the scoring of items for the index**

|  |  |  |
| --- | --- | --- |
|  | **Item** | **Scoring** |
|  | **Economising because of limited money for basics** (not at all, a little, a lot) | **max = 12** |
| 1 | Go without fresh fruit and vegetables | 0 = ‘a lot’  1 = ‘a little’  2 = ‘not at all’ |
| 2 | Postpone or put off visits to the doctor |
| 3 | Do without or cut back on trips to the shops or other local places |
| 4 | Spent less on hobbies or other special interests than you would like |
| 5 | Put up with feeling cold |
| 6 | Delay replacing or repairing broken or damaged appliances |
|  | **Freedoms / restrictions** | **max = 7** |
| 7 | 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) | 0 = ‘very’  1 = ‘quite’  2 = ‘a little’  3 = ‘not at all’ |
| 8 | $300 spot purchase for an ’extra’ – how restricted? (5 point response from ‘ not restricted … couldn’t buy it’) | 0 = ‘couldn’t buy it’  1 = ‘very restricted’  2 = ‘quite’  3 = ‘a little’  4 = ‘not at all’ |
|  | **Financial strain** (not at all, once, more than once) | **max = 2** |
| 9 | Behind on rates or utilities in last 12 months? | 0 = ‘more than once’  1 = ‘once  2 = ‘not at all’ |

The maximum possible raw score on MWI-9 is 21 (12+7+2). To create a 0-20 scale, 1 is deducted from each score, and the possible “-1” is re-set to zero. The higher the score, the higher the level of material wellbeing.

Where there is just one respondent per household, as in the HES and GSS, the respondent’s score can be attributed to all household members to enable each individual to have an MWI-9 score attached to their record, and the population ranked accordingly. This is the same as the approach used with household incomes.

Where there is more than one respondent per household, the average score for all respondents can be attributed to each household member. Alternatively, the distribution of respondent scores can be reported and used, though in that case the range of feasible analysis is more limited analysis as, for example, there are no household scores and no scores for children.

With only 9 items to cover the full spectrum of material well-being, the index is not designed for fine-grained analysis.Even when looking only at material hardship, a 9 item index can be a little clunky (see Section D), so extra care is needed with the MWI-9 across a wider range. The MWI-9 is designed primarily for examining the distribution of other variables across the material wellbeing spectrum at a broad level, rather than for the detailed examination of the distribution of material wellbeing itself. For the broader purpose it is a robust and useful instrument.

**Table E.14** suggests a suitable division of the scale into four categories: lower, lower middle, upper middle and higher living standards. The boundaries are set so that the lower category has around 15-20% in it, with the remainder divided reasonably equally across the other three. Table E.14 shows how these boundaries work for data from HES 2012-13, HES 2014-15 and from LSS 2008. For other surveys the boundaries may have to be adjusted a little to create the rough proportions recommended.

**Table E.14**

**Suggested categories for using the MWI-9 to show the gradient for other variables across**

**material wellbeing levels**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **MWI-9 Level** | **1** | **2** | **3** | **4** |
| **MWI scores** | **0-7** | **8-13** | **14-17** | **18-20** |
| LSS 2008 (%) | 17 | 30 | 27 | 25 |
| HES 2012-13 (%) | 15 | 28 | 29 | 29 |
| HES 2014-15 (%) | 14 | 25 | 28 | 33 |
| GSS 2014 (%) | 15 | 23 | 31 | 32 |
| Suggested labels | Lower | Lower middle | Upper middle | Higher |

**Who are the people in the four categories?**

**Table E.15** shows the composition of each category by individual characteristics (age and ethnicity), and by EFU characteristics (EFU type and Tenure). Read down the columns, not across the rows.

**Table E.15**

**Who are in the categories? LSS 2008**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **MWI-9 Level** | **1** | **2** | **3** | **4** |
| **MWI scores** | **0-7** | **8-13** | **14-17** | **18-20** |
| % in each category or level | 17 | 30 | 27 | 25 |
| Suggested labels | Lower | Lower middle | Upper middle | Higher |
| **Age (individuals)** |  |  |  |  |
| 16-24 years | 23 | 21 | 20 | 10 |
| 25-44 years | 43 | 44 | 34 | 23 |
| 45-64 years | 30 | 27 | 29 | 38 |
| 65+ years | 4 | 8 | 17 | 29 |
| **Ethnicity (individuals)** |  |  |  |  |
| European | 55 | 66 | 75 | 85 |
| Maori | 23 | 12 | 8 | 6 |
| Pacific | 10 | 7 | 4 | 2 |
| Asian | 7 | 11 | 10 | 5 |
| Other | 5 | 5 | 2 | 3 |
| **Family or EFU type** |  |  |  |  |
| Single < 65 | 43 | 44 | 39 | 30 |
| Single 65+ | 3 | 5 | 11 | 16 |
| Couple <65 | 11 | 15 | 19 | 24 |
| Couple 65+ | 1 | 3 | 8 | 16 |
| SP < 65 | 21 | 9 | 3 | 2 |
| 2P < 65 | 20 | 23 | 20 | 13 |
| **Tenure (for families/EFUs)** |  |  |  |  |
| Owned or FT with payments | 29 | 40 | 39 | 30 |
| Owned or FT with NO payments | 7 | 16 | 36 | 52 |
| Private Landlord/Local Authority | 49 | 39 | 23 | 16 |
| Housing NZ | 15 | 5 | 2 | 2 |
| **Total** | **100** | **100** | **100** | **100** |

**Tracking changes over time**

The MWI is designed to be able to pick up changes in material wellbeing or living standards over time for, say, 10-20 years. Higher scores for the items that focus on the “freedoms” perspective reflect higher living standards per se, irrespective of changes to general levels of living standards and expectations. This is one of the differences between the MWI and ELSI. The ELSI measure is limited in its ability to pick up changes over time in material wellbeing per se, as changes in the scores for its item set reflect to a considerable degree changes in living standards relative to changes in expectations rather than changes in living standards per se. These issues do not impact as strongly on the lower ELSI scores, so for tracking hardship ELSI is still usable.[[16]](#footnote-16)

For a proper account of changes in living standards over longer periods, say from 1950 to 2015, other aspects of household material wellbeing would need to be taken into account – for example, access to / ownership of a range of household appliances and whiteware, hot water on tap from electric or gas heating, indoor flushing toilet, having a telephone, access to leisure goods, and so on.

The MWI and ELSI

In 2002 MSD developed a prototype 40-item Economic Living Standards Index (ELSI) which ranked households from low to high living standards using non-income measures (non-monetary indicators). A short-form of ELSI (ELSI-SF) was subsequently developed and the 25 items needed for it are in the HES from 2006-07 to 2011-12.

The MWI is an update and further development of ELSI. The MWI uses around half of the original ELSI-SF items together with a similar number of new ones. **Appendix 2** provides a comparison of the items in each index and a discussion on the key underlying conceptual differences between the MWI and ELSI, as referred to above.

**Section F**

**Using the MWI and DEP-17 with LSS, HES and GSS survey data**

This Section is a little different from the other Sections. While it has its own tables and graphs and information that is not found elsewhere in the report, it also acts as a directory to point the reader to other tables and graphs that have a good case for being included here but are not repeated.[[17]](#footnote-17)

This section uses or points to information on individual non-income items from the 2008 LSS, the 2015 HES and the 2014 GSS to describe the distribution of material wellbeing across the New Zealand population as a whole and across different sub-groups. It uses survey items on their own, and in ad hoc clusters, together with the MWI and DEP-17. It also compares the distribution of selected non-income items across households ranked by their incomes with the distribution across households when ranked by their MWI score.

Looking across the full material wellbeing spectrum from high to low (LSS and HES):

1. The composition of the population across selected levels of material wellbeing (using the MWI to rank households), by age, ethnicity, household type, tenure, source of income for working-age households, and so on:
   * this can be done by quantiles (eg deciles) or by other pre-selected bands or levels of material wellbeing
   * the Incomes Report already has a quintile breakdown using household incomes as the ranking measure
2. A tangible description of the material living standards of the population across selected levels of material wellbeing, using individual items and clusters of items (see Section I):

* using the MWI to rank households
* using household income to rank households

1. A description of a range of quality of life indicators across selected levels of material wellbeing (using the MWI-9 to rank households), using 2014 GSS data

Focussing on the lower end of the spectrum (material hardship):

1. Comparisons of hardship rates for different groups, using selected thresholds.
2. Comparisons of how the composition of those in hardship varies for different depths of hardship, for selected groups.
3. Comparisons with other countries using the same deprivation index (see Section C above for EU-13)
4. Comparisons of New Zealand hardship rates with those prevailing in other years (see Section G below)

Focussing on individual items of interest:

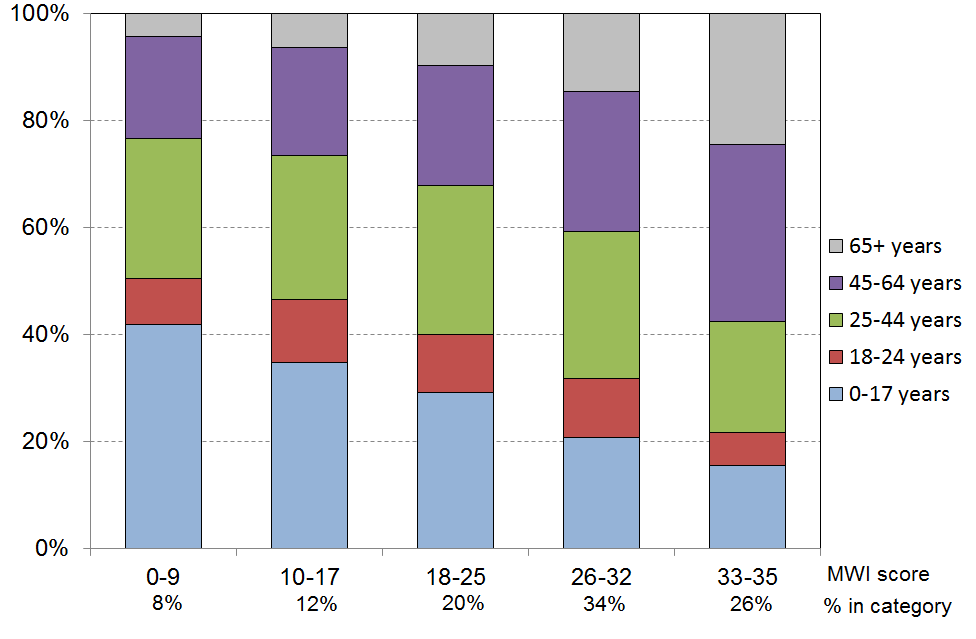
1. There are several items in the surveys which are of particular public policy interest in themselves – for example: household crowding, self-reported housing quality (dampness, mould, hard to keep it warm), self-assessed income adequacy, and so on. These are covered in Section I below.

**Composition of the population across selected levels of material wellbeing (using the MWI to rank households)**

The Incomes Report already has a quintile breakdown using household incomes as the ranking measure. **Figures F.1 and F.2** illustrate how a similar analysis can be done using the MWI. Future issues of the NIMs report will have more of this.

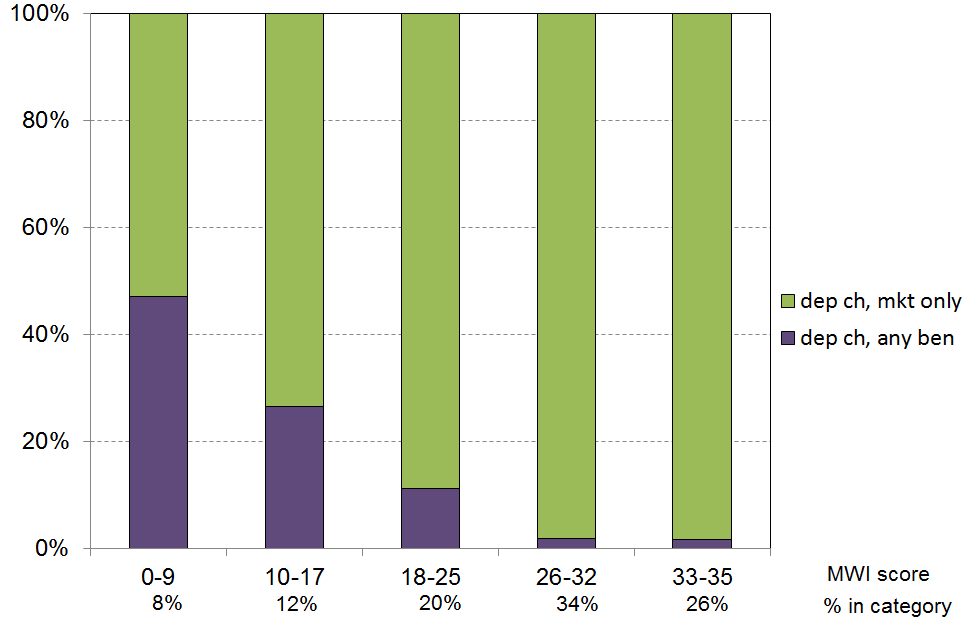
**Figure F.1**

**Age groups, HES 2015**



**Figure F.2**

**Source of income for children’s households, HES 2015**



**A tangible description of the material living standards of the population across selected levels of material wellbeing, using individual items and clusters of items**

**The reader is referred to the following:**

* MWI items positively associated, and negatively associated with the MWI, by decile, using HES data (see Section E).
* As above but using non-MWI items from the HES and the LSS (see Section E).
* Rank households by AHC incomes and by the MWI and compare the distributions and the compositions of the well-off and of those in hardship (see Section A and Section I).

**Comparisons of hardship rates for different groups, using selected thresholds**

**Comparisons of how the composition of those in hardship varies for different depths of hardship, for selected groups**

**Table F.1** (next page) shows the following for children:

Family type

* While hardship rates are higher for children from sole parent families than from two parent families for all levels of hardship (left-hand columns), at the less severe hardship levels around half of children in hardship come from two parent and half from sole parent families (right-hand columns). This reflects the fact that there are many more children in two-parent than in sole-parent families.
* Children from sole parent families are however more likely than those in two parent families to be in the more severe hardship zone (9+,11+).

Main income source for parents

* Beneficiary families have higher hardship rates than working families, with those who move between benefit and work having rates somewhere in between.
* Nevertheless, at the less severe hardship levels (eg 7+) children in hardship are split evenly between beneficiary and working families. This reflects the fact that there are many more working families than beneficiary families.
* Beneficiary families are more likely than working families to be in more severe hardship, though around a third of children in more severe hardship are from working families (families that have no core benefit income at all).

Number of children

* Larger families (4+ children) have higher hardship rates on average, and are also more predominant in deeper hardship than in lesser hardship zones.

Tenure

* Unsurprisingly, children in Housing New Zealand homes are considerably over-represented in the deeper hardship zone. This is what we would expect given the selection criteria for access to this accommodation.

Urban/rural split

* There was no measurable difference in depth of hardship for an urban/rural split across the country.

**Table F.1**

**Hardship rates and composition for different family and personal characteristics,**

**by different levels of hardship (using DEP-17): children (0-17yrs)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **LSS 2008** | **Hardship rates** | | | | | **Composition** | | | | | |
|  | what % of this group of children are in hardship, using the different thresholds? | | | | | what % of all children in hardship (using a given threshold) are in this group / cell? | | | | | Over-all |
|  | **6+** | **7+** | **8+** | **9+** | **11+** | **6+** | **7+** | **8+** | **9+** | **11+** |  |
| **All children (0-17 yrs)** |  |  |  |  |  |  |  |  |  |  |  |
| Hardship rates for children | 21 | 17 | 13 | 10 | 6 | - | - | - | - | - |  |
| Children as % of all people in hardship | - | - | - | - | - | 39 | 41 | 42 | 47 | 48 | 26 |
| **Family type** |  |  |  |  |  |  |  |  |  |  |  |
| Sole parent | 46 | 40 | 32 | 27 | 16 | 48 | 53 | 58 | 65 | 70 | 25 |
| Two parent | 17 | 12 | 8 | 5 | 2 | 52 | 47 | 42 | 35 | 30 | 75 |
| **Main income source for parent(s)** |  |  |  |  |  |  |  |  |  |  |  |
| Benefit (no movement off or onto benefit) | 61 | 52 | 43 | 35 | 20 | 40 | 44 | 48 | 54 | 55 | 16 |
| Some movement | 42 | 35 | 29 | 23 | 13 | 10 | 10 | 11 | 12 | 12 | 5 |
| Paid work (no main benefit income) | 15 | 11 | 7 | 5 | 2 | 50 | 46 | 41 | 35 | 33 | 79 |
| **Number of children in household** |  |  |  |  |  |  |  |  |  |  |  |
| 1 | 22 | 17 | 13 | 9 | 4 | 22 | 21 | 21 | 21 | 16 | 23 |
| 2 | 20 | 15 | 12 | 8 | 4 | 34 | 34 | 32 | 32 | 31 | 40 |
| 3 | 25 | 20 | 16 | 11 | 7 | 23 | 24 | 25 | 24 | 28 | 22 |
| 4+ | 35 | 28 | 21 | 16 | 10 | 22 | 22 | 22 | 23 | 25 | 15 |
| **Ethnicity (total)** |  |  |  |  |  |  |  |  |  |  |  |
| European | 18 | 14 | 10 | 8 | 3 | 42 | 41 | 37 | 35 | 33 | 59 |
| Maori | 39 | 33 | 27 | 19 | 11 | 29 | 31 | 33 | 33 | 33 | 19 |
| Pacific | 51 | 43 | 36 | 30 | 19 | 20 | 22 | 24 | 28 | 31 | 10 |
| Other | 19 | 12 | 8 | 4 | 3 | 9 | 7 | 7 | 6 | 5 | 12 |
| **Tenure of the household** |  |  |  |  |  |  |  |  |  |  |  |
| Owned, FT, or Other - with payments | 15 | 10 | 8 | 5 | 3 | 33 | 28 | 27 | 25 | 24 | 51 |
| Owned, FT, or Other - no payments | 4 | 4 | 3 | 1 | 1 | 2 | 3 | 3 | 1 | 1 | 13 |
| Private landlord | 36 | 29 | 23 | 17 | 8 | 42 | 45 | 46 | 47 | 39 | 28 |
| Housing New Zealand | 70 | 61 | 46 | 36 | 26 | 22 | 25 | 24 | 26 | 37 | 8 |

FT = Family Trust

The same approach can be applied to the population as a whole. The results are reported in **Table F.2** below.

**Table F.2**

**Hardship rates and composition (%) for different family and personal characteristics,**

**by different levels of hardship (using DEP-17): all individuals, or under 65s as shown**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **LSS 2008** | **Hardship rates** | | | | | **Composition** | | | | | |
|  | what % of this group are in hardship, using the different thresholds? | | | | | what % of all those in hardship (using a given threshold) are in this group / cell? | | | | | ALL |
|  | **6+** | **7+** | **8+** | **9+** | **11+** | **6+** | **7+** | **8+** | **9+** | **11+** |  |
| **Population** | 13 | 11 | 8 | 6 | 3 | 100 | 100 | 100 | 100 | 100 | 100 |
| **Age group** |  |  |  |  |  |  |  |  |  |  |  |
| 0-17 | 21 | 17 | 13 | 10 | 6 | 40 | 41 | 43 | 45 | 47 | 25 |
| 18-24 | 13 | 10 | 7 | 4 | 2 | 10 | 9 | 8 | 7 | 6 | 10 |
| 25-44 | 15 | 11 | 8 | 6 | 3 | 30 | 29 | 28 | 28 | 26 | 27 |
| 45-64 | 10 | 8 | 6 | 4 | 2 | 19 | 18 | 18 | 19 | 19 | 25 |
| 65+ | 3 | 2 | 1 | 1 | 0 | 3 | 2 | 2 | 1 | 0 | 13 |
| **Family type** |  |  |  |  |  |  |  |  |  |  |  |
| 65+ single | 5 | 3 | 2 | 1 | 0 | 2 | 2 | 1 | 1 | 0 | 5 |
| 65+ couple | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| <65 single | 15 | 11 | 8 | 6 | 3 | 21 | 21 | 21 | 20 | 16 | 20 |
| <65 couple | 7 | 5 | 3 | 2 | 1 | 9 | 8 | 6 | 6 | 8 | 9 |
| <65 SP with deps | 43 | 38 | 30 | 25 | 15 | 32 | 36 | 39 | 45 | 49 | 10 |
| <65 2P with deps | 12 | 9 | 7 | 4 | 2 | 34 | 33 | 32 | 27 | 26 | 39 |
| **Main income source for family (for under 65s)** | | | | | |  |  |  |  |  |  |
| Benefit (no move), with dep ch | 59 | 50 | 42 | 34 | 19 | 26 | 29 | 33 | 40 | 41 | 7 |
| Benefit (no move), no dep ch | 40 | 30 | 22 | 14 | 8 | 9 | 9 | 9 | 9 | 9 | 4 |
| Some movement, with dep ch | 40 | 32 | 27 | 20 | 11 | 6 | 7 | 7 | 8 | 9 | 3 |
| Some movement, no dep ch | 39 | 26 | 20 | 10 | 7 | 4 | 4 | 4 | 3 | 4 | 2 |
| Paid wk (no ben), with dep ch | 14 | 10 | 7 | 4 | 2 | 38 | 35 | 32 | 29 | 27 | 46 |
| Paid wk (no ben), no dep ch | 8 | 6 | 4 | 2 | 1 | 17 | 17 | 15 | 11 | 11 | 38 |
| **Family type and main income source for under 65s with dependent children** | | | | | | | | | |  |  |
| Sole parent (benefit) | 60 | 52 | 44 | 37 | 22 | 37 | 39 | 43 | 50 | 52 | 11 |
| Sole parent (market) | 22 | 21 | 14 | 11 | 7 | 11 | 13 | 12 | 12 | 13 | 9 |
| Two parent (benefit) | 45 | 39 | 28 | 18 | 9 | 9 | 10 | 9 | 8 | 7 | 4 |
| Two parent (market) | 10 | 8 | 6 | 3 | 2 | 42 | 38 | 36 | 29 | 27 | 75 |
| **Ethnicity (total)** |  |  |  |  |  |  |  |  |  |  |  |
| European | 10 | 8 | 6 | 4 | 2 | 55 | 54 | 54 | 49 | 48 | 74 |
| Maori | 30 | 25 | 18 | 14 | 7 | 32 | 32 | 32 | 36 | 31 | 14 |
| Pacific | 35 | 29 | 23 | 19 | 11 | 17 | 18 | 19 | 22 | 24 | 7 |
| Other | 13 | 11 | 6 | 4 | 2 | 7 | 7 | 6 | 5 | 4 | 7 |
| **Tenure of the household** |  |  |  |  |  |  |  |  |  |  |  |
| Owned or FT - with payments | 11 | 8 | 6 | 3 | 2 | 31 | 27 | 27 | 25 | 24 | 42 |
| Owned or FT - no payments | 3 | 2 | 2 | 1 | 0 | 5 | 5 | 5 | 3 | 4 | 26 |
| Private landlord | 27 | 21 | 16 | 10 | 5 | 46 | 48 | 48 | 49 | 44 | 27 |
| Housing New Zealand | 58 | 50 | 37 | 27 | 18 | 18 | 20 | 20 | 23 | 29 | 5 |
| **Core benefit type** |  |  |  |  |  |  |  |  |  |  |  |
| Unemployment Benefit | 41 | 34 | 26 | 24 | 17 | 9 | 9 | 9 | 10 | 12 | 11 |
| Domestic Purposes Benefit | 56 | 47 | 39 | 33 | 20 | 57 | 58 | 60 | 64 | 65 | 49 |
| Sickness Benefit | 43 | 34 | 25 | 14 | 5 | 16 | 15 | 14 | 10 | 6 | 18 |
| Invalids Benefit | 43 | 37 | 28 | 20 | 13 | 18 | 18 | 18 | 16 | 17 | 20 |
| Other (eg Emergency Benefit) | group too small for the reporting of results | | | | | | | | | | 2 |

**Children’s deprivations of necessities, and other restrictions in their day-to-day lives, by their family’s DEP-17 score (material hardship level), LSS 2008**

One of the strengths of the non-income approach to measuring material hardship is that it can give a real sense of the day-to-day experiences of restriction and deprivation for those identified as poor or in hardship. The findings reported above have done that to some degree already. The table on the next page **(Table F.3)** provides a detailed picture of the day-to-day experiences of New Zealand children living in various degrees of hardship.

The first and second rows in the table show how children are distributed across the living standards spectrum (all children and school-age children).

The top half of the table shows the differing experiences of school-age children in relation to 12 child-specific items that most New Zealanders are likely to consider that all children should have. The lower half introduces wider family and community factors that impact on children of all ages.

The overwhelming impression is that life for those children in the hardship zone on the DEP-17 measure, and especially for those among the most deprived 10%, is very different from that experienced by the vast majority of New Zealand children. All this well illustrates what it means in practice to be “excluded from the minimum acceptable way of life in one’s own society”.

There is more here than just “relative disadvantage”. There is no gradient across the whole spectrum, reflecting what could be called “acceptable inequality”. There is severe lack for many in the higher deprivation zone, compared with the bulk of children. Many of the lacks and deprivations are of such fundamental importance to child health and wellbeing that they would be part of an “absolute core” that the wider population would consider that no child in a more economically developed country (MEDC) should be without.

The 2015-16 HES has a suite of 21 child-specific indicators which will be reported on in the 2017 update. Many of them are the same as the ones collected in the 2008 Living Standards Survey. Statistics New Zealand plans to collect this information each three years.

**Table F.3**

**Children’s restrictions by DEP-17 score of their family (children aged 6-17 yrs), LSS 2008 (%)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **DEP-17 score** | **All** | **0** | **1** | **2** | **3-4** | **5-6** | **7-8** | | **9-10** | **11+** |
| **Distribution of children (6-17yrs) across DEP-17 (%)** | 100 | 36 | 14 | 12 | 16 | 7 | 6 | | 5 | 5 |
| **Distribution of children (0-17yrs) across DEP-17 (%)** | 100 | 33 | 14 | 11 | 16 | 10 | 8 | | 4 | 6 |
| **Enforced lacks of children’s items** |  |  |  |  |  |  |  | |  |  |
| friends to birthday party | 7 | 0 | 0 | 2 | 2 | 10 | 14 | | 25 | 50 |
| friends over for a meal | 6 | 0 | 0 | 2 | 4 | 12 | 7 | | 21 | 40 |
| waterproof coat for each child | 8 | 0 | 0 | 3 | 6 | 12 | 18 | | 25 | 54 |
| warm winter clothes for each child | 4 | 0 | 0 | 0 | 0 | 0 | 7 | | 18 | 36 |
| two pair strong / sturdy shoes for each child | 8 | 0 | 2 | 5 | 5 | 7 | 17 | | 39 | 44 |
| separate bed for each child | 4 | 0 | 0 | 0 | 4 | 7 | 7 | | 11 | 28 |
| separate bedrooms for children of opposite sex (10+ yrs) | 8 | 0 | 2 | 5 | 5 | 15 | 15 | | 9 | 39 |
| all school uniform items required by the school | 4 | 0 | 0 | 0 | 0 | 4 | 11 | | 12 | 33 |
| **Economising ‘a lot’ on children’s items to keep down costs to enable other basic things to be paid for** | | | | | | | | | | |
| continued with worn out shoes/clothes for the children | 9 | 0 | 0 | 3 | 8 | 11 | | 26 | 36 | 60 |
| bought second-hand clothing instead of new | 16 | 1 | 10 | 10 | 17 | 24 | | 43 | 47 | 69 |
| postponed child’s visit to dentist | 3 | 0 | 0 | 0 | 1 | 5 | | 15 | 5 | 23 |
| postponed child’s visit to doctor | 3 | 0 | 0 | 0 | 0 | 3 | | 12 | 9 | 24 |
| did not pick up prescription for children | 2 | 0 | 0 | 0 | 0 | 0 | | 12 | 2 | 12 |
| child (ren) went without glasses or contact lenses | 2 | 0 | 0 | 0 | 2 | 2 | | 4 | 8 | 20 |
| unable to pay for school trip | 4 | 0 | 0 | 0 | 0 | 4 | | 16 | 11 | 36 |
| went without music, dance, kapa haka, art, swimming, etc | 10 | 2 | 0 | 4 | 8 | 13 | | 32 | 33 | 48 |
| involvement in sport had to be limited | 9 | 0 | 0 | 2 | 5 | 16 | | 30 | 28 | 45 |
| made do with very limited space for children to study or play | 9 | 0 | 2 | 8 | 9 | 13 | | 23 | 36 | 45 |
| **Multiple restrictions** |  |  |  |  |  |  | |  |  |  |
| 4+ out of 18 | 11 | 0 | 0 | 0 | 3 | 14 | | 35 | 43 | 77 |
| 5+ out of 18 | 8 | 0 | 0 | 0 | 0 | 11 | | 30 | 29 | 60 |
| 6+ out of 18 | 6 | 0 | 0 | 0 | 0 | 3 | | 22 | 18 | 54 |
| **Children’s serious health problems reported by respondent (6-17 yrs)** | | | | | | | | | | |
| serious health problems for any child in the last year (eg diabetes, asthma, mental health problems or learning difficulties) | 29 | 22 | 22 | 30 | 29 | 36 | | 39 | 31 | 56 |
| **Enforced lacks, economising ‘a lot’ or financial stress reported by respondent in child’s family (0-17 yrs)** | | | | | | | | | | |
| meal with meat , fish or chicken at least each second day | 3 | 0 | 0 | 0 | 0 | 2 | | 6 | 15 | 86 |
| keep main rooms warm | 9 | 0 | 3 | 3 | 8 | 12 | | 14 | 33 | 46 |
| one week’s holiday away from home in last year | 33 | 9 | 25 | 31 | 42 | 55 | | 55 | 63 | 86 |
| cut back or did without fresh fruit and vegetables (‘a lot’) | 14 | 0 | 0 | 7 | 12 | 17 | | 43 | 52 | 79 |
| postponed visit to doctor (‘a lot’) | 14 | 0 | 0 | 9 | 12 | 32 | | 43 | 56 | 72 |
| delayed repair or replacement of appliances (“a lot”) | 20 | 0 | 2 | 13 | 17 | 28 | | 54 | 69 | 84 |
| received community help in last 12 months (‘> once’) | 8 | 0 | 2 | 2 | 5 | 12 | | 25 | 26 | 46 |
| pawned/ sold something to meet everyday costs | 8 | 0 | 0 | 5 | 5 | 10 | | 22 | 35 | 46 |
| not enough income to meet basics | 26 | 4 | 11 | 19 | 33 | 44 | | 49 | 74 | 86 |
| **Housing condition and local community safety** |  |  |  |  |  |  | |  |  |  |
| overall physical condition of house (poor/very poor) | 7 | 0 | 3 | 4 | 5 | 9 | | 25 | 20 | 35 |
| difficult to keep house warm in winter (major problem) | 22 | 7 | 14 | 17 | 24 | 30 | | 39 | 59 | 71 |
| dampness or mould (major problem) | 17 | 5 | 7 | 14 | 18 | 26 | | 36 | 51 | 56 |
| crime or vandalism in the area (major problem) | 11 | 6 | 5 | 9 | 10 | 13 | | 19 | 23 | 36 |

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**Section G**

**Material hardship trends from 2007 to 2015 (using HES data)**

This section reports on trends in material hardship rates from 2007 to 2015 for the population as a whole, for children aged under 18 years, for older New Zealanders aged 65+ and for selected household types. Several hardship thresholds are used ranging from more to less severe in line with the approach discussed in earlier sections. The trends in rates for those in “near hardship” are also reported to more fully round out the picture.

Measuring material hardship using non-income measures has been carried out in the UK and Ireland for many years, especially since Townsend’s efforts in the 1960s and 1970s (see, for example, Mack and Lansley (1985, 2015), and Nolan and Whelan (1996, 2013). John Jensen and David Fergusson in New Zealand used non-income measures in the 1970s to investigate the material wellbeing of older New Zealanders (Department of Social Welfare,1975). However it is really only in the last decade or so that governments and their statistical agencies have been gathering information for creating time series with survey data available each year. The EU-SILC series, coordinated and supervised by Eurostat, runs from 2005 for EU countries, plus Iceland and Norway. Australia has financial stress items in HILDA surveys from 2001 to 2009, and a similar set is currently in the Survey of Income and Housing. There is no time series data available for the US or Canada using non-income indicators.

The time series in this section are constructed using non-incomes data from Statistics New Zealand’s Household Economic Surveys (HES), from HES 2006-07 to HES 2014-15.[[18]](#footnote-18) Twenty-five items were collected from HES 2006-07 to 2011-12 (the ELSI short-form items), and then from 2012-13 the HES collected 29 non-income items from which the MWI and DEP-17 are constructed. In the change of item sets, 13 of the 25 ELSI items were dropped and 17 new ones were added (see Appendix 6 for the lists). There can therefore be no on-going ELSI time series and, similarly, the new MWI series can run only from 2012-13. This means a break between 2011-12 to 2012-13 with ELSI before the break and MWI after, and potentially thwarts efforts for a time series across the whole period.

**Is a HES time series feasible given the change in the item set between the 2011-12 and 2012-13 surveys?**

This section shows that such a time series is feasible. It uses the fact that 9 of the 12 items that are common to both the earlier and later datasets are suitable to be used to create a good-enough index (DEP-COMMON) that shows the shape of the trend lines across the full period, 2006-07 to 2014-15, for three thresholds. This information provides a solid guide for how to splice the ELSI and MWI time series between 2011-12 and 2012-13, the period in which the item sets change.

The 9 common items are listed below. They are of two types:

**Enforced lacks**

* two pair shoes for daily activities (R)
* suitable clothes for special occasions (R)
* presents for families/friends (R)
* home contents insurance (H)
* holiday away from home for at least a week each year (R)

**Economising “a lot” to keep costs down so as able to afford other basic items**

* go without fresh fruit and vegetables (H)
* continue wearing worn out clothing (R)
* postpone or put off visits to the doctor (R)
* do without or cut back on trips to the shops or other local places (H)

Note: R = for respondent, and H = for household as a whole

The 3 items that are in both datasets but which are not used in DEP-COMMON are about hobbies and overseas holidays (not suitable for tracking hardship) and income adequacy. The index score is created simply by adding the number of items that indicate hardship (either an enforced lack or economising “a lot”).

DEP-COMMON has a very good reliability score, with a Cronbach’s alpha of 0.76, and the items cover a reasonable range of domains. When it is used to identify the groups with the highest and lowest deprivation rates it gives results similar to DEP-17 and EU-13 (see **Table G.1** below). Its main limitation is that with only 9 items there are relatively large gaps between rates for different thresholds in the typical hardship zones. In other words, DEP-COMMON has a clunky cumulative distribution curve. There are only three thresholds of any great use (3+, 4+, and 5+), and for the whole population the rates are 15%, 9% and 6% respectively using LSS 2008 data. To get a population rate ~11% for DEP-COMMON to allow easy comparisons with EU-13 and DEP-17, the average of the 3+ and 4+ rates is used in Table G.1 below.

**Table G.1**

**Comparisons of hardship rates for different sub-groups**

**using different indices (EU-13, DEP-17 and DEP-COMMON)**

|  |  |  |  |
| --- | --- | --- | --- |
| LSS 2008 | **EU-13 (5+)** | **DEP-17 (7+)** | **DEP-COMMON** |
| ALL | 11 | 11 | 12 |
| 0-17 | 18 | 17 | 18 |
| 65+ | 3 | 2 | 3 |
| 2P <65 | 11 | 9 | 11 |
| SP <65 | 35 | 38 | 37 |
| Couple <65 | 5 | 5 | 6 |
| European (total) | 8 | 8 | 9 |
| Maori (total) | 24 | 25 | 26 |
| Children (market) | 11 | 10 | 11 |
| Children (benefit) | 51 | 51 | 49 |

Reading note: The thresholds used for the indices were selected to make the population hardship rates similar (11-12%). The lumpiness of rates for DEP-COMMON did not give 11-12% for any one threshold: 3+ was 14.8% and 4+ 9.4%. The figures above therefore use the average of 3+ and 4+ rates for DEP-COMMON , giving a 12% rate for ALL.

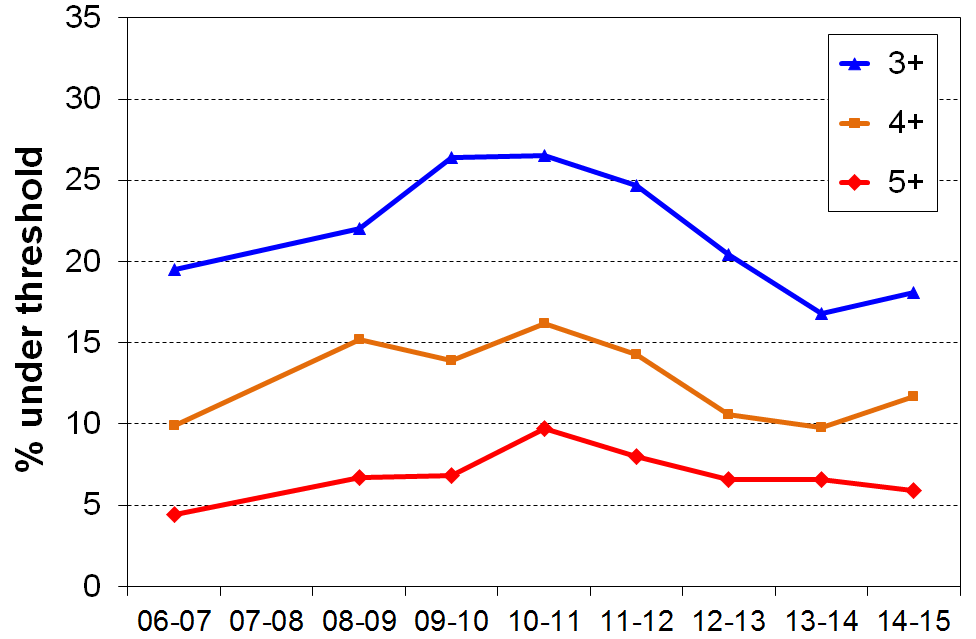
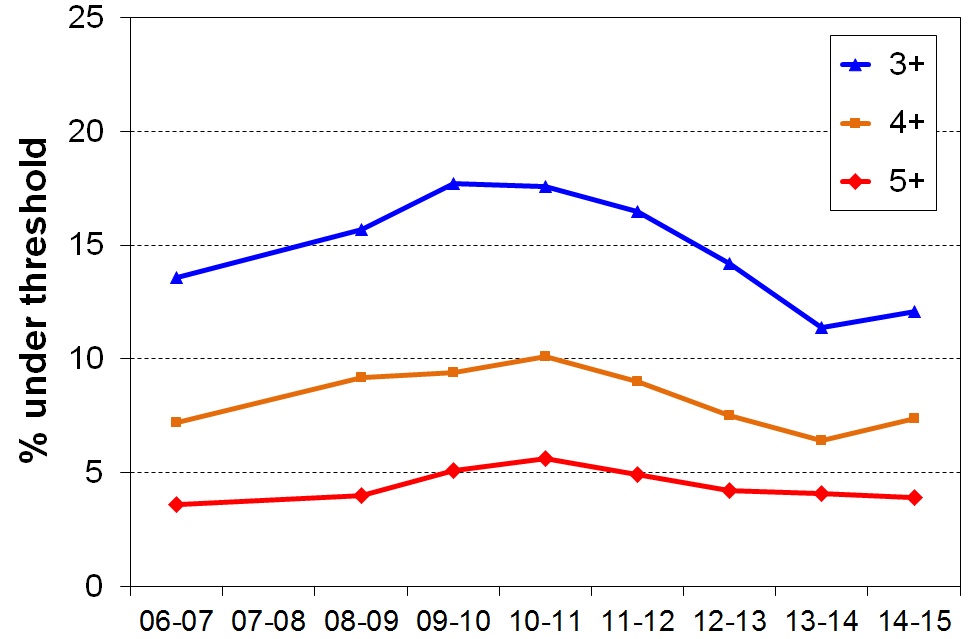
DEP-COMMON has good enough credentials to show the shape of the trend lines for three thresholds across the full period, 2006-07 to 2014-15. This provides a solid guide for how to splice the ELSI / MWI time series between 2011-12 and 2012-13, when the item sets changed.

The graphs in **Figure G.1** below use the 9-item DEP-COMMON to create a time series from 2006/07 to 2014/15. There are two particular features of the trends that stand out:

* for the less stringent threshold (top line in each), the clear rise of hardship rates through the GFC and the strong fall in the recovery phase, then a levelling out to 2014/15
* for the more stringent threshold (bottom line in each),
  + for the population as a whole - neither the rise nor the fall is very strong
  + for children the rise and fall are clearer, though muted compared with the top line.

**Figure G.1**

**Hardship trends using DEP-COMMON, for whole population (left) and for 0-17 yrs (right)**

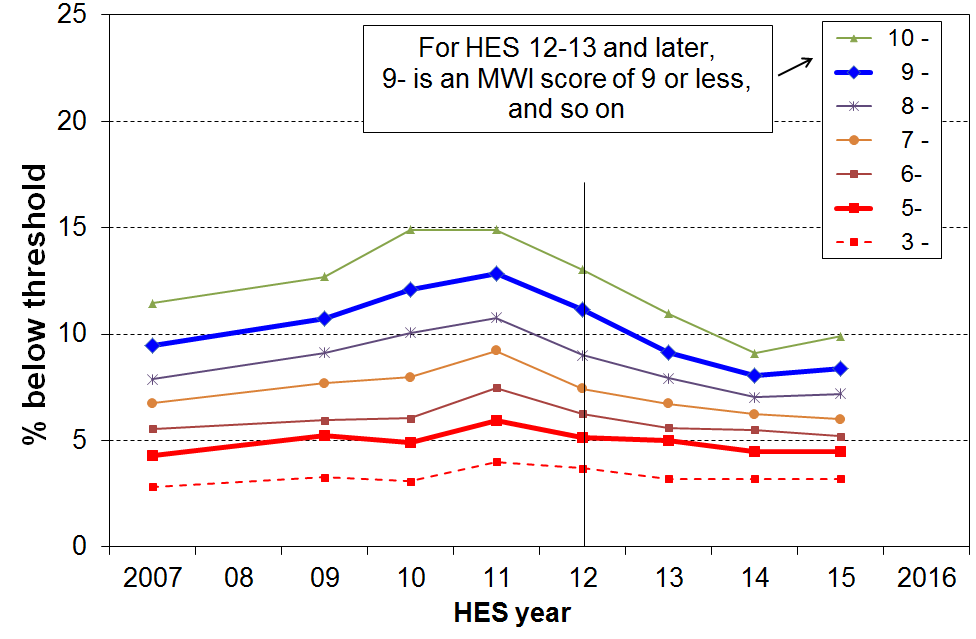


**A material hardship time series from 2007 to 2015**

Trends in material hardship rates from 2007 to 2015 are reported in **Figures G.2 and G.3** and in **Table G.2.** The analysis uses the ELSI index from 2007 to 2012 and the MWI from 2013. Although the ELSI measure has limitations for informing about trends in material wellbeing in the higher living standards zone, it functions well as a deprivation index for lower ELSI scores for showing trends. See above for the rationale for splicing the two time series. Note that MWI ≤ 9 ≡ 7+/17 using DEP-17.

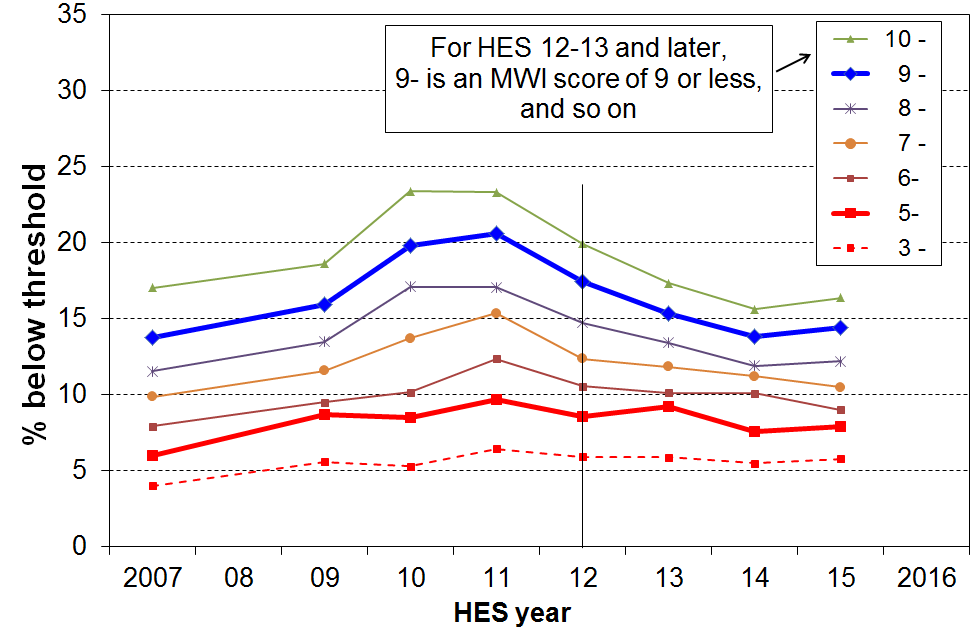
**Figure G.2**

**Material hardship trends for different thresholds (whole population)**



**Figure G.3**

**Material hardship trends for different thresholds (0-17yrs)**



**Table G.2**

**Material hardship trends (rate %), 2007 to 2015, using two thresholds (HES)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Less stringent threshold  MWI ≤ 9 (≡ 7+ on DEP-17) | | | More stringent threshold  MWI ≤ 5 (≡ 9+ on DEP-17) | | |
|  | ALL | 0-17 | 65+ | ALL | 0-17 | 65+ |
| 2007 | 10 | 14 | 4 | 4 | 6 | 1 |
| 2009 | 11 | 16 | 4 | 5 | 9 | 3 |
| 2010 | 12 | 20 | 3 | 5 | 9 | 1 |
| 2011 | 13 | 21 | 3 | 6 | 10 | 1 |
| 2012 | 11 | 17 | 5 | 5 | 9 | 2 |
| 2013 | 9 | 15 | 2 | 5 | 9 | 1 |
| 2014 | 8 | 14 | 2 | 5 | 8 | 1 |
| 2015 | 8 | 14 | 3 | 5 | 8 | 1 |

Note: the ELSI short form index used for 2007 to 2012 has 24 items (the hobbies item is missing in the 2007 HES, so the report leaves it out for all the ELSI analysis used in the time series). The two thresholds used are “ELSI ≤ 13” and “ELSI ≤ 9”.

A feature of material hardship trends using non-income measures is that they are quite sensitive to changing household circumstances and can show much higher percentage point changes for rates compared with the corresponding changes in income poverty rates. This does not mean that in the GFC that material hardship in New Zealand “got a lot worse”, whereas income poverty became only “a little worse”. It is the direction of the trends for each that is of prime importance when comparing the two. See Section A for a discussion of this point in relation to the trends in Ireland Figure A.3).

**Table G.3** repeats the hardship rates for children from Table G.2 above and provides the corresponding numbers, using the two thresholds. Using the less stringent “standard” threshold, the reduction from the 220,000 peak during the GFC has stopped and the numbers have settled at around 150,000. On the more stringent “severe” threshold, the numbers are reasonably steady in the 80,000 to 90,000 range.

**Table G.3**

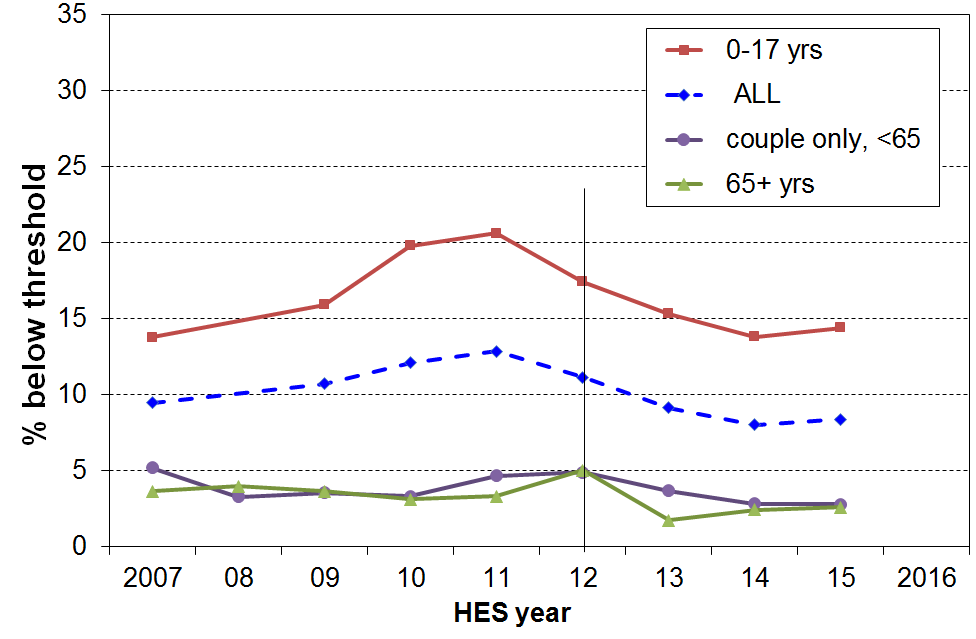
**Material hardship rates (%) and numbers for children**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **HES year** | **EU ‘standard’ threshold** | | **EU ‘severe’ threshold** | |
|  | **rate (%)** | **numbers** | **rate (%)** | **numbers** |
| 2007 | 14 | 145,000 | 6 | 65,000 |
| 2009 | 16 | 170,000 | 9 | 95,000 |
| 2010 | 20 | 210,000 | 9 | 90,000 |
| 2011 | 21 | 220,000 | 10 | 105,000 |
| 2012 | 17 | 180,000 | 9 | 90,000 |
| 2013 | 15 | 165,000 | 9 | 100,000 |
| 2014 | 14 | 145,000 | 8 | 80,000 |
| 2015 | 14 | 155,000 | 8 | 85,000 |

**Figure G.4** shows the material hardship trends for younger and older New Zealanders, and for couple households without dependent children, compared with the overall population trend. The threshold used is the less stringent one (MWI ≤ 9 (≡ 7+ on DEP-17)). The slight volatility in the 65+ trend is not of significance. The overall relativities are clear and well established. The rate for sole parent households rose from around 30% pre-GFC to 40% and in 2014 and 2015 was back to 32%.

**Figure G.4**

**Material hardship trends, 2007 to 2015, selected groups**



Note: the analysis uses a hardship threshold that is equivalent in 2012 to the EU ‘standard’ measure.

**Would using DEP-17 for the time series starting with HES 2013 give different results?**

DEP-17 rates will be reported each year, and are expected to track very much the same as the MWI rates. Tables G.4A and G.4B show a promising start for HES 2013 to HES 2015. (These tables are the same as Tables E.8A and E.8B, except that the LSS 2008 findings are omitted here.)

**Table G.4A**

**Comparisons of MWI and DEP-17 for three HES years, using a range of thresholds:**

**whole population**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **MWI** | | | **DEP-17** | | |  |
| **MWI** | HES 2012-13 | HES 2013-14 | HES 2014-15 | HES 2012-13 | HES 2013-14 | HES 2014-15 | DEP-17 |
| **13 -** | 15 | 13 | 14 | 15 | 12 | 14 | **5+** |
| **12 -** | 14 | 11 | 12 |  |  |  |  |
| **11 -** | 12 | 10 | 11 | 12 | 10 | 11 | **6+** |
| **10 -** | 11 | 9 | 10 |  |  |  |  |
| **9 -** | 9 | 8 | 8 | 9 | 7 | 9 | **7+** |
| **8 -** | 8 | 7 | 7 |  |  |  |  |
| **7 -** | 7 | 6 | 6 | 6 | 6 | 7 | **8+** |
| **6 -** | 6 | 6 | 5 |
| **5 -** | 5 | 5 | 5 | 5 | 5 | 5 | **9+** |
| **4 -** | 4 | 4 | 4 |  |  |  |  |
| **3 -** | 3 | 3 | 3 | 3 | 3 | 4 | **10+** |

**Table G.4B**

**Comparisons of MWI and DEP-17 for three HES years, using a range of thresholds:**

**0-17 years**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **MWI** | | | **DEP-17** | | |  |
| **MWI** | HES 2012-13 | HES 2013-14 | HES 2014-15 | HES 2012-13 | HES 2013-14 | HES 2014-15 | DEP-17 |
| **13 -** | 23 | 20 | 22 | 23 | 20 | 21 | **5+** |
| **12 -** | 21 | 19 | 19 |  |  | 17 |  |
| **11 -** | 19 | 17 | 18 | 18 | 16 | 17 | **6+** |
| **10 -** | 17 | 16 | 16 |  |  |  |  |
| **9 -** | 15 | 14 | 14 | 15 | 12 | 14 | **7+** |
| **8 -** | 13 | 12 | 12 |  |  |  |  |
| **7 -** | 12 | 11 | 11 | 10 | 10 | 11 | **8+** |
| **6 -** | 10 | 10 | 9 |
| **5 -** | 9 | 8 | 8 | 8 | 8 | 9 | **9+** |
| **4 -** | 7 | 7 | 7 |  |  |  |  |
| **3 -** | 6 | 6 | 6 | 5 | 5 | 6 | **10+** |

Reading notes for **Tables G.6A and 6B:**

* 5+ means 5 or more, and 13- means 13 or less
* The deeper (DEP-17 = 11+) level of hardship was reported in Section E using LSS 2008 (sample of 5000). The HES sample is smaller (~3000) and the numbers get very low in this row, especially for sub-groups (eg children, 0-17 yrs). The tables therefore stop at MWI ≤ 3.

The shaded rows in the tables above indicate where the hardship zone starts for this report (MWI score of 9 or less ≡ DEP-17 score of 7 or more). The rationale for this judgement call is outlined in Section D for DEP-17. It should be taken as a guide only and not as a definitive or official cut-off. The report uses more stringent thresholds below “MWI = 9 or less” to monitor more severe hardship and also thresholds above it to monitor those in “near hardship”.

**Different trends at different depths of hardship**

Figures G.2 and G.3 above show a clear rising trend through the GFC and a falling trend in the recovery phase for all the less stringent thresholds, with a flattening out from 2013-14 to 2014-15. However the trend using a more severe hardship threshold (MWI ≤ 5 (ie 9+ on DEP-17)) is relatively flat from 2009 to 2015.

The difference in trends for material hardship rates using less and more stringent thresholds arises from the fact that around half of those under the less stringent thresholds come from households with incomes above the poverty or low-income line (see Section H below):

* those below the hardship line are more likely to be beneficiaries or workers on low wages – these households are not greatly impacted in the short-term by modest changes in the economy
* households above the low-income line are much more impacted by changes in the economy (average wage rates, employment rates and opportunities) and some can slip into and out of lesser hardship very easily as at the best of times they are “only just getting by” and a relatively small income loss can make a large difference.

Differing hardship trends at different depths were also observed when Working for Families was introduced in 2007. **Table G.5** below shows the change in material hardship rates for children from 2004 to 2008, driven mainly by the introduction of the WFF package. The deprivation index used was a 14-item one, similar to DEP-17. The 7+/14 threshold (bottom row) gives numbers similar to the 9+/17 threshold for DEP-17. [[19]](#footnote-19) The data is from the 2004 and 2008 Living Standards Surveys.

**Table G.5**

**Impact of WFF on child material deprivation rates**

|  |  |  |  |
| --- | --- | --- | --- |
| **threshold**  (out of 14) | **2004**  (%) | **2008**  (%) | **decrease**  (% point) |
| **4+** | 26 | 23 | 3 |
| **5+** | 19 | 17 | 2 |
| **6+** | 13 | 12 | 1 |
| **7+** | 10 | 10 | 0 |

Note: the 7+/14 threshold is at the “more severe” level, similar to the 9+/17 using DEP-17.

The relevance of the findings in Table G.5 is that they provide further support for the finding evident in Figures G.2 and G.3 above – namely, that it is more difficult to reduce hardship rates for those in more severe hardship than for those in less severe hardship.

**Using NIMs and household income together to identify the proportion of those who live in households whose incomes are below the AHC 60% of median low-income line and who are also experiencing material deprivation.**

As discussed in Section H (below), one of the features of the relationship between income poverty and material hardship as measured using NIMs 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).

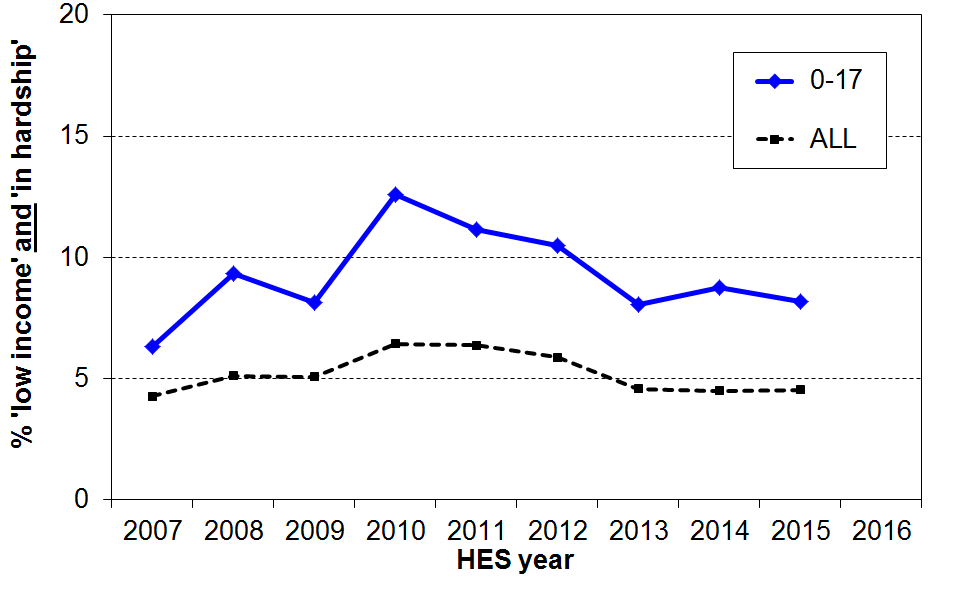
For those in hardship but with incomes reasonably above a “low-income” line there are grounds for expecting living standards to improve over time provided their incomes do not decline and that there are no on-going special demands on the budget (eg from high health costs, high debt servicing, and so on). 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 G.5** shows the trend in the size of the overlap group from 2007 to 2015 for the population as a whole and for children. The impact of the stalling then decline in real GDP per capita from calendar 2007 to calendar 2009 (2007/08 drought and then the GFC) is clear. Rates have returned to around where they were on average as the GFC’s impact began to be felt in the 2008-09 HES (ie in calendar 2008). There is no measurable change from HES 2013 to HES 2015.

As in the analysis for Figures G.5 and G.6, the overlap analysis here uses the 60% AHC income low-income line and the material hardship line set at MWI ≤ 9 (ie 7+/17 on DEP-17).

**Figure G.5**

**Trends in the proportion of those who are both “income poor” & “materially deprived”, 2007 to 2015**



Reading note for graph: the data for HES 2009 was collected in 2008-09, and the income aspect reflects incomes on average in calendar 2008. Real GDP per capita stalled between calendar 2007 and calendar 2008.

Those in the overlap group are sometimes referred to colloquially as being in “severe hardship” or “severe poverty”. The overlap approach is just one of several ways of reporting “more severe hardship”. This report and the companion Incomes Report note that there are several ways of conceptualising “severe hardship” or “severe poverty”:

* higher deprivation scores on using the MWI (MW≤5) or the DEP-17 equivalent (9+/17)
* very low incomes (say, less than 40% of median AHC incomes)
* having both low income and in material hardship, as above.

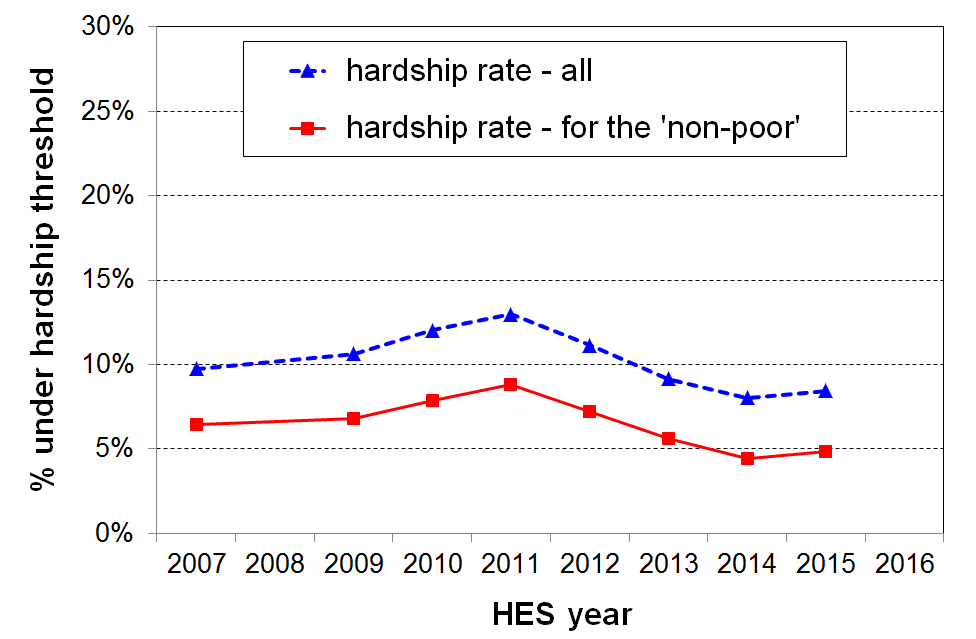
**Trends in hardship rates for the non-poor**

**Figure G.6** shows the trends in hardship rates for the whole population and those from “non-poor” households, and **Figure G.7** shows the same for children. It links back to the discussion about the “near-poor” above and is a reminder that there are households with incomes above the 60% of median income poverty line whose financial circumstances can best be described as precarious (cf Whelan and colleagues, 2016). Relatively small drops in income or unexpected bills can make a significant difference to their actual day-to-day living conditions.

The analysis uses the 60% AHC income poverty line and the material hardship line set at MWI ≤ 9 (ie 7+/17 on DEP-17).

**Figure G.6**

**Material hardship for those in non-poor families, 2007 to 2015**



**Figure G.7**

**Material hardship for children in non-poor families, 2007 to 2015**



**Table G.4**

**Material hardship trends (rate %), 2007 to 2015, for ‘all’ and the ‘non-poor’**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | ALL | | 0-17 | |
|  | ALL | ‘non-poor’ | ALL 0-17 | ‘non-poor’ |
| 2007 | 10 | 6 | 15 | 11 |
| 2009 | 11 | 7 | 16 | 11 |
| 2010 | 12 | 8 | 20 | 12 |
| 2011 | 13 | 9 | 21 | 14 |
| 2012 | 11 | 7 | 17 | 11 |
| 2013 | 9 | 6 | 15 | 10 |
| 2014 | 8 | 4 | 14 | 7 |
| 2015 | 8 | 5 | 14 | 8 |

**Section H**

**Low income and material hardship**

The income-wealth-consumption-material-wellbeing framework used in this report and in the Incomes Report draws attention to the fact that while household income is an important factor in determining household material wellbeing and in accounting for the differences between the material wellbeing of households, other factors are relevant too. See Section A.

**Household income**

**Discretionary spend / desirable non-essentials**

**Resources available for consumption**

**Basic needs / essentials**

**Financial and physical assets**

**Other factors**

eg assistance from outside the household (family, community, state), high or unexpected health or debt servicing costs, lifestyle choices, ability to access available resources

**Material wellbeing or living standards**

The framework shows how households with similar incomes can experience quite different actual day-to-day living standards because of different asset levels or because of different sets of “other factors”.

**The relationship between low income and material hardship (deprivation)**

Income poverty and material hardship approaches are often characterised as complementary ways of measuring “poverty” understood in the wider sense of significant material disadvantage. This perspective is reinforced by the findings that show that both approaches identify the same population groups as being at higher or lower risk (see for example **Table H.3** below).

For understanding the relationship between income measures and non-income measures of material well-being, and especially between low household income and high material deprivation, the “complementary measures” view has some validity. However, one of the most fundamental aspects of the relationship between the two is the significant mismatch between those identified as poor (ie income poor) and those identified as in hardship or deprivation.[[20]](#footnote-20) The overlap between the income poor and the materially deprived groups is modest across all EU countries and for New Zealand, typically of the order of 40% to 50% for the population as a whole (when using low income and hardship groups of similar size).[[21]](#footnote-21)

The existence of the mismatch is not surprising. A household’s standard of living (material wellbeing) is determined by its command over resources relative to its needs. Current income, even when measured accurately and adjusted for household size and composition (equivalised) is only one aspect of the resources available to a household: financial assets, the range and quality of household goods, help in cash and in kind from outside the household are all important too, and vary from household to household. Different households also have different demands on the budget from differing debt servicing requirements, health- and disability-related costs, transport costs for getting to paid employment, expectations to assist others outside their own household, and so on.

This does not mean that household income is not a very important driver of living standards. For low-income households an income increase will almost always raise their material wellbeing. What the finding means is that when comparing the material wellbeing of households, income alone is often not a reliable indicator as the “other factors” vary greatly from household to household.

The mismatch means that there are six groups to consider:

* the income poor
* the materially deprived
* the income poor who are materially deprived (the both/and group)
* the income poor who are not materially deprived (poor only)
* the materially deprived who are not income poor (deprived only)
* those who are neither.

**Table H.1** below shows the proportion of the different groups who report that their household’s income is “not enough” to cover the basics of food, accommodation, clothing, heating and so on from the 2012 HES. The NIMs index used is FRILS rather than ELSI, as ELSI already has the income adequacy question as one of its component items and FRILS does not. The use of FRILS facilitates a more robust investigation of how the different groups on average assess their own income adequacy. The options for the respondent were: not enough, just enough, enough and more than enough. (MWI and DEP-17 data were not available in HES 2012).

**Table H.1**

**Self-assessed income adequacy for the six groups noted above, HES 2012**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **ALL** | **neither** | **poor only** | **poor** | **deprived only** | **deprived** | **both** |
| **Whole population** |  |  |  |  |  |  |  |
| size of groups (% of whole population) | 100 | 76 | 9 | 15 | 10 | 15 | 5 |
| % in HHs with “not enough” for the basics | 18 | 10 | 30 | 46 | 43 | 53 | 72 |
| **Children (0-17 yrs)** |  |  |  |  |  |  |  |
| size of groups (% of all children) | 100 | 66 | 12 | 22 | 12 | 22 | 9 |
| % in HHs with “not enough” for the basics | 25 | 12 | 32 | 52 | 44 | 58 | 77 |

Note: - the AHC 50% of median measure is used for income poverty

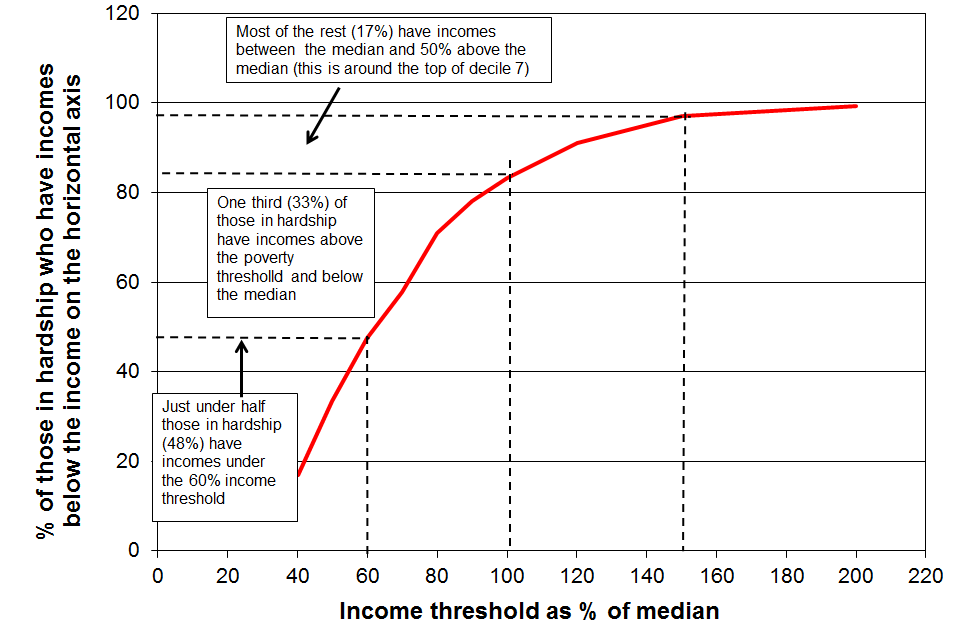
- the FRILS measure is used for material deprivation, with the threshold set to give the same proportion as the income poverty measure gives (15%) – see Perry (2009) for information on FRILS.

Clearly the overlap group (“both”) is the one where the stress and need is very likely to the greatest.

**Figure H.2** examines the overlap from another perspective. It shows that around half those in hardship have incomes below a 60% AHC threshold and one third have incomes above this but below the median (“the near poor”).

**Figure H.2**

**The distribution of incomes for those identified as “in hardship”, HES 2012**

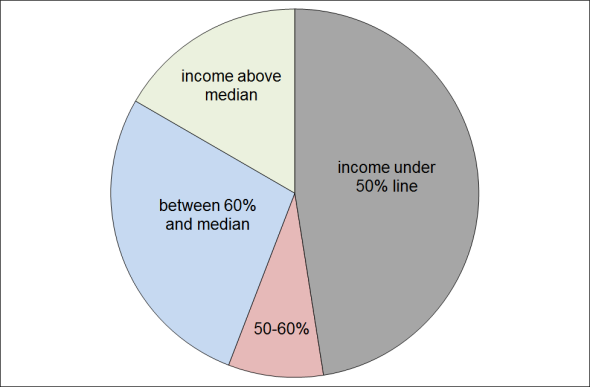


Note: The hardship group is the lower 15% defined using the ELSI\_SF measure.

Income is AHC household income.

The same pattern can be shown in a pie chart as in **Figure H.3** using 2014-15 HES data. The hardship group is the 8% of the population with MWI scores of 9 or less (the less stringent threshold). Just under half (48%) have incomes below the 50% of median AHC line and a further 8% in the 50% to 60% band. 17% have incomes above the median.

**Figure H.3**

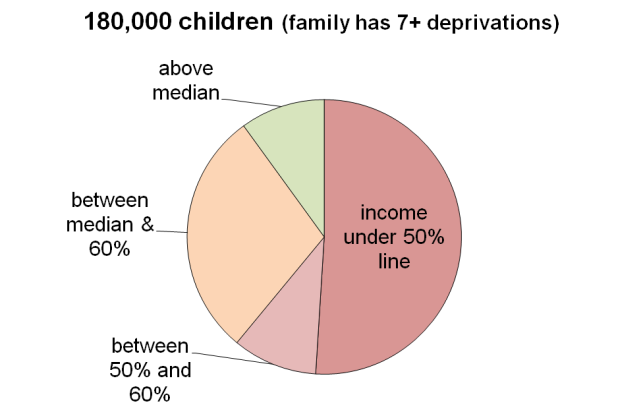
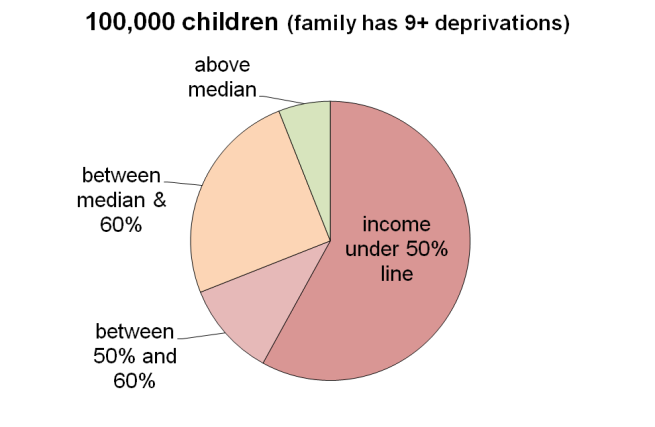
**The distribution of incomes for those identified as “in hardship”, HES 2015**

The overlap between low-income households and households in hardship is higher for deeper hardship levels

The right-hand chart in **Figure H.4** shows that of the 100,000 children in more severe hardship (DEP-17 scores of 9+/17, LSS 2008), seven out of ten (69%) are from families with incomes below the 60% of median threshold (after housing costs), compared with 61% when using a less stringent hardship threshold as in the left-hand diagram (7+/17).

**Figure H.4**

**Proportion (%) of children in hardship by family income band**

**(two hardship thresholds), LSS 2008**

**Table H.2** shows the data behind the pie charts above, together with further detail.

**Table H.2**

**Proportion (%) of children in hardship by family income band**

**for five “hardship” thresholds**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **# of enforced lacks of basics (deprivations)** | **6+** | **7+** | **8+** | **9+** | **11+** |
|  | **21%** | **17%** | **13%** | **10%** | **6%** |
| **# of children** | **220k** | **180k** | **140k** | **100k** | **60k** |
| income under a 50% of median AHC line | 47 | 51 | 55 | 58 | 58 |
| income between 50% and 60% lines | 9 | 10 | 10 | 11 | 12 |
| income between 60% line and median | 31 | 29 | 27 | 25 | 24 |
| income above the median | 13 | 10 | 8 | 6 | 6 |

**Comparing the results for the incomes and NIM approaches**

Despite the mismatch discussed above, the population subgroups that are identified as being at higher (or lower) risk of being income poor (AHC) are also identified as being at higher (or lower) risk of material hardship or deprivation.

In the 2012 HES, 13% of the population were identified as poor using the 50% AHC (moving line)[[22]](#footnote-22) measure, and 13% were in hardship as measured using the ELSI measure with the threshold set at 6 or more out of 16 essential item. **For Table H.3** the thresholds for the FRILS measure and the MWI were adjusted to also give population hardship rates of 12-13%.

Table H.3 reports the poverty and hardship rates for selected subgroups for all four measures. It shows that there is a reasonable similarity in actual proportions identified as ‘income poor’ or ‘in hardship’. In addition it shows that the sub-group relativities are not impacted by the choice of material hardship index that is chosen.

**Table H.3**

**Comparison of hardship rates based on income and non-income measures,**

**by selected individual and household/family characteristics (2012 HES)**

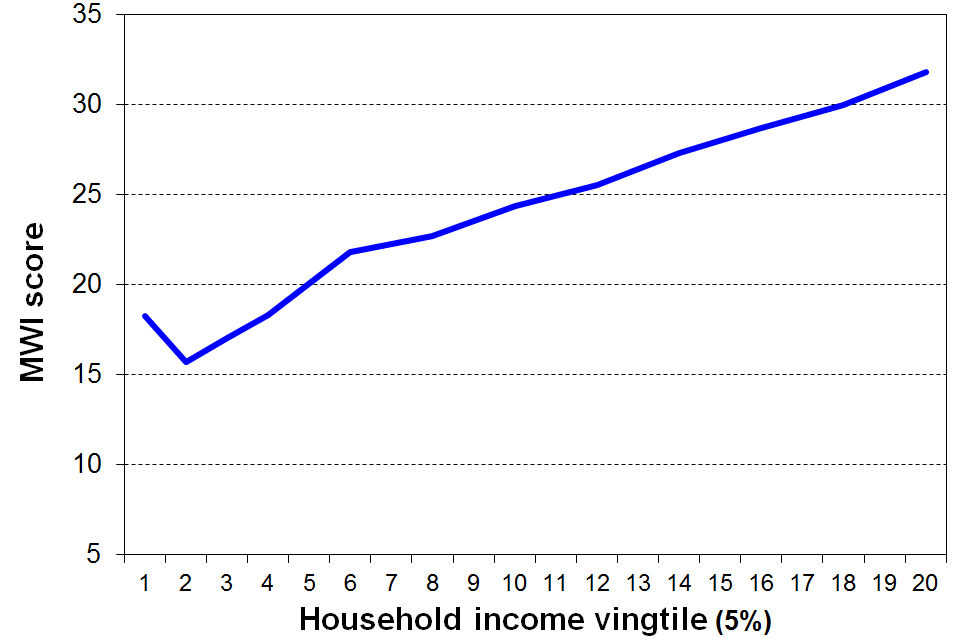
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Income poverty** | **Material hardship** | | |
|  | **AHC REL 50** | **ELSI** | **FRILS** | **MWI** |
| **Total population** | **13** | **13** | **13** | **12** |
| ***Age group*** |  |  |  |  |
| 0-17 | 20 | 21 | 19 | 19 |
| 18-24 | 17 | 14 | 14 | 15 |
| 25-44 | 14 | 12 | 12 | 13 |
| 45-64 | 9 | 10 | 9 | 9 |
| 65+ | 7 | 6 | 8 | 3 |
| ***Ethnicity (avg over HES 2010, 2011 and 2012)*** | | |  |  |
| European | 11 | 10 | 11 | - |
| Māori/Pacific | 23 | 28 | 31 | - |
| ***Family type*** |  |  |  |  |
| SP | 44 | 39 | 34 | 36 |
| 2P | 12 | 14 | 14 | 13 |
| ***Number of children (avg over HES 2010, 2011 and 2012)*** | | |  |  |
| One | 19 | 16 | 15 | - |
| Two | 17 | 15 | 15 | - |
| Three+ | 27 | 28 | 25 | - |
| ***Main source of income for families/households <65*** | | |  |  |
| Market | 9 | 10 | 11 | 10 |
| Government | 64 | 43 | 42 | 42 |

Note: figures for ethnicity and number of children are averages over three surveys to improve the reliability of the estimates, as some of the sub-divisions have relatively low sample numbers.

**Many decile one household incomes are not a reliable guide to the actual financial resources available to these households**

While the incomes of most of the households in the bottom decile seem plausible (for example, they are in line with main income support levels or the incomes received by households with workers on the minimum wage), there are always some that report implausibly low incomes, lower than beneficiary incomes or much less then declared spending, or both. A few self-employed report negative incomes. The bottom decile is unique in this regard. For example, while there are households in each income decile that report expenditure more than three times their income (around 2-3% of all households), 70% to 80% of these are found in the bottom income decile.

This means that the average income of the bottom decile cannot be taken as a reasonable estimate of this group’s (relative) material wellbeing. This is supported by the analysis in **Figure H.5** which shows how the MWI score decreases as expected when coming down the income spectrum, except for the bottom income vingtile (5%) whose average MWI score is more like those in the second income decile. This shows that the incomes of those reporting implausibly low incomes are in general not a reliable indicator of the resources available to those households.

**Figure H.5**

**The MWI score for different income levels, HES 2015**

It also means that it is unwise to use very low BHC income thresholds to monitor “severe” poverty as too great a proportion of the households under such thresholds are those with implausibly low reported incomes. The Incomes Report does not go below a 50% of median threshold for BHC incomes.

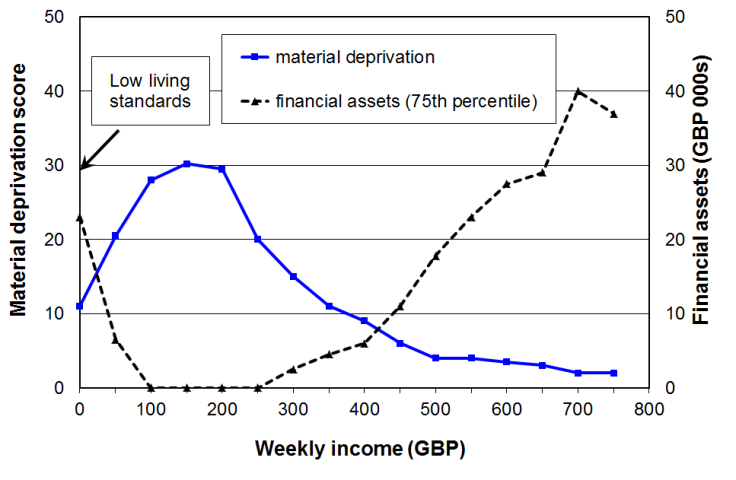
When the low-income-high-expenditure households are removed from the data, the reported low income (poverty) rates are around 1 percentage point lower (using a 50% of median measure), but the overall directions of the trends do not change.

**Appendix 8** in the Incomes Report has more information on this issue.

An example of UK research that illustrates the same issue is reported in Brewer at al (2009). **Figure H.6** shows that material deprivation is higher for lower income households, as expected. However, for households reporting very low incomes (under around GBP150 per week), material deprivation falls (living standards rise). This is partly explained by the observation that these very low-income households have on average much higher financial assets than their ‘low-income’ counterparts.[[23]](#footnote-23)

**Figure H.6**

**Some very low-income households with children have good financial assets – these enable these households to avoid the low living standards that their income alone suggests they would experience**



Source: Brewer et al (2009), Tables 5.1 and 5.2

Technical note

**poor and deprived**

**poor but not deprived**

**deprived but not poor**

**deprived, not poor**

**poor, not deprived**

**p+d**

When considering the overlap or mismatch between the two core groups, it is important to make the size of the two groups around the same.

If, for example, the deprived group was relatively small or the income-poor group was relatively large, then it is quite possible for the deprived group to be seen as almost a subset of the income poor group, and to conclude that “the vast majority of the poor are not deprived”, or similar. This would be a mistaken conclusion that is simply a logical consequence of the decision about the relative sizes of the groups, not an empirical finding about the true nature of the relationship itself. Even when the groups are of similar size, 40% to 60% of the income poor are not materially deprived, but when they are very different in size the overlap relative to one core group is likely to be very different from the overlap relative to the other. This asymmetry can lead to mistaken conclusions.

There are times however when the purpose of the analysis requires that different sized groups are used. In that case, the concept of “overlap” needs to be clarified and the overlap both ways reported (eg “30% of those in low income households are in hardship on this measure, and 60% of those in hardship are in low-income households”).

**Using longitudinal data: the impact of remaining longer on low income**

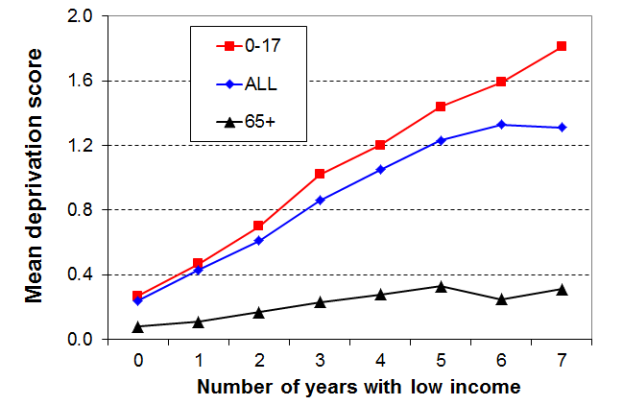
The longer that households have low income the greater is their risk of (higher) material deprivation

This is not a surprising finding, but it is useful to have it confirmed from analysis of New Zealand longitudinal data from SoFIE (see **Figure H.7**). It is also worthwhile drawing attention to it, as it is not always to the fore in discussions around poverty and hardship figures.

The relatively flat line for older households reflects the fact that such households often have resources other than current income with which to support consumption for basic needs. This is in line with the income-wealth-consumption-material-wellbeing framework outlined above.

**Figure H.7**

**Increasing material hardship for longer periods on low income**



Note: the deprivation index used in this analysis is the 8-item NZiDep – see Section A for more information – and the low-income threshold is 60% of median gross household income (approximately the same as 70% of median disposable income threshold).

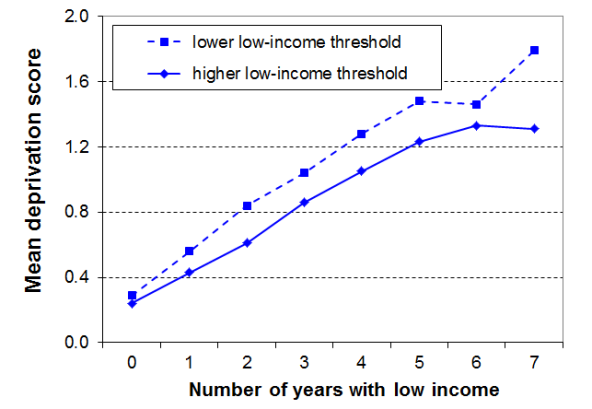
Source: Carter and Imlach Gunasekara (2012) via Perry (2015)

The cumulative impact of lower low income leads to higher deprivation

The low-income threshold used in the analysis in Figure H.7 produced poverty rates above the usual cross-sectional ones – that is, it was a relatively generous threshold. When a lower threshold is used, more in line with the 60% BHC cross-sectional threshold, the cumulative impact of on-going lower low income leads to higher reported deprivation, as expected. **Figure H.8** shows this for the whole population.

**Figure H.8**

**Higher material hardship for periods on lower low income**



Source: Carter and Imlach Gunasekara (2012) via Perry (2014)

**Section I**

**Individual items**

The focus so far has been on using groups of non-income measures / non-monetary indicator items together to form indices. Individual items have been used mainly in relation to establishing the validity of the DEP-17 and MWI indices, and to assist with setting material hardship thresholds.

Some individual items are however of interest in their own right, how their absence or presence changes over time and also how they are distributed across the MWI or household income spectra. In this section, three sets of individual items are reported on: self-reported income adequacy, selected deprivation items, and a more detailed look at aspects of housing quality.[[24]](#footnote-24)

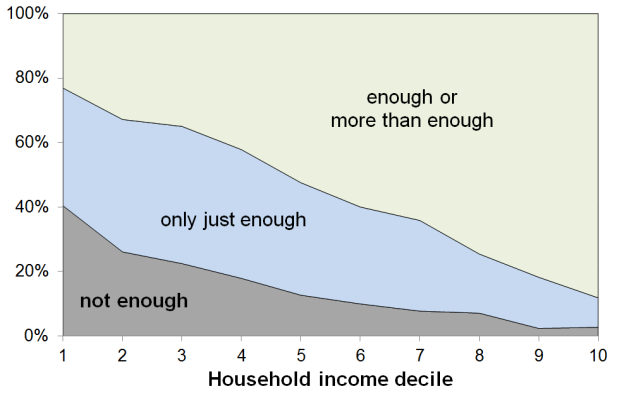
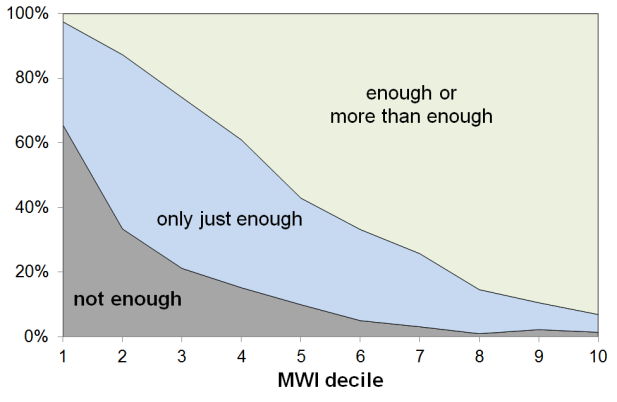
**Self-reported income adequacy**

In the HES there is a question that asks the respondent to think about how well the combined income of the respondent and partner (if any) meets everyday needs for such things as accommodation, food, clothing and other necessities: “Would you say you have not enough money, only just enough money, enough money, or more than enough money?”

The graphs in **Figure I.1** below show the responses to the income adequacy question asked in the HES, by household BHC income decile and by decile of MWI score. The graphs use a three-way split for grouping the responses: not enough; only just enough; and enough or more than enough.

**Figure I.1**

**Responses to self-reported income adequacy question,**

**by decile of household income and by decile of MWI score, HES 2013 and HES 2014 (avg)**

**Table I.1**

**Responses to self-reported income adequacy question,**

**by decile of household income and by decile of MWI score, HES 2013 and HES 2014 (avg)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Ranking measure** |  | **ALL** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
| BHC household income | not enough |  | 40 | 29 | 25 | 19 | 13 | 10 | 7 | 6 | 2 | 2 |
| only just enough |  | 37 | 39 | 40 | 40 | 35 | 30 | 29 | 20 | 18 | 9 |
| enough / more than enough |  | 23 | 32 | 35 | 41 | 52 | 60 | 64 | 74 | 80 | 89 |
| MWI score | not enough |  | 65 | 36 | 23 | 15 | 9 | 5 | 3 | 2 | 2 | 1 |
| only just enough |  | 32 | 52 | 52 | 46 | 34 | 30 | 23 | 15 | 9 | 5 |
| enough / more than enough |  | 3 | 13 | 26 | 39 | 57 | 65 | 74 | 84 | 89 | 94 |

The expected gradients from lower to higher material wellbeing are clear on both measures. The “not enough” distribution is however much more tightly bunched at the lower end when the MWI is used for ranking households rather than when household income is used.

In line with the framework outlined in Section A above, this more bunched low end when using MWI rankings is highly likely to reflect the fact that respondents are taking as a given both their stock of household goods and appliances, and also the “other” factors that assist or place extra demand on the household budget. In other words, the responses are intelligent ones about the adequacy of household income, *given their particular circumstances*. MWI scores reflect the impact on living standards of these other factors as well as that of the household income, whereas household income is a more indirect measure of material wellbeing, a proxy that cannot take account of other key factors.

Looking at the data from the other perspective (how many say “enough” or “ more than enough”?), 23% of those in the lowest income decile report having “enough” or “more than enough” income to meet basic needs, but only 3% of those in the lowest MWI decile report that their income is “enough” or “more than enough”.

These findings:

* illustrate the value and importance of the income-wealth-consumption-material wellbeing framework used in the reports
* give some encouraging evidence of the robustness of the responses given to this more subjective self-assessment question
* warn against using the responses to this common question as if they give reliable information on income adequacy per se, leaving other factors aside.

**Selected deprivations, with comparisons of their incidence in low income households and in households with higher deprivation scores (ie lower material wellbeing scores)**

In addition to the base information about how many New Zealanders are in households that report the selected deprivations, the tables below also show that:

* not all those in low-income households experience all or even most of the deprivations listed, though their chances of experiencing some are much higher than for most others
* when households are ranked by their MWI scores, they are more intensely gathered at the low end than the ranking by household income does, even AHC income.

The tables that follow use selected:

* enforced lacks [ELs]
* forced economising “a lot” items
* accommodation quality issues, and
* financial stress items.

The full text for the items can be found in Table E.2. The tables here use abbreviated descriptions.

The figures are averages from analysis using three consecutive HES surveys (2012-13, 2013-14 and 2014-15).

**Tables I.2A** and **I.2B** are for the population as a whole.

**Tables I.3A** and **I.3B** report for households with children, ie what the respondent for the household said about either themselves or the household as a whole, depending on the question.

**Table I.2A**

**Deprivations reported by low-income households:**

**enforced lacks [ELs], or forced economising “a lot”, accommodation quality issues, financial stress,**

**whole population (averages for HES 2013, 2014, 2015)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Bottom decile** | **Bottom quintile** | **ALL** |
| meal with meat, fish or chicken (or vegetarian equivalent) at least each second day [EL] | 6 | 5 | 2 |
| 2 pair of shoes in good condition for everyday activities [EL] | 11 | 9 | 3 |
| clothes for special or important occasions [EL] | 12 | 11 | 4 |
| contents insurance [EL] | 42 | 39 | 15 |
| put up with feeling cold [a lot] | 20 | 18 | 8 |
| put off repairing or replacing broken appliances [a lot] | 24 | 21 | 9 |
| put off doctor’s visits [a lot] | 17 | 15 | 7 |
| went without fresh fruit and vegetables [a lot] | 11 | 10 | 4 |
| damp and mould a major problem | 13 | 14 | 7 |
| heating home or keeping it warm in winter a major problem | 19 | 18 | 9 |
| crowded 1+ (=1 plus 2+) | 8 | 12 | 8 |
| received help from food banks or other community groups [more than once in last 12 months] | 14 | 13 | 4 |
| borrowed from family or friends to meet everyday living costs [more than once in last 12 months] | 30 | 25 | 10 |
| could not pay utilities on time [more than once in 12 months prior to interview] | 22 | 21 | 8 |

**Table I.2B**

**Deprivations reported by households with low MWI scores (bottom decile and quintile):**

**enforced lacks [ELs], or forced economising “a lot”, accommodation quality issues, financial stress,**

**whole population (averages for HES 2013, 2014, 2015)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Bottom decile** | **Bottom quintile** | **ALL** |
| meal with meat, fish or chicken (or vegetarian equivalent) at least each second day [EL] | 11 | 7 | 2 |
| 2 pair of shoes in good condition for everyday activities [EL] | 24 | 15 | 3 |
| clothes for special or important occasions [EL] | 24 | 15 | 4 |
| contents insurance [EL] | 58 | 44 | 15 |
| put up with feeling cold [a lot] | 45 | 31 | 8 |
| put off repairing or replacing broken appliances [a lot] | 56 | 38 | 9 |
| put off doctor’s visits [a lot] | 43 | 30 | 7 |
| went without fresh fruit and vegetables [a lot] | 29 | 18 | 4 |
| damp and mould a major problem | 34 | 24 | 7 |
| heating home or keeping it warm in winter a major problem | 47 | 33 | 9 |
| crowded 1+ (=1 plus 2+) | 20 | 16 | 8 |
| received help from food banks or other community groups [more than once in last 12 months] | 24 | 15 | 4 |
| borrowed from family or friends to meet everyday living costs [more than once in last 12 months] | 47 | 35 | 10 |
| could not pay utilities on time [more than once in 12 months prior to interview] | 47 | 32 | 8 |

Note: **Tables I.3A and I.3B** show what the respondent reported for the household in which the children lived – the information is not about the children themselves directly. However, the items selected are all about matters that impact on the whole household in which the children live, so they do have an impact on the children. For child specific deprivations, see Table F.3 on page 62.

**Table I.3A**

**Deprivations reported by low-income (AHC) households:**

**enforced lacks [ELs], or forced economising “a lot”, accommodation quality issues, financial stress,**

**children, 0-17 yrs, in households where respondent reports as below**

**(averages for HES 2013, 2014, 2015)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Bottom AHC decile** | **Bottom AHC quintile** | **ALL** |
| contents insurance [EL] | 49 | 45 | 20 |
| respondent reports - put up with feeling cold [a lot] | 21 | 20 | 11 |
| put off repairing or replacing broken appliances [a lot] | 32 | 28 | 15 |
| put off doctor’s visits (respondent) [a lot] | 21 | 19 | 10 |
| respondent reports - went without fresh fruit and vegetables [a lot] | 11 | 10 | 5 |
| damp and mould a major problem | 15 | 17 | 10 |
| heating home or keeping it warm in winter a major problem | 22 | 21 | 13 |
| crowded 1+ (=1 plus 2+) | 14 | 17 | 12 |
| received help from food banks or other community groups [more than once in last 12 months] | 21 | 18 | 7 |
| borrowed from family or friends to meet everyday living costs [more than once in last 12 months] | 39 | 32 | 15 |
| could not pay utilities on time [more than once in 12 months prior to interview] | 30 | 28 | 13 |

Note: the deciles and quintiles are population deciles and quintiles – 12-13% of children (140,000) are in households in the bottom AHC income decile, and 27-28% (300,000) in the bottom quintile.

**Table I.3B**

**Deprivations reported by households with low MWI scores (bottom decile and quintile):**

**enforced lacks [ELs], or forced economising “a lot”, accommodation quality issues, financial stress,**

**children, 0-17 yrs, in households where respondent reports as below**

**(averages for HES 2013, 2014, 2015)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Bottom MWI decile** | **Bottom MWI quintile** | **ALL** |
| contents insurance [EL] | 62 | 48 | 20 |
| respondent reports - put up with feeling cold [a lot] | 48 | 32 | 11 |
| put off repairing or replacing broken appliances [a lot] | 66 | 46 | 15 |
| put off doctor’s visits (respondent) [a lot] | 46 | 33 | 10 |
| respondent reports - went without fresh fruit and vegetables [a lot] | 29 | 18 | 5 |
| damp and mould a major problem | 39 | 27 | 10 |
| heating home or keeping it warm in winter a major problem | 53 | 36 | 13 |
| crowded 1+ (=1 plus 2+) | 27 | 23 | 12 |
| received help from food banks or other community groups [more than once in last 12 months] | 29 | 20 | 7 |
| borrowed from family or friends to meet everyday living costs [more than once in last 12 months] | 54 | 41 | 15 |
| could not pay utilities on time [more than once in 12 months prior to interview] | 56 | 39 | 13 |

Note: the deciles and quintiles are population deciles and quintiles – 12-13% of children (140,000) are in households in the bottom MWI decile, and 27-28% (300,000) in the bottom quintile.

**Dampness and heating issues for private dwellings**

In the HES surveys, starting with 2012-13, respondents are asked whether their accommodation had no problem, a minor problem or a major problem with (i) dampness or mould, and (ii) with heating it / keeping it warm in winter. As noted above, on average over the three surveys from 2012-13 to 2014-15:

* 7% reported a major problem with dampness or mould
* 9% reported a major problem with heating it / keeping it warm in winter
* for children (aged 0-17 yrs), the figures for their households were:
  + 10% for a major problem with dampness and mould (~110,000 children)
  + 13% for a major problem with heating / keeping it warm in winter (~140,000)
  + 7% reporting both issues (~75,000 children)

**Tables I.4** shows how these housing quality issues occur across different tenures: owned, private rental and social housing, for the population as a whole and for children (0-17 years). The figures are for individuals, in line with the general pattern for the Incomes and NIMs reports. When the analysis is done by households rather than individuals, very similar results are produced:

* the composition columns show that around 70% of those experiencing these two issues are living in rental accommodation (both for the whole population and for children)
* the rate columns show that one in four households in HNZC homes (26%) report having a major problem with damp and mould, and one in three (34%) are hard to heat or keep warm in winter
  + for children, these latter rates rise to 34% for HNZC and 40% for private rentals.

**Table I.4**

**Major dampness, mould and heating issues: population and 0-17 yrs by tenure**

**HES 2013 to HES 2015 (avg %)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **ALL** | | **0-17 yrs** | |
|  | **Composition** | **Rate** | **Composition** | **Rate** |
| **Damp, mould (major problem)** |  |  |  |  |
| Owned or Family Trust | 30 | 4 | 26 | 5 |
| Private rental | 48 | 11 | 45 | 14 |
| HNZC / Social housing | 21 | 26 | 27 | 34 |
| ALL | 100 | 7 | 100 | 10 |
| **Hard to heat in winter** |  |  |  |  |
| Owned or Family Trust | 31 | 5 | 27 | 6 |
| Private rental | 46 | 15 | 45 | 17 |
| HNZC / Social housing | 20 | 33 | 25 | 40 |
| ALL | 100 | 9 | 100 | 13 |

Note: composition columns do not always add to 100 as there is a small group with “other” housing arrangements not included in the table.

Statistics New Zealand’s 2014 General Social Survey (GSS) also asked the dampness and mould question and found a similar population proportion reporting a “major problem” (6%). The GSS analysis also found that respondents in rental accommodation were three to four times more likely to report a “major problem” with dampness or mould than were those in owner-occupied dwellings. The HES analysis shows a 16% rate for rental accommodation (private and HNZC), four times the rate for owner-occupied dwellings (4%). This is encouraging confirmation of the reliability of the findings.

**Tables I.5** and **I.6** show how these housing quality issues are experienced across the AHC incomes spectrum and the material wellbeing index (MWI) spectrum by the whole population and by children (0-17 years). The issues are clearly more prevalent in lower-income households than in middle and higher income households, but are especially concentrated in households with low MWI scores – these are households experiencing multiple deprivation across a range of basics.

* a quarter to a third of these low MWI households (Q1) report “a major problem”
* around 65-70% of those reporting “major problems” are in the lowest material wellbeing quintile (Q1), 75-80% for children (0-17 years).

**Table I.5**

**Major dampness, mould and heating issues: HES 2013 to HES 2015 (%), population**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Ranking measure** | **ALL** | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** |
| **dampness or mould “a major problem”** | AHC incomes | 7 | 14 | 9 | 6 | 4 | 2 |
| MWI | 7 | 24 | 7 | 3 | 1 | 0 |
| **heating home and/or keeping it warm in winter “a major problem”** | AHC incomes | 9 | 18 | 11 | 7 | 6 | 2 |
| MWI | 9 | 33 | 9 | 3 | 2 | 0 |

**Table I.6**

**Major dampness, mould and heating issues: HES 2013 to HES 2015 (%), 0-17 yrs**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Ranking measure** | **ALL** | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** |
| **dampness or mould “a major problem”** | AHC incomes | 10 | 17 | 11 | 5 | 8 | 1 |
| MWI | 10 | 27 | 5 | 2 | 1 | 0 |
| **heating home and/or keeping it warm in winter “a major problem”** | AHC incomes | 13 | 21 | 13 | 9 | 12 | 2 |
| MWI | 13 | 36 | 10 | 1 | 2 | 0 |

Putting up with feeling cold “because of the cost” [of heating]

In the HES surveys, starting with 2012-13, respondents are asked to what degree they had put up with feeling cold in the last 12 months as a result of being forced to keep costs down to pay for other basics. The response options were “not at all”, “a little”, or “a lot”.

**Table I.7** shows that the proportions reporting being forced to put up with feeling cold “a lot” are in the same ball-park as those reporting a major problem in heating the home or keeping it warm in winter (7% and 9% respectively for the whole population, and 10% and 13% for those in households with children). The proportions reported this enforced lack are particularly high for sole parent and beneficiary-with-children homes (22% and 30% respectively).

**Table I.7**

**Forced to put up with feeling cold to keep costs down to pay for other basics, HES 2015 (%)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **not at all** | **a little** | **a lot** |
| **All incomes** |  |  |  |
| ALL | 79 | 13 | 7 |
| 0-17 | 74 | 16 | 10 |
| 65+ | 87 | 9 | 4 |
| Couple < 65 | 88 | 8 | 4 |
| Sole parent | 57 | 22 | 22 |
| Beneficiary with dep children | 46 | 24 | 30 |
| Working with dep children | 81 | 13 | 6 |
| **Bottom AHC quintile** |  |  |  |
| Beneficiary with dep children | 48 | 26 | 26 |
| Working with dep children | 63 | 23 | 15 |

The lower panel of Table I.7 looks only at the lower AHC income quintile, in effect controlling to some degree for income to make the beneficiary / working comparison more robust and realistic. The economising “a lot” rate changes very little for beneficiary families (30% to 26%) as the bulk of beneficiaries are in the bottom quintile. In contrast the rate for working families more than doubles, from 6% to 15%.

In the bottom AHC income quintile there are around 50% more people in working families with children than in beneficiary families with children (a ratio of around 60:40), so the numbers reporting being forced to put up with the cold are fairly similar for each group. This finding, that there is evidence of material hardship for a group of “working poor” that is about the same size as the “beneficiary poor” group, is consistent with similar findings elsewhere in this report and in the Incomes Report.

**Table I.8** shows how being forced to put up with cold a lot is experienced across the AHC incomes spectrum and the material wellbeing index (MWI) spectrum.

The issues are clearly more prevalent in lower-income households than in middle and higher income households, but are especially concentrated in households with low MWI scores – these are households experiencing multiple deprivation across a range of basics:

* one in three in the lowest MWI quintile (Q1) report a major problem
* around four in five (78%) of those reporting major problems are in the lowest material wellbeing quintile (86% for children).

**Table I.8**

**Forced to put up with feeling cold “a lot” to keep costs down to pay for other basics, HES 2015 (%),**

**by quintiles using two ranking measures**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Ranking measure** |  | **ALL** | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** | **Proportion (%) of the “a lot” group that are in Q1** |
| **AHC incomes** | ALL | 7 | 19 | 6 | 6 | 4 | 1 | 51 |
| 0-17 | 10 | 22 | 7 | 7 | 7 | 1 | 57 |
| 65+ | 4 | 14 | 3 | 3 | 2 | 1 | 46 |
| **MWI** | ALL | 7 | 32 | 6 | 1 | 0 | 0 | 78 |
| 0-17 | 10 | 32 | 5 | 1 | 0 | 0 | 86 |
| 65+ | 4 | 37 | 10 | 1 | 0 | 0 | 61 |

Note: the quintiles are the whole population quintiles – the two age-groups are put into these quintiles, not their own independent quintiles.

**Crowding**

Living in crowded houses greatly increases the risk of transmission and experience of communicable diseases and respiratory infections.[[25]](#footnote-25) . It also means severely reduced personal space and privacy, more limited space for children to do homework or study, and increases the chances of relational stress.

While there is no internationally agreed measure of household crowding the Canadian Crowding Index is a reasonable one, and is used in the Social Report, by Statistics New Zealand in some of its publications, and by the Ministry of Health in a recent analysis of crowding using Census data (Ministry of Health, 2014). On this definition, a crowded house is one requiring one or more additional bedrooms, when using the following Canadian National Occupancy standard to set the bedroom requirements:

* no more than two people per bedroom
* parents or couples share a bedroom
* children aged under 5 years, either of the same or of the opposite sex, may reasonably share a bedroom
* children aged under 18 years of the same sex may reasonably share a bedroom.
* a child aged 5–17 years should not share a bedroom with a child aged under 5 years of the opposite sex
* single adults 18 years and over and any unpaired children require a separate bedroom.

Trends in more severe crowding can be monitored using a threshold of two or more extra bedrooms needed.

**Table I.9** shows from Census data the decline in household crowding for the population as a whole from 1986 to 2001, then the flat trend at around 10% for 2001, 2006 and 2013. HES data can also be used to create the Canadian index. The HES-based crowding rates are all a little lower than the Census rates, 8% rather than 10% for the population, and 12% rather than 16% for children.

Crowding is in the main “a children’s issue” as 75% to 80% of those in crowded or severely crowded households are in households with children:

* ~130,000 children (0-14 yrs) live in crowded households (16%), and 40,000 of these are in severely crowded homes, needing two or more extra bedrooms (5%).[[26]](#footnote-26)

**Table I.9**

**Crowded: Census and HES (1+ needed) (%)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Individuals** | | | | |  |  | **Households** |
| Census | **ALL** | **European** | **Maori** | **Pacific** | **0-14 yrs** | **Rented** | **Owned or FT** | **ALL** |
| 1986 | 12.8 | 8.2 | 34.9 | 50.4 | - | - | - | - |
| 1991 | 11.8 | 6.9 | 29.7 | 47.0 | - | - | - | - |
| 1996 | 10.9 | 6.0 | 24.5 | 43.6 | - | - | - | - |
| 2001 | 10.1 | 4.7 | 23.0 | 42.1 | - | - | - | - |
| 2006 | 10.4 | 4.5 | 22.3 | 41.7 | 17 | - | - | 5.2 |
| 2013 | 10.1 | 4.3 | 19.3 | 38.5 | 16 | 19 | 5 | 5.0 |
| HES – three surveys: 2012-13 to 2014-15 | 8 | - | - | - | 13 | 17 | 4 | - |

Note: HES crowding information is useful for giving a sense of the scale of the issue and how it is allocated across tenure and ages, but not robust enough for a time series showing trends in the short to medium term.

Note that the household rate (5%) is much less than individual rate as there are (unsurprisingly) more people per household in crowded households than there are in uncrowded households

**Table I.10** shows crowding across owned and rented accommodation:

* around 70% of those in crowded houses live in rental accommodation
* almost two in five children in HNZC homes (38%) live in crowded accommodation.

**Table I.10**

**Crowded: population and 0-17 yrs by tenure**

**HES 2013 to HES 2015 (%)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **ALL** | | **0-17 yrs** | |
|  | Composition | Rate | Composition | Rate |
| Owned or Family Trust | 30 | 4 | 30 | 7 |
| Private rental | 49 | 13 | 45 | 17 |
| HNZC / Social housing | 20 | 27 | 24 | 38 |
| ALL | 100 | 8 | 100 | 13 |

Note: the composition columns do not always add to 100 as there is a small group with “other” housing arrangements not included in the table.

Room for the children to study and play

Another aspect of crowding is about whether there is enough room for children to study and play.

Both the 2004 and 2008 Living Standards Surveys (LSS) ask whether the room for the children to study and play is limited because of the need to keep costs down for other basics. The response options were “not at all, a little and a lot”. In the analysis of the LSS 2008 data the “economising a lot” response is taken as equivalent to an enforced lack. This is a conservative approach as some of the “economising a little” responses are likely to be enforced lacks too.

When people are ranked by the MWI score of their households, 10% are in the bottom decile (by definition). This bottom decile holds 16% of all children. In short, the bottom MWI decile for LSS 2008 is a good approximation to the hardship zone, using the less severe threshold described in earlier sections.

The 2008 LSS responses show that:

* 8% of all children and 30% in the bottom MWI decile have this serious restriction regarding space for study and play, and
* 63% of all children facing this space restriction live in households in the bottom MWI decile.

Very similar findings come from the 2004 LSS (9% of children).

In the new suite of child-specific indicators in the 2015-16 HES the same question is asked. In addition, the suite has a specific question on adequacy of room to do homework. These will be analysed and reported on in 2017.

**References**

Alkire, S., Apablaza, M., & Jung, E. (2014). “Multidimensional poverty measurement for EU-SILC countries”. *OPHI Research in Progress* 36c, Oxford University.

Baker, M., McDonald A, Zhang J, Howden-Chapman, P (2013). *Infectious diseases attributable to household crowding in New Zealand: A systematic review and burden of disease estimate.* Wellington: He Kainga Oranga/ Housing and Health Research Programme, University of Otago.

Boarini, R., & Mira d'Ercole, M. (2006), 'Measures of material deprivation in OECD countries.' OECD Social, Employment and Migration Working Papers #37, OECD: Paris .

Brewer, M., O’Dea, C., Paull, G. & Sibieta, L. (2009). ‘The Living Standards of Families with Children Reporting Low Incomes’, DWP Research Report no. 577, London: Department for Workand Pensions.

Brewer, M., Etheridge, B. and O’Dea, C. (2016), ‘Why are some households who report the lowest income so well off?’, *Economic Journal*, forthcoming.

Cappellari, L. & Jenkins, S. (2007) ‘Summarising multiple deprivation indicators’, in J. Micklewright and S. Jenkins (eds) *Inequality and Poverty re-examined:* Oxford: Oxford University Press.

Carle, Baumann and Short (2008)

Carter, K. & Imlach Gunasekara, F. (2012). ‘Dynamics of Income and Deprivation in New Zealand, 2002-2009. A descriptive analysis of the Survey of Family, Income and Employment (SoFIE).’ Public Health Monograph Series No. 24. Wellington: Department of Public Health, University of Otago, Wellington.

Denny, S. and colleagues (2016). ‘The association between socioeconomic deprivation and secondary school students’ health: findings from a latent class analysis of a national adolescent health survey’, *International Journal for Equity in Health (15),* 109-130

Department of Social Welfare, New Zealand (1975). ‘Survey of Persons Aged 65 Years and Over: Report of Results Relating to Social Security Benefit Rates.’ NZ Government Printer, Wellington.

Deutsch, J., Guio, A.-C., Pomati, M. & Silber, J. (2015). ‘Material deprivation in Europe: Which expenditures are curtailed first?’. *Social Indicators Research, (120)*, 723-740,

Dickes, P., Fusco, A., & Marlier, E. (2010), 'Structure of national perceptions of social needs across EU countries', *Social Indicators Research*, *95*(1), 143-167.

Gordon et al (2013), ‘The Impoverishment of the UK: PSE first results from the 2012 Living Standards Survey’. PSE Report, available at <http://www.poverty.ac.uk/pse-research/pse-uk-reports>

Gordon, D. & Nandy, S. (2012). ‘Measuring child poverty and deprivation’. In Minujin, A. and Nandy, S. (Eds) *Global child poverty and well-being*. Bristol: Policy Press.

Grimes, A. & Hyland, S. (2015). ‘A New Cross-Country Measure of Material Wellbeing and Inequality: Methodology, Construction and Results’. Motu Working Paper 15-09, Motu Economic and Public Policy Research, Wellington.

Guio, A.-C., Gordon, D., & Marlier, E.(2012). ‘Measuring material deprivation in the EU: Indicators for the whole population and child-specific indicators’, Eurostat Methodologies and Working Papers, OPOCE: Luxembourg.

Guio, A.-C, & Marlier, E. (2013). ‘Alternative vs, current measures of material deprivation at EU level: What difference does it make?’ ImPRovE Paper No. 13/07, Antwerp.

Helliwell, J., Layard, R. & Sachs, J. (2016). World Happiness Report 2016, Update (Vol. I). New York: Sustainable Development Solutions Network.

Jensen et al (2002), *Direct Measurement of Living Standards: The New Zealand ELSI Scale*, Wellington: Ministry of Social Development.

Legatum Institute (2015), *The Legatum Prosperity Index 2015*. The Legatum Institute, London.

Mack, J., & Lansley, S. (1985), *Poor Britain*, London: Allen and Unwin.

Mack, J., & Lansley, S. (2015), *Breadline Britain: The rise of mass poverty*, London: One World Publications.

Main, G. & Bradshaw, J. (2014), ‘Child Poverty and Social Exclusion: Final Report of the 2012 PSE Study’, PSE Report, available at <http://www.poverty.ac.uk/pse-research/pse-uk-reports>

Ministry of Health (2014). ‘Analysis of Household Crowding based on Census 2013 data.’ Wellington: Ministry of Health.

new economic foundation (2012) Happy Planet Index

new economic foundation (2015) Five Headline Indicators of National Success

Nolan, B., & Whelan, C. T. (1996), *Resources, Deprivation and Poverty*, Oxford: Clarendon Press.

Nolan, B., & Whelan, C. T. (2007), ‘On the Multidimensionality of Poverty and Social Exclusion’, in Jenkins, S and Micklewright, J. (eds), *Inequality and Poverty Re-examined*, Oxford: Oxford University Press.

Nolan, B., & Whelan, C. T. (2011), *Poverty and Deprivation in Europe*, Oxford: Oxford University Press.

OECD (2016). ‘2016 Ministerial Council Statement: Enhancing Productivity for Inclusive Growth’. OECD C/MIN (2016)8.

Oswald, A. & Wu, S. (2010). ‘Objective confirmation of subjective measures of human well-being: evidence from the USA’. IZA Discussion Papers, No. 4695.

Perry, B. (2007), ‘The Economic Living Standards Index (ELSI): another look at the underlying construct and some of the headline findings in *New Zealand Living Standards 2004*.’ Working Paper 01/07, Ministry of Social Development, Wellington, available at <http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/working-papers/wp-01-07-living-standards-2004.html>

Perry, B. (2009), ‘Non-income measures of material wellbeing and hardship: first results from the 2008 New Zealand Living Standards Survey, with international comparisons.’ Working Paper 01/09, Ministry of Social Development, Wellington, available at <http://www.msd.govt.nz/about-msd-and-our-work/publications-resources/monitoring/living-standards/living-standards-2008.html>

Perry, B. (2013), ‘The material wellbeing of older New Zealanders: Background paper for the Retirement Commissioner’s 2013 review.’ Ministry of Social Development, Wellington, available at

<http://www.cffc.org.nz/assets/Documents/RI-Review-2013-Material-wellbeing-of-older-NZers.pdf>

Perry, B. (2015). *Household Incomes in New Zealand: Trends in Indicators of Inequality and Hardship* 1982 to 2015. Ministry of Social Development: Wellington.

Porter, M. & Stern, S. (2015). *The Social Progress Index 2015*. The Social Progress Imperative, Washington.

Salmond, C., Crampton, P., & Atkinson, J. (2007). *NZDep2006 Index of Deprivation*.

Salmond, C., King, P., Crampton, P., & Waldegrave, C. (2006), 'NZiDEP: A New Zealand index of socioeconomic deprivation for individuals',  *Social Science and Medicine*, *62*(6), 1474-1485.

Shonkoff (2011), “Building a Foundation for Prosperity on the Science of Early Child Development”, *Pathways*, Stanford University.

Stiglitz, J., Sen, A. & Fitoussi, J. (2009). *Report by the Commission on the Measurement of Economic Performance and Social Progress*. Commission on the Measurement of Economic and Social Progress. Downloadable at [www.stiglitz-sen-fitoussi.fr](http://www.stiglitz-sen-fitoussi.fr)

Whelan, C. T., Nolan, B. & Maître, B. (2016). ‘Polarisation or “Squeezed Middle” in the Great Recession? A Comparative European Analysis of the Distribution of Economic Stress’. UCD Geary Institute Discussion Paper Series, WP2015/12.

**Appendix 1**

**EU-13 and EU-9**

Previous MSD research on international hardship comparisons used a 9-item EU index (see Perry, 2009). Hardship rates for New Zealand are very close on both the EU-9 and the new EU-13 indices and country rankings are reasonably similar on both. EU-13 is however a more robust and reliable index. It also allows more reliable comparisons of child hardship rates using both less and more severe hardship thresholds. We can replicate EU-13 for New Zealand to a very good degree from the LSS 2008 data, and will be able to update the comparisons using the enhanced HES datasets starting with HES 2015-16.

**Table 1.1**

**Composition of EU-13 compared with EU-9**

|  |  |
| --- | --- |
| **EU-13** | **EU-9** |
| **Items from EU-9 not used in EU-13** | |
| x | phone |
| x | colour TV |
| x | washing machine |
| **Items in both EU-9 and EU-13** | |
| have a meal with meat, fish or chicken every second day | ✓ |
| keep the home adequately warm | ✓ |
| have access to a car / van for personal use | ✓ |
| avoid arrears in mortgage or rent, utility bills or HP instalments | ✓ |
| have one week’s annual holiday away from home | ✓ |
| ability to face unexpected expenses of NZD1500[[27]](#footnote-27) | ✓ |
| **New items in EU-13, but not in EU-9** | |
| replace worn-out clothes by some new ones | x |
| have two pairs of properly fitting shoes | x |
| replace worn-out furniture | x |
| spend a small amount of money each week on oneself | x |
| have both a computer and an internet connection | x |
| have regular leisure activities | x |
| have a get together with friends/family for a drink/meal at least monthly | x |

**Appendix 2**

**MWI and ELSI compared**

**Table 3.1**

**Composition of MWI and ELSI compared**

|  |  |  |  |
| --- | --- | --- | --- |
|  | |  |  |
| **Item description** | | **MWI** | **ELSI-SF** |
| **Ownership** (have, don’t have and enforced lack) | |  |  |
| x | Phone | - | ✓ |
| x | Washing machine | - | ✓ |
| 1 | Two pairs of shoes in a good condition and suitable for you daily activities | ✓ | ✓ |
| x | Ability to keep main rooms adequately warm | - | ✓ |
| 2 | Suitable clothes for important or special occasions | ✓ | ✓ |
| x | Home computer | - | ✓ |
| 3 | Contents insurance | ✓ | ✓ |
| 4 | A meal with meat, fish or chicken (or veg equiv) at least each 2nd day | ✓ | - |
| 5 | A good bed | ✓ | - |
| **Social participation** (do, don’t do and enforced lack) | |  |  |
| 6 | Presents for family/friends on special occasions | ✓ | ✓ |
| x | Space for family to stay the night | - | ✓ |
| x | Family/friends over for a meal at least once each few months | - | ✓ |
| x | Visit hairdresser at least once every three months | - | ✓ |
| 7 | Holiday away from home at least once every year | ✓ | ✓ |
| x | Night out for entertainment or socialising at least once a fortnight | - | ✓ |
| 8 | Overseas holiday at least once every three years | ✓ | ✓ |
| **Economising** (not at all, a little, a lot) – to keep down costs to help in paying for (other) basic items | | | |
| x | Not picked up a prescription | - | ✓ |
| x | Stayed in bed to keep warm | - | ✓ |
| 9 | Postponed a visit to the doctor | ✓ | ✓ |
| 10 | Gone without or cut back on fresh fruit and vegetables | ✓ | ✓ |
| 11 | Continued wearing worn out clothes | ✓ | ✓ |
| 12 | Spent less on hobbies or other special interests than you would like | ✓ | ✓ |
| 13 | Do without or cut back on trips to the shops or other local places | ✓ | ✓ |
| x | Put off buying new clothes as long as possible | - | ✓ |
| 14 | Buy cheaper cuts of meat or bought less meat than you would like | ✓ | - |
| 15 | Put up with feeling cold | ✓ | - |
| 16 | Postpone or put off visits to the dentist | ✓ | - |
| 17 | Delay replacing or repairing broken or damaged appliances | ✓ | - |
| **Global self-ratings** | |  |  |
| x | Adequacy of income to cover basics of accommodation, food, clothing, etc | **-** | ✓ |
| x | Material standard of living | **-** | ✓ |
| x | Satisfaction with material standard of living | **-** | ✓ |
| **Freedoms/Restrictions** | |  |  |
| 18 | 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) | ✓ | - |
| 19 | $300 spot purchase for an ’extra’ – how restricted? (5 point response from ‘ not restricted … couldn’t purchase’) | ✓ | **-** |
| 20 | $500 unexpected unavoidable expense on an essential – can you pay in a month without borrowing? (yes/no) | ✓ | - |
| **Financial strain** (in last 12 months) | |  |  |
| 21 | Behind on utilities in last 12 months? (not at all, once, more than once) | ✓ | **-** |
| 22 | Behind on car registration, wof or insurance in last 12 months? | ✓ | **-** |
| **Housing problems** (no problem, minor problem, major problem) | |  |  |
| 23 | Dampness or mould | ✓ | **-** |
| 24 | Heating or keeping it warm in winter | ✓ | **-** |

As discussed in **Section E**, the greatest challenge to the satisfactory development of both ELSI and the MWI was to find survey items that lie outside the usual lists of “basics” or “necessities”, but for which there is a common aspiration to possess (own, have access to, participate in). In other words, the challenge is to find “non-necessities”, the presence or absence of which in a household reflect differences in levels of material wellbeing rather than being to a large extent reflections of tastes or preferences. A simple extension of the enforced lack approach used in deprivation indices is therefore not a viable approach for constructing a broader index of material wellbeing.

The ELSI measure addressed the issue in three ways:

* It used the “not at all” response in the economising items to indicate higher living standards.
* It used the absence of enforced lacks of some more intermediate items (non-necessities) including:
  + having space for the family to stay for the night
  + having family or friends over for a meal at least once every few months
  + visiting hairdresser at least once every three months
  + having a night out for entertainment or socialising at least once a fortnight
  + a week’s local annual holiday
  + an overseas holiday at least once each three years.
* It used three global self-ratings:
* self-rated adequacy of household income for the basics
* self-rated level of material living standards
* self-rated level of satisfaction with material living standards.

The “not at all” responses in the economising items worked well and the general approach was retained for the MWI, but with some changes to the item selection as indicated in Table 5.1 above.

The use of the intermediate items also assisted in decompressing the distribution above the lower 20-30% in the hardship and near hardship zone. The MWI retained the two holiday items but dropped the other four: the hairdresser and night out items had 27% and 33% of respondents not having them for reasons other than cost, and therefore did not meet the test of widespread aspiration to possess; the space for family and family or friends for a meal items were reasonably widely aspired to or possessed, but they were not relevant to particular groups, though one or both are used in other surveys or indices (eg EU-13), and it was a close call for the MWI.

The use of the three global self-ratings was the main way in which the ELSI development sought to address the compression issue without being compromised by differences in tastes and preferences for non-necessities. They helped greatly with the decompression, especially for the top 40% for whom the other items had almost reached the limit of their effectiveness in discrimination (most in that zone report no enforced lacks and economise “not at all” on the items in ELSI).[[28]](#footnote-28)

The presence of the global self-ratings unfortunately seriously compromised the use of ELSI to monitor changes in material wellbeing over time. The central issue is that it is possible (likely, even) that the self-rating scores for a household will remain unchanged over time even though the household experiences a real improvement in their material wellbeing in that time period. This can happen when the real rise in the household’s material wellbeing is similar to the rise for that household’s reference group. This is not merely a hypothetical wondering. There is good evidence that it happened from 2000 to 2004 and again from 2004 to 2008 (Perry (2007, 2009)).

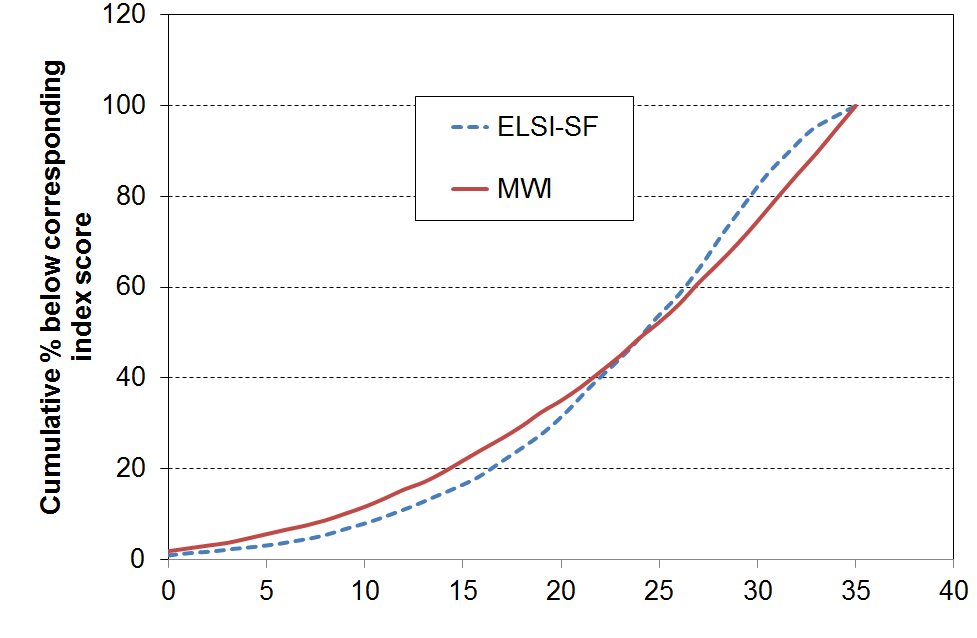
What this means is that ELSI is highly likely to show little or no change over time even when there is good evidence from other indicators that living standards are improving in real terms. At a technical level this is not an issue for ELSI – in fact, it is entirely consistent with the concept of living standards ELSI seeks to capture, namely, that “[a]n item contributes information about a person’s living standard only when it relates to something the person wants” (Jensen et al (2002:102)). As the standard of living of one’s reference group rises, it is highly likely that one’s own expectations and level of wants also rise. In this sense, ELSI is a fully relative measure of living standards. However, when people say that their standard of living has improved, they do not generally mean that they are now better off relative to others, but that they are better off compared with their own previous situation – more like an “absolute” change.

The ELSI is technically very strong and is an internally coherent index. Unfortunately, except for the more disadvantaged in the lower quintile or so of the distribution it is very limited in its ability to pick up changes over time in living standards per se. The mean ELSI-3 scores were 40.1, 40.0 and 40.3 respectively for the 2000, 2004 and 2008 surveys. Thus, according to the ELSI instrument there was no change in average living standards for New Zealanders from 2000 to 2008. This creates a considerable communication challenge for an instrument which purports to measure ‘economic living standards’, as all the usual indicators of living standards as more commonly understood did improve (eg real household income).

Because of the importance of being able to track living standards over time across a good range from higher to lower, and to do so in a way that accords with the common conception of what an improvement means (more of an “absolute” change relative to one’s previous position), the MWI development took a different path in addressing the central issue of seeking to improve the discrimination for the 60-70% while avoiding being invalidated by the issue of tastes and preferences discussed above.

* it stayed with the economising approach, though with a refreshed and slightly enlarged item set that had more of an emphasis on discrimination above the hardship zone
* it dropped the global self-ratings, and in their place added:
* two financial strain items that have a “not at all” category
* three “freedom to purchase” items that enable good discrimination in the middle to higher range of material wellbeing

The MWI is able to pick up changes in material wellbeing over time over time, but in achieving that it had to trade off a good degree of discrimination at the top end, compared with ELSI, as shown in **Figure 5.1** below. This is not a great loss, as the very top is the weakest point for both indices. In practice in analysis and reporting the top 15-20% should be lumped together anyway.



The MWI and the ELSI rank the population in much the same way (correlation of 0.95).

The issue can be addressed in part by being clear about what ELSI measures, especially when looking at changes over time. In other words, consumption and desired consumption (from the ELSI list) rose by similar amounts from 2000 to 2008, which means that ELSI living standards did not change in the period.

**Appendix 3**

**Motu’s material wellbeing index (MWI)**

In July 2015 Motu Economic and Public Policy Research published a Working Paper in which they report on a new country-level material wellbeing index (MWI) that they have developed using home environment data from the OECD’s PISA surveys (Grimes & Hyland, 2015).

There are similarities and differences between the Motu and the MSD indices.

Both MWIs recognise the limitations of household income as a reliable indicator of household material wellbeing, noting that financial and physical assets and other factors also impact on living standards. Living standards are conceptualised by both indices as being about material wellbeing – the wellbeing obtained from the consumption of goods and services. Both indices are set within an incomes-wealth-consumption framework as outlined in Section A of this NIMs report.

In addition, the Motu work recognises that when looking at country averages, GNP per capita has limitations that need addressing, as recommended in the 2009 Stiglitz-Sen-Fitoussi report that has had wide impact.

**Financial and physical assets**

**Basic needs / essentials**

**Discretionary spend / desirable non-essentials**

**Resources available for consumption**

**Household income**

**Material wellbeing or living standards**

**Other factors**

eg assistance from outside the household (family, community, state), high or unexpected health or debt servicing costs, lifestyle choices, ability to access available resources

The three main differences between the two indices are that:

* MSD’s MWI is a household-level index, whereas Motu’s MWI is a country-level index, though it is constructed as the average of a full distribution of household-level material wellbeing scores.
* Motu’s MWI applies to the households of the 15 year olds interviewed, whereas MSD’s applies to all households.
* Motu’s MWI uses the best data they could find to enable international comparisons across the OECD, whereas MSD’s MWI uses items deliberately designed to be fit for purpose, and it includes standard deprivation indicators as well as middle and higher-end ones which means it gets a wide spread of scores.

In the process of building the MWI, the Motu research creates a household material wellbeing score (HMW) for each household, thus allowing some distributional analysis within countries.

**Motu’s material wellbeing index (MWI)**

The Motu MWI is a country-level index based on household-level data from the OECD’s triennial PISA surveys of the scholastic abilities and attributes of 15 year olds around the world. The survey has supplementary questions to allow investigation of the relationship between educational achievement and the home environment – questions about possessions and amenities within the home. The Motu research uses 16 of these supplementary questions in its MWI. The 16 items are derived from the following questions:

Which of the following are in your home? (yes/no response)

* works of art (eg paintings)
* classic literature (eg Shakespeare)
* a desk to study at
* a dictionary
* a dishwasher
* educational software
* a link to the internet
* a room of your own
* books of poetry
* a quiet place to study
* books to help with your school work

How many of these are there in your home?

* rooms with a bath or shower
* cars
* computers
* cell phones
* televisions

Motu first estimate the rental value of each item over its expected life-time as an indicator of its consumption value. To enable international comparisons they simply use the price of the item when purchased in the US in USD in 2012. They use this dollar value as a weight when adding up the possessions held in the household, thus producing a household material wellbeing score (HMW) for each of the households in the survey.

The MWI for the country is the mean (average) of the HMW scores for that country’s households that are in the survey.

Findings

On this measure, the households of New Zealand’s 15 year olds are ranked 3rd in the OECD in 2012 – the USA is top, with Canada, NZ and Australia close together in what one could call second equal. In 2000 NZ was 4th and in 2009 2nd.

NZ’s high placing is in part a reflection of its relatively high scores on numbers of bathrooms and cars per household, both of which are relatively highly weighted in the scoring process. NZ scores less well on ‘having own room’ and ‘having a quiet place to study’, but these have a lesser impact on rankings as there are relatively small absolute differences in possession rates between ‘similar’ countries.

For the distribution of HMW scores, New Zealand is 20th out of 40, though the absolute difference between many countries in the middle group is very small.

**MSD’s material wellbeing index (MWI)**

MSD’s MWI is a household-level index. It uses 24 items as listed in Appendix 5 and described more fully in Section E..

It uses two perspectives in the selection of items and in the scoring:

* From an *enforced lack perspective* in which respondents report not having essential items or necessities because of the cost, or having to severely cut back on the purchase or consumption of such items because the money is needed for other essentials: for example, being unable to have regular good meals, two pairs of shoes in good repair for everyday activities, or visit the doctor; or having to put up with the cold, and so on because money is needed for other basics.
* From the perspective of the degree of restriction or freedom reported for having or purchasing desirable non-essentials (while having the essentials) – *a freedoms enjoyed perspective*, for short: for example, having all the essentials on the list, and in addition not having to cut back on local trips, not having to put off replacing broken or damaged appliances, being able to take an overseas holiday every three years or so if desired, not having any great restrictions on purchasing clothing, and being able to spend on hobbies and special interests as desired, and so on.

While for some items the focus is simply on whether the respondent or household possess it or not, for many items and the associated scoring there is an explicit focus on:

* capabilities to function rather than just on having the items themselves (eg for a car, being able to afford the WoF and Registration and fuel …. rather than just the possession of a car in itself)
* on housing quality (ability to heat it and keep it warm, and it being free of damp and cold) no damp) rather than a focus on the number of bathrooms
* on being able to pay the electricity bill and on being able to replace broken appliances … rather than simply on the possession of appliances and white ware
* on the freedom to purchase as desired, rather than having a dishwasher or more than one TV, which not all households of all ages want.

**Appendix 4**

**Challenges for both the incomes and the non-incomes approaches to measuring material wellbeing**

For measuring and monitoring material wellbeing at a household level the more direct approach using deprivation indicators / non-income measures has many advantages over the use of household income. For example: it captures the impact on a household’s material living standards of income levels and all the other factors that come into play (financial and physical assets, special demands on the family budget, help from outside the household, and so on); it gives a tangible grounded picture of what life is like for those in different degrees of hardship.

The limitations of household income as a measure of household material wellbeing are well-documented and well-understood. These apply even when using income for analysis within a country. For international comparisons, the use of household income is seriously limited, especially when compared with the relative robustness of using the same material deprivation index across countries.

Deprivation or material hardship indices have their challenges too. The most obvious one is the opportunity that exists for respondents to interpret questions differently and therefore to introduce “noise” to the indices. This undoubtedly occurs, but the way that quite different indices (sets of items) produce very similar rankings of households is an encouraging sign. Another challenge, when using “enforced lacks” (items not possessed “because of the cost”), is that there is some evidence of “adaptive preferences” having an impact on responses – for example, some older respondents adapt to their circumstances and say that they do not have an item because they do not want it, rather than for costs reasons. This approach no doubt helps maintain a sense of dignity and being in control of one’s life, even though a more objective assessment of household circumstances may be less optimistic. This issue is addressed in part by also using other types of items that are not as susceptible to this limitation.

There is also a question around the simple “adding up” approach commonly used for calculating index scores (see, for example, Cappellari and Jenkins (2007), chapter 8).

There is noise and limitation in any measurement of this sort (whatever the approach), but there is no evidence to suggest that the key findings in this report are compromised by such matters. It is only when the data is pushed to yield too much detailed analysis or precision that issues arise.

**Appendix 5**

**The 29 non-income (“living standards”) items in the HES (from 2012-13 on)**

|  |  |
| --- | --- |
| **Item description** | |
| **Ownership or participation** (have/do, don’t have/do and enforced lack (EL)) | |
| 1 | Two pairs of shoes in a good condition and suitable for daily activities |
| 2 | Suitable clothes for important or special occasions |
| 3 | Contents insurance |
| 4 | A meal with meat, fish or chicken (or vegetarian equivalent) at least each 2nd day |
| 5 | A good bed |
| 6 | Presents for family/friends on special occasions |
| 7 | Holiday away from home at least once every year |
| 8 | Overseas holiday at least once every three years |
| **Economising** – cutting back / doing without to keep down costs to help in paying for (other) basic items  (not at all, a little, a lot) | |
| 9 | Gone without or cut back on fresh fruit and vegetables |
| 10 | Buy cheaper cuts of meat or bought less meat than you would like |
| 11 | Continued wearing worn out clothes |
| 12 | Put up with feeling cold |
| 13 | Do without or cut back on trips to the shops or other local places |
| 14 | Delay replacing or repairing broken or damaged appliances |
| 15 | Spent less on hobbies or other special interests than you would like |
| 16 | Postponed visits to the doctor |
| 17 | Postponed visits to the dentist |
| **Housing problems** (no problem, minor problem, major problem) | |
| 18 | Dampness or mould |
| 19 | Heating or keeping it warm in winter |
| **Freedoms/Restrictions** | |
| 20 | 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) |
| 21 | $300 spot purchase for an ’extra’ – how restricted?  (5 point response from ‘ not restricted … couldn’t purchase’) |
| 22 | $500 unexpected unavoidable expense on an essential – can you pay in a month without borrowing? (yes/no) |
| **Financial strain** (in last 12 months) (not at all, once, more than once) | |
| 23 | Behind on rates or utilities |
| 24 | Behind on car registration, wof or insurance |
| 25 | Behind on rent or mortgage |
| 26 | Borrowed from family or friends to meet everyday living costs |
| 27 | Received help in the form of food, clothes or money from a welfare or community organisation such as a church or food bank |
| **Global self-ratings** | |
| 28 | Adequacy of income to cover basics of accommodation, food, clothing, etc  (not enough, only just enough, enough, more than enough) |
| 29 | Satisfaction with life “right now”, taking all things into account  (very dissatisfied, dissatisfied, neither, satisfied, very satisfied) |

Notes: 1 An EL is an enforced lack – an item that is wanted but not possessed because of the cost

2 Items 1-24 are the MWI items.

1. Non-income measures (NIMs) are sometimes referred to as non-monetary indicators (NMIs). They refer to the same items and measures. [↑](#footnote-ref-1)
2. Access to the HES 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-2)
3. See also Table E.6 for comparisons of the distribution of subjective wellbeing responses across MWI, AHC and BHC deciles. [↑](#footnote-ref-3)
4. In 2009, MSD published findings based on the 2008 Living Standards Survey. This included a prototype 14-item deprivation index which was used in the evaluation of the impact of the Working for Families package (Perry, 2009). DEP-17 is a refreshment and further development of the 14-item index using 17 indicators, all of which are now available on a regular basis from the Household Economic Survey (HES), starting in 2012-13. [↑](#footnote-ref-4)
5. The limitations of GDP per capita for the measurement of economic performance and social progress have been well-known for a long time. New Zealand’s Social Report , which started in 2001, is an example of an approach that goes beyond GDP and reports progress using a dashboard of indicators covering several domains. The momentum of the “beyond GDP” school of thought was greatly strengthened by the Stiglitz-Sen-Fitoussi report in 2009 and the OECD’s “Better Life Initiative” (2011 and ongoing). [↑](#footnote-ref-5)
6. These figures are for a 60% of median poverty line (2012 EU-SILC data). See also MSD’s 2016 Household Incomes Report (Section J), and Perry (2009) for more on the limitations of household income measures for international comparisons of poverty rates. [↑](#footnote-ref-6)
7. Guio, Gordon and Marlier (2012), and Guio and Marlier (2013). [↑](#footnote-ref-7)
8. For each country, the amount is set at a suitable value close to (±5%) the per month national income poverty line (60% of median) for the one person household. There is no adjustment for household size or composition. [↑](#footnote-ref-8)
9. Dickes et al (2010) for the EU as a whole; Gordon et al (2013), and Mack and Lansley (2015) for the UK. [↑](#footnote-ref-9)
10. Using the EU-13 items and other EU-SILC data from 2009, Deutsch et al (2015) show that the order of curtailment of expenditures by individuals / households when facing economic difficulties is much the same across EU countries and across subgroups within each country. This finding supports the use of a mix of items that tap into differing depths of material hardship. [↑](#footnote-ref-10)
11. The OECD has published findings from some preliminary investigations they carried out on measures of material deprivation in OECD countries, doing the best they could given the data gaps and comparability issues they faced for non-EU nations (see Boarini and Mira d’Ercole (2006) and OECD (2008)). In Canada, Ontario has developed a 10-item deprivation index which was incorporated into Statistics Canada’s Survey of Labour and Income Dynamics in 2009. [↑](#footnote-ref-11)
12. See Dickes et al (2010) for the EU as a whole; Gordon et al (2013), and Mack and Lansley (2015) for the UK. [↑](#footnote-ref-12)
13. See Gordon and Nandy (2012) and Main and Bradshaw (2014) for a child deprivation index for the UK using a mixed item approach. [↑](#footnote-ref-13)
14. For example: items need to cover a range of domains and a range of hardship depths; items need to be applicable to all age groups and to both market income and state income households; preferably 10 or more items; and some sort of factor analysis to check that the same underlying notion is being reasonably well reflected by the selected items in the indicator set. [↑](#footnote-ref-14)
15. A recent Working Paper from Motu Economic and Public Policy Research (Wellington, NZ) uses PISA information to construct an internationally comparable material wellbeing index (MWI) using non-income measures. Motu’s MWI is quite different to MSD’s MWI in several respects. See **Appendix 3.** [↑](#footnote-ref-15)
16. See Appendix 2 for more on ELSI and the comparison with the MWI. [↑](#footnote-ref-16)
17. The current plan is to have a more comprehensive Section F in the 2017 report. [↑](#footnote-ref-17)
18. There are also some non-income items in the health module in SoFIE for waves 3, 5 and 7 from 2004-05 to 2008-09. Both cross-sectional and persistence data are available and are noted later in this section. Statistics New Zealand’s General Social Survey (GSS) also collects some non-incomes items : the 25 ELSI items for 2008, 2010 and 2012, and 9 items for a short-form MWI for 2014. [↑](#footnote-ref-18)
19. The first row in Table G.5 is from Perry (2009) Table C.11. The other rows are from later analysis using the same methodology but a range of other thresholds. [↑](#footnote-ref-19)
20. See Perry (2002) for a summary of the international literature and for detailed discussion on the issue, Iceland and Bauman (2007) for a perspective from the US, and Nolan and Whelan (2011), chapter 6, for a comprehensive and more up-to-date analysis based on EU data. [↑](#footnote-ref-20)
21. See the technical note on p88. [↑](#footnote-ref-21)
22. The 2016 Incomes Report has a 14% rate for this measure. The difference arises because the Incomes Report uses the latest revisions of the data from Statistics New Zealand, including imputations for missing responses, whereas Table H.3 is from an earlier analysis. This difference makes no difference to the main finding displayed in Table H.3 and described in the text above it. [↑](#footnote-ref-22)
23. See also Brewer et al (2016). [↑](#footnote-ref-23)
24. More of this analysis is planned for the 2017 update, including using a set of child-specific items available in HES 2015-16. See also the tables in Sections D and E, especially E.4 and E.5 which use the latest HES data. [↑](#footnote-ref-24)
25. eg Baker et al (2013). [↑](#footnote-ref-25)
26. Denny (2016) found that for 16 % of high school students in New Zealand, the living room or garage were used as bedrooms and 6% had more than 2 people per bedroom. Much higher for Pacific and Maori and for lower socio-economic areas. [↑](#footnote-ref-26)
27. For each country, the amount is set at a suitable value close to (±5%) the per month national income poverty line (60% of median) for the one person household. There is no adjustment for household size or composition. [↑](#footnote-ref-27)
28. See Perry (2007) for more detail on this, especially p25. [↑](#footnote-ref-28)