MINISTRY OF SOCIAL DEVELOPMENT
TE MANATŪ WHAKAHIATO ORA

Report

Date: 7 September 2018 **Security Level:** IN CONFIDENCE

To: Hon Carmel Sepuloni, Minister for Social Development

Reporting on low-income and material hardship trends for children in the 2018 Household Incomes Report

Purpose of the report

1 MSD's 2018 Household Incomes and Material Wellbeing reports are scheduled for release in the second week of October, with updates from Stats NZ's 2017 Household Economic Survey (HES).

2 This note is a preliminary backgrounder ahead of the full briefing on the reports that MSD will provide nearer the time of release.

3 It gives an overview of general release arrangements, outlines what is in the reports, discusses the value and limitations of the HES data for the purposes of the reports, and explains why MSD is not publishing the low-income and hardship figures for children from the 2016 and 2017 HES.

Recommended actions

It is recommended that you:

1 **note** the contents of this report

2 **forward a copy** of the report to the Prime Minister / Minister for Child Poverty Reduction

3 **forward a copy** of the report to the Minister of Finance.

Nic Blakeley

Deputy Chief Executive
Insights and Investment

Date:

Hon Carmel Sepuloni
Minister for Social Development

Date

Background

4 MSD's reports are published annually, on a 'business-as-usual' basis. The Ministry does not do a media release, but simply uploads copies to the website, with notification given under the 'What's New' banner. To date, Ministers have usually done a media release each year.

5 The reports usually come out in July, but the timing is very dependent on when we receive the Household Economic Survey (HES) data. This year the data was very late and the relevant resources were also working on the Child Poverty Reduction (CPR) Bill. As a result, the release is scheduled for the second week in October this year. We expect the 2019 reports to be ready in late June / early July as the data preparation from Stats NZ is on a faster track now to enable their reporting requirements in the Bill to be met.

6 The reports are published as part of the MSD's work on monitoring social and economic wellbeing. They are a resource for use by a wide range of individuals and groups – policy advisors, researchers, students, academics, community groups, commentators and citizens more generally – to inform policy development and public debate around material living standards, poverty alleviation and redistribution policies.

7 The Child Poverty Monitor has been published in December for the last few years, sponsored by the Office of the Children's Commissioner, the University of Otago's New Zealand Child and Youth Epidemiology Service, and the JR McKenzie Trust. The Monitor's low-income and material hardship figures for children are all drawn directly from MSD's reports. The Child Poverty Related Indicators that the Monitor also reports on are gathered from other sources. Some commentators (mistakenly) report that the Monitor's low-income and hardship figures are the result of independent analysis by the Monitor's sponsors rather than just being MSD's work re-published.

What's in the reports?

8 In addition to information on trends in low income and material hardship for the whole population and various groups within the population, there is also a range of detailed information on:

- the distribution of household income more generally, including trends in income inequality using several measures, and trends in very high incomes
- the impact of income taxes and transfers on household incomes
- the degree of low-income persistence for the whole population and for households with children
- the degree of overlap between those households reporting low incomes and those reporting various levels of material hardship
- housing affordability and housing quality, for the whole population and for selected groups
- themes such as inclusive growth, the squeezed middle, the working poor, changing sources of income for older New Zealanders
- trends in reported life satisfaction for selected groups
- international comparisons.

9 All of this is set within an income-wealth-consumption-material-wellbeing framework, an emphasis on the importance of being explicit about definitions and assumptions and the differences these can make, and on being aware of both the richness and limitations of the survey data used.

10 Each new set of reports builds on the analysis and findings of previous reports. Unless there is a major shock to the economy such as the global financial crisis (GFC), a change in the housing market that impacts on rental costs, or a policy change that directly impacts in a significant way on the labour market, incomes or subsidies, findings using the latest available survey data can be expected to be broadly in line with previously identified levels and trends in all the main areas monitored by the reports. They can also be expected to reveal the same relativities between different groups.

11 The reports can be seen as living documents, annually updating and documenting the state-of-affairs as at a year or two before each new set of reports is published.

12 Each year, in addition to the updates, the reports also have new material on themes or areas of policy or public interest. The 2018 reports have some limited new material of general interest, but the bulk of the new material is technical in nature, reflecting aspects of the work MSD is doing with Stats NZ on the Technical Appendix for the their Child Poverty Report required by the CPR Bill.

13 The most notable difference from previous updates, however, is that there will be no low-income or material hardship figures for children based on the data from the 2016 and 2017 surveys. The time series will stop at 2015, and MSD plans on resuming them in the 2019 reports based on the 2018 data. The rationale for the pause in this reporting is outlined in the next three sections.[1]

The value and limitations of the HES data for the purposes of the reports

14 The HES is a random sample survey of around 3500 households (5500 in 2015 HES and the 2018 HES). When using information from random samples of a population to get estimates of what's going on in the population itself, we want the samples to be as representative as possible of the population in question. The better the representation the more confidence we have that the estimate based on the sample is close to the true population figure. All else equal, the estimates are more reliable the larger the sample size.

15 No sample survey can deliver perfect estimates. Even with a well-designed process for the random selection of households, and with a 100% response rate, there would still be sampling error – the inevitable difference between the estimate and the true value that arises by chance. The size of the sampling error can be quantified and expressed as a '95% confidence interval', a range within which there is a 95% chance that the true value lies. For example:

- For 2015, the sampling error for the standard material hardship rate for the population (8.5%) was around 1.5% and for children (14.4%) it was 2.9%. This means that there was a 95% likelihood that the 'true' child hardship rate was between 11.5% and 17.3%.
- The median household income typically has a sampling error of around 4%.

16 In practice, 100% response rates are not achieved. Over the last few years the HES has been achieving a response rate of around 80% which is very good by

[1] In the attached MSD filenote, more detail is provided on the matters covered in the following three sections. This filenote documents the material discussed with Stats NZ in coming to the decision to have a pause in publishing low-income and material hardship figures for children. It has also been used as the guiding text for briefing ministers and officials to date. The filenote also includes a good number of charts of relevance to this report.

international standards. Nevertheless, even with very good response rates there is always the chance that the non-responders are different from the responders in important ways. If this happens or if there is any limitation in the sampling methodology itself, then there can be sample bias that adds further noise over and above the inevitable sampling error.

17 For example, if it proves more difficult to get responses from households with low incomes or high material hardship than it does to get responses from better off households, then the sample is likely to be biased and the bottom end will likely look better off than expected. Sometimes this bias remains even after the population weights are applied to the raw sample numbers.[2]

18 This means that surveys like the HES need to be used with care. The HES is very useful and reliable for many of the themes covered by the MSD reports, but for other others it has limitations that need to be recognised.

19 For the purposes of the MSD reports there are many types of findings of public interest or policy relevance for which the HES is well suited and delivers valuable information. For example:

- the overall picture of household income distribution (and now wealth as well)
- the overall picture of material wellbeing, including on specific items of material hardship
- trends in rates of low income, material hardship, inequality, housing costs relative to income, and so on, when the perspective is over many years
- relativities between different groups on the above themes – even for smaller groups by combining information from several surveys
- international comparisons.

20 However, when the focus is on very short-term changes, especially year-on-year, or when more precision is required in a given year, the HES is not able to deliver robust results given its relatively small sample size.

21 When looking at a change from one survey to the next, the question often arises as to what is driving the change. Is it a 'real' change (driven by policy or changes in the economy or the rental housing market)? Or is it just the inevitable random fluctuation that happens with sample surveys ('sampling error')?

22 Many of these questions become more pressing the smaller is the sub-group being looked at. For example, only around a third of the sampled households contain children, so the sample size for this group is down to approximately 1200.

23 MSD's reports therefore emphasise the need to look at the general trend over many years, and warn against reaching conclusions based on very short-term changes alone, especially year-on-year changes.

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[2] The response rate for the HES is very good by international standards (~80% in recent years), and Stats NZ applies weights to the sample numbers to compensate for under-representation, adjusting to known population totals such as ethnicity and sex. Sample bias is still possible even so, if the non-responders are different than responders in other ways.

MSD's 2017 reports (updated with the 2016 HES): what the reports did last year for reporting on low-income and material hardship rates for children

24 Last year's reports drew attention to the unexpected and large declines in AHC low income and material hardship rates in the 2016 HES, especially for children, down considerably from the reasonably stable trend for relative low-income and material hardship rates in the 2013 to 2015 period.

25 The fall in child material hardship rates to 2016 was surprisingly large (from a relatively stable 14-15% in 2013 to 2015 to 9% in 2016), outside the normal sample error fluctuations, and with no economic, housing market or policy changes that were strong enough to explain the sudden declines.

26 The fall in AHC low-income rates[3] was also sudden and strong, almost at the limit of normal sample error fluctuations, and in contrast to the very flat stable trend from 2013 to 2015 (namely, from 22-23% to 19%).

27 Preliminary investigation of the sample itself showed that the 2016 sample was light on beneficiary households with children and on sole parent households, compared with the previous trends and levels, and that even the weighted numbers did not come up to the expected trend-line levels. The reports suggested that this may in part explain the large falls, as children from sole parent and beneficiary families make up a large portion of 'poor' children. However, a full explanation was not able to be given for the surprisingly large declines.

28 Because of the concerns about the 2016 figures, MSD's 2017 reports did not publish the raw figures for 2016. Instead, MSD made some interim adjustments to go some way to addressing the sole parent and beneficiary issues noted above and used two year rolling averages to smooth the trend lines. The reports warned that even the rolling average figures for 2016 were not reliable enough to reach any definitive conclusions on very recent trends, and advised that the 2017 survey results were needed to better assess what was going on.

What we found with the 2017 HES (while preparing the 2018 reports)

29 MSD's analysis of the 2017 HES data showed that:

- the AHC low-income rates for children dropped a little further in 2017 compared with 2016
- material hardship rates for children rose a little but were still well below the fairly flat and stable trend from 2013 to 2015
- the changes for 'working-age' households without children were very different from those for households with children, in particular:
    - for households without children, AHC low income rates rose quite strongly in contrast to the fall for households with children
    - for households without children, material hardship rates fell consistently (though not by very much) from 2013 to 2017, as would be expected in a period of steady economic growth and good employment numbers

[3] AHC incomes are household incomes after deducting housing costs and BHC incomes are household incomes before deducting housing costs.

30 Thus, for 2016 and 2017, the material hardship rates and the AHC low-income rates for children were similar, but well below the relatively stable flat trend in 2013 to 2015. The trends for households without children were quite different.

31 MSD liaised closely with Stats NZ in seeking an explanation for these unusual findings. The key points arising from this engagement were:

- The material hardship falls were surprisingly large and outside the normal sample error fluctuations, and the AHC low-income rate falls were at the limit of a 95% confidence interval expectation.
- There were no economic, housing market or policy changes that were strong enough to explain the declines.[4]
- Unlike 2016, the number of sole parent households and beneficiary households with children in the 2017 sample had returned to their expected levels, so this potential partial explanation for 2016 rates does not apply for 2017.
- Stats NZ reviewed their survey methodology and associated collection and recording processes and they are satisfied they are sound.

32 MSD further investigated the responses in the HES to material deprivation items such as foodbank usage, needing to borrow from families and friends for basics, not being able to replace or repair broken appliances, and so on. This work showed that:

- for households with children, the 2016 and 2017 figures were similar to each other and lower than the 2013 to 2015 figures which were also similar to each other
- for households without children the figures were similar to each other right through the 2013 to 2017 period.[5]

33 This suggests that the 2016 and 2017 samples may have some sample bias away from poorer households with children. As noted above (para 17), one way that sample bias can occur is through non-responders being different from the responders in important ways that are not addressed by standard weighting procedures. If, for example, it proves more difficult to get responses from households with low incomes or high material hardship than it does to get responses from better off households, then the sample is likely to be biased and the bottom end will likely look better off than expected. The investigation to date is not conclusive on this, and does not explain why it suddenly appeared, but it does point to something unusual happening with the samples.

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[4] The Child Material Hardship package (introduced in Budget 2015) could not have any measurable impact on the 2016 HES data as it was implemented after almost all of the survey was complete. It was not expected to have any measurable impact on the standard low-income and material hardship rates for children in the 2017 HES either, as the extra income for beneficiaries and working families was not sufficient to move many over the lines, even though it doubtless was of assistance to the recipients.

[5] See the later pages in the attached filenote for the relevant charts.

MSD's 2018 reports (updated with the 2017 HES): a temporary pause in reporting on low-income and material hardship rates for children

34 MSD's reports have always drawn attention to the relatively small sample size of the HES and the related sampling error issues, especially when looking at short-term changes in rates for subgroups in the population. We have been fortunate to date in that the year-by-year numbers have tended to fluctuate around a trend line. We now have a new situation with three years at one level and two years at another level, with no satisfactory explanation for the differences. In addition there may be some evidence of sample bias.

35 MSD considers that there is too much uncertainty and too much that we cannot explain about the 2016 and 2017 figures for children to allow us to publish with confidence.

36 The other factor that MSD took into account in making its decision was the proximity of the new Stats NZ Child Poverty Report that is due out early in 2019, based in part at least on HES 2018 data. MSD thought it prudent to hold back rather than potentially confuse readers with different figures being published within months of each other, and with the ones MSD publishes having a serious question mark over them.

37 As those in households with children make up a very large portion of the under 65 population (60%) and their results therefore have a strong impact on overall trends, total population rates for low-income and material hardship will not reported either for 2016 and 2017.

38 The 2016 and 2017 numbers will be reported for the other themes usually covered by the MSD reports. It is just the numbers at the lower end of the distributions that are of concern, so analysis covering other parts or the whole distribution are not impacted. There are also many other numbers and findings reported for which high accuracy is not so crucial as the focus is on the general relativities or overall trends rather than very short-term changes

39 Stats NZ supports MSD's cautious approach regarding not publishing the 2016 and 2017 low-income and material hardship figures in the 2018 report.

Looking ahead

40 It was recognised early on in officials' advice on the CPR Bill that the current HES is not able to provide the precision and certainty needed to support the requirements of the Bill, as the Bill requires the setting and monitoring of progress towards precise targets.

41 Stats NZ sought and received extra funding (announced in Budget 2018) to increase the sample size of the HES to around 20,000, and to make other improvements to increase the response rate and improve data quality, starting with the 2019 HES. The data collection for this began in July 2018.

42 MSD intends to resume reporting on low-income and material hardship in the 2019 reports, using the 2018 data from Stats NZ. There is no way of knowing at the moment what the 2018 figures will look like for low-income and material hardship rates for children.

43 The Child Poverty Unit has advised that they will be looking into whether the underlying data issues mean there are implications for the CPR Bill and associated matters.

Briefings to date on the decision to not publish the rates for children

44 We have briefed the following parties on the decision to not publish low-income and hardship rates for children, and the rationale for that decision: your office, DPMC, the Child Poverty Unit, the Prime Minister's Office, the Minister of Finance's Office and the Treasury.

45 The relevant staff at MSD and Stats NZ have also been briefed.

Briefing you and your office on the other matters in the reports

46 We are working with your office regarding briefing arrangements on the other matters in the reports.

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MSD's 2018 Household Incomes Report and the companion report using non-income measures of material wellbeing: Reporting on low income and material hardship rates for 2016 and 2017 HES

Filenote and material used for briefings

6 September 2018

Bryan Perry, MSD

Context and purpose of this note

- MSD's 2018 Incomes and Material Wellbeing reports are scheduled for release in October, with updates from Stats NZ's 2017 Household Economic Survey (HES).[6]

- The 2018 reports will cover the usual range of themes and will generally follow a similar approach to previous updates. Apart from the updated figures using the 2017 HES, the new material this time is mainly technical rather than any new policy-relevant themes, reflecting aspects of the work MSD is doing with Stats NZ on the Technical Appendix for their proposed February 2019 child poverty report.

- A significant feature is that the reporting on low-income and material hardship rates for children will go only up to 2015 (no 2016 or 2017 HES findings for children).

- MSD expects to report again on these rates in the 2019 reports, updated with the 2018 data that will be used by Stats NZ in their scheduled February 2019 child poverty report.

- This note gives an account of the rationale for the decision to pause on reporting low-income and material hardship rates for children in the 2018 reports. It should be read in conjunction with the 7 September 2018 report to Minister Sepuloni on the matter [report number].

Rationale for the pause in reporting on low-income and material hardship trends for children

- Both the low-income and material hardship rates for children in 2017 are very close to what they were in the 2016 HES, and the 2016 and 2017 rates are much lower than the reasonably stable levels in the 2013 to 2015 HES years.[7] For example:
    - the 'standard' material hardship rate for children fell from around 14% to 9% (on average)
    - even the 'more severe' rate fell, from around 8% to 5% (on average)
    - the AHC 50% REL rate fell from a stable 22-23% over 2012 to 2015 to 19% (on average)
    - the AHC 40% REL rate fell from around 14% to 12% in 2016 and further to 11% in 2017.[8]

- In contrast, for households <u>without</u> children:
    - low-income rates were higher in 2016 and 2017 compared with 2013-2015
    - hardship rates fell a little from 2013 to 2017 in line with expectations given a growing economy and strong employment growth.

- Such large and sudden changes for households with children call for an explanation, especially in the context of the quite different trends observed for 'working age' households without children.

- The four standard categories of potential explanation are considered below, then some other possibilities are discussed:
    - sampling errors

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[6] For simplicity this note refers to the 2014/15 HES as the 2015 HES, and so on.

[7] See charts in Appendix for details.

[8] The BHC 50% REL rate fell from a relatively stable 12-13% in 2010 to 2015 to 11% in 2017. This fall was within the sampling error of around 2.5%.

- non-sampling errors
- changes to the economy, the housing market, and so on
- policy changes.

- Sampling errors are about the variability that occurs by chance because a sample rather than an entire population is surveyed.[9] There are two main ways to reduce sampling error: use solid survey design techniques to ensure a representative sample; increase the sample size.
  - Stats NZ and many others use a 95% confidence interval when discussing sampling errors. For example, for 2015 the sampling error for the standard material hardship rate for the population (8.5%) was around 1.5% and for children (14.4%) it was 2.9%.[10] This means that there was a 95% likelihood that the 'true' child hardship rate was between 11.5% and 17.3%.
  - When we want to look at changes between years, the sampling error for year-on-year changes is larger than for individual years. For the change in child hardship rates from 2015 to 2016 the sampling error is 3.0% and the reported change was 6.1%, well outside the 95% CI. The change from 2013-2015 (~14%) to the average of 2016 and 2017 (~9%) is around 5%, still much greater than 3.0%.
  - For 50% AHC rates, the fall was 3-4%, and the sampling error in the change is 3.5%. The change is right at the limit of the 95% confidence interval.

- Non-sampling error is a catch-all term for the deviations of estimates from their true values that are not a function of the sample that is chosen. Non-sampling errors are about the 'noise' created by such things as: respondents giving incorrect information, mistakes in collecting and processing the data, and by non-response. The latter is especially important. If the non-responders are different on average to the responders then the sample is biased. Non-sampling errors cannot be quantified, but Stats NZ makes every effort to ensure that these types of errors are minimised.

- Regarding both the above, Stats NZ have reviewed their survey methodology and associated collection and recording processes and they are satisfied they are sound.

- Changes in the economy and housing market can impact on low-income and hardship rates.
  - In the 2013 to 2017 period, wages (including the minimum wage) and employment continued to grow, so material hardship rates could be expected to gradually decline. This is what happened for households without children, whereas for households with children the observed falls were sudden and large from 2015 to 2016, then stayed much the same in 2017.
  - There was no large change in the rental housing market that could explain the sudden and reasonably strong falls in AHC low-income rates for households with children, especially as for households without children the low-income AHC rates rose.

- Changes in policy can impact on low-income and hardship rates.
  - The only policy change of relevance to the issue is the Child Material Hardship (CMH) package, introduced in Budget 2015, and implemented in April 2016..
  - The impact on 2016 figures would be negligible, as the package was implemented after most of the 2016 survey was complete, and even for those interviewed from April to July 2016 there would be only a very diluted impact on their reported income for the 12 months prior to interview.
  - Even when fully implemented, the CMH package was not expected to have any measurable impact on the standard low-income and material hardship rates for children in the 2017 HES as so many of the recipients had incomes well below the usual low-income thresholds. Any impact on measured material hardship was expected to be very small, certainly nothing like the large fall observed.

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[9] 'Sampling error' is a potentially misleading term. It can lead the reader to think in terms of sampling 'mistakes', whereas sampling error is about the inevitable variability that occurs when using samples rather than the full population. Even in a perfectly designed and executed survey, there will still be sampling error.

[10] The sampling errors in this note are those produced by Stats NZ using a bootstrapping technique. They are from a draft note for MSD. The numbers may change a little in their final version, but the changes, if any, will not impact on the logic and conclusions in this note.

Some evidence of sample bias at the very low end?

- MSD investigated the trends for selected material hardship items over the 2013 to 2017 period.
- As is evident in the charts in the Appendix, there is some evidence of the 2016 and 2017 samples looking better-off than expected at the low end compared with 2013 to 2015, for households with children. For example, reported foodbank usage declined (according to the HES data), and reported delays on replacing or repairing appliances declined.
- For the same period, there was no noticeable change for households without children.

So, what other potential explanations remain?

- It could be that the 2017 figures are giving a good estimate of the true value for households with children, and that 2014 and 2015 are 'too high' and 2016 is too low? This is possible, but is totally speculative, and does not explain the different trends for households without children.
- It is possible that the random variation that is inevitable in using sample surveys has gone in the same direction for two consecutive years, and in the case of the hardship figures has even been larger than the standard 95% confidence interval, but we will not know that until we have analysis from at least one more survey. Whatever validity this explanation has, it cannot be the full explanation given the quite different trends for households without children.
- The benchmarks used by Stats NZ in calculating the weights to be applied to the sample numbers do not include the numbers of beneficiary households or sole parent households (the protocol uses two-adult and non-two-adult households). These are two groups with high low-income and hardship rates. However, this weighting regime did not change in 2016. Furthermore, the Treasury use a different weighting regime with more benchmarks involved (including beneficiary numbers), but the low-income and hardship trends showed the same sort of falls in 2016 and 2017 using the Treasury weights, albeit the actual levels were a little higher in both 2013-15 and in 2016 and 2017 than when using the Stats NZ weights. The weighting regime does not provide an explanation.

MSD's conclusion

- MSD's 2017 reports drew attention to the unexpected large falls in the 2016 HES and did not publish the raw findings. Instead, the reports made some adjustments to partially compensate for the lower numbers of sole parent households and higher numbers of two-parent households in 2016 (compared with established trends), and reported only rolling two year averages.

- The 2017 reports advised waiting until the 2017 data was available before reaching any definitive conclusions about the reliability of the observed large falls to 2016.

- The 2017 data gives similar rates to 2016 but the demographics are more normal so there is no basis for an ad hoc interim adjustment to the 2017 data, in contrast to the actions taken in 2017. There is some evidence from responses to individual hardship items that the households at the bottom of the 2016 and 2017 income and material wellbeing distributions are better off than their counterparts in 2013 to 2015. This raises the question of a possible bias in the sample, but is not conclusive.

- Given the considerable uncertainties as to what is actually going on with the low-income and material hardship rates for children, and in the absence of a satisfactory explanation as to why the large changes have occurred in the observed rates, MSD is pausing in its reporting on these figures for 2016 and 2017.

- As those in households with children make up a very large portion of the under 65 population (60%) and their results therefore have a strong impact on overall trends, total population numbers are not reported either.

- MSD intends to start reporting these figures again in the next update scheduled for June 2019.

- The 2016 and 2017 HES data can be satisfactorily used for reporting on the other areas usually covered by the reports. It is the year-on-year and short-run changes at the low end of the distributions where the issues are arising. For other themes, where precision is not as crucial, or where it is the medium to longer term trends that matter, the HES data is satisfactory.

Proximity of Stats NZ's 2019 child poverty report (using 2018 data)

- The Child Poverty Reduction Bill is currently making its way through the parliamentary process and is scheduled to pass into law later this year.

- The proposed legislation requires the Government Statistician produce a report on child poverty using the ten measures in the Bill, including a technical appendix which sets out definitions and methodology used.

- The first Stats NZ report is scheduled for early 2019, and will produce 2018 estimates based at least in part on the 2018 HES, probably supplemented with administrative data.

- The reports are to be prepared in consultation with MSD. Stats NZ and MSD are working closely in preparing the Technical Appendix and are making good progress, but the work will not be completed before the MSD reports are published.

- All this points in the same direction as the technical considerations above – a temporary pause by MSD on its reporting on child poverty and hardship rates, especially with the first Stats NZ child poverty report due early in 2019 and based on 2018 data, and with some key decisions yet to be made on measurement methodology (eg the material hardship index and thresholds). The pause will avoid the likely unproductive confusion that could arise if different numbers are published in such close proximity.

Consultation with Stats NZ

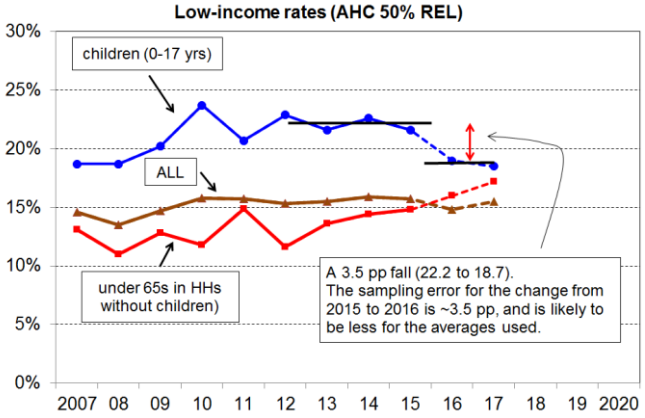
- MSD has liaised closely with Stats NZ on the issue of the surprisingly large fall in low-income and hardship rates for (households with) children in 2016 and 2017 compared with previous years.
- Stats NZ have reviewed their survey methodology and associated processes and they are satisfied that they are sound.
- Stats NZ supports MSD's cautious approach to reporting on low-income and material hardship rates for the 2016 and 2017 HES.

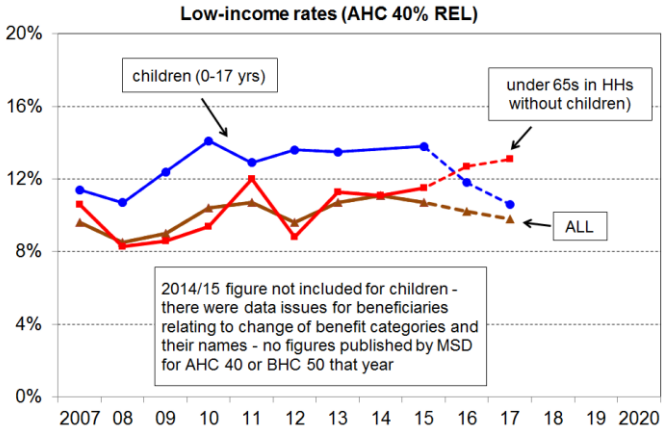
Appendix

Charts and other detail

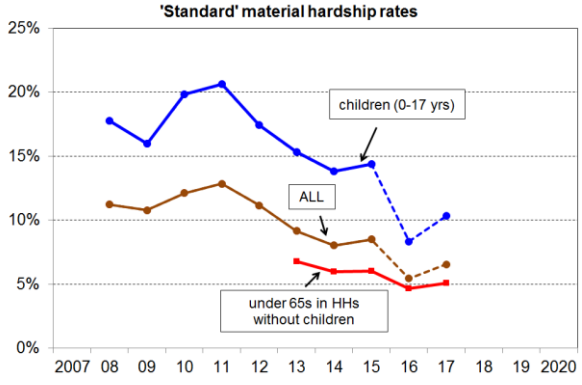
The AHC and material hardship charts below show the sizeable falls to 2016 and 2107 from the relatively stable 2013 to 2015 period. The BHC 50% fall was less pronounced (12-13% in 2010-15 to 11% in 2016 and 2017), but was still in the same direction, and the low 2017 figure was particularly surprising given the fairly strong rise in the BHC median.

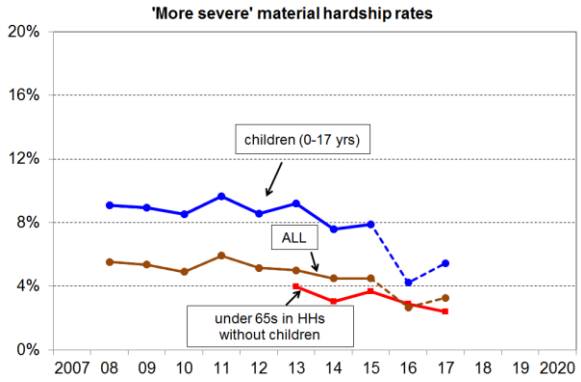
AHC low incomes (40% and 50% AHC REL, mOECD equivalisation)





Material hardship ('standard' and 'more severe')

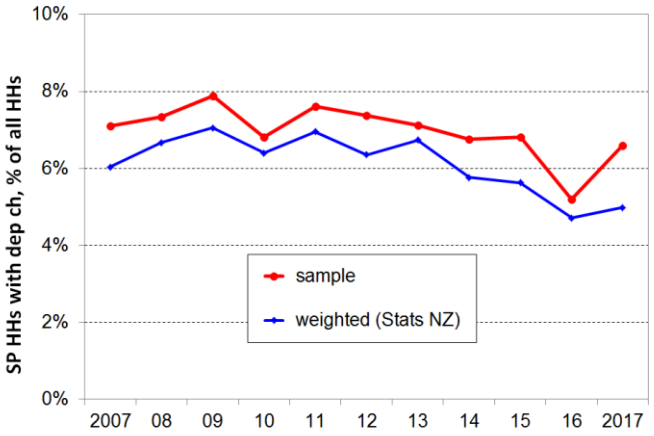




Sole parent households with at least one dependent child

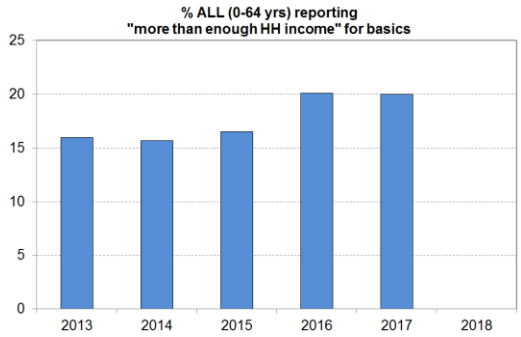
In the 2016 HES, there was an unusually low number of sole parent households (with at least one dependent child) in the sample. The application of population weights did not fully correct for this.

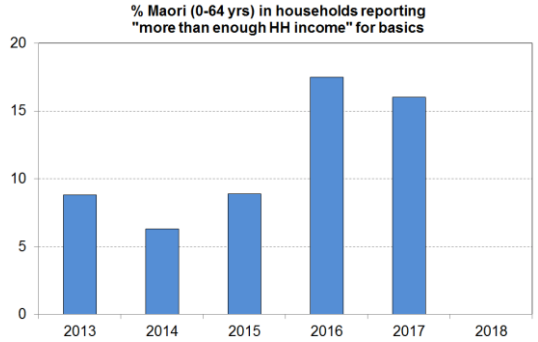
In the 2017 HES the sample numbers for this household type were in line with earlier trends. The application of population weights raised the population estimates towards a falling trend line.

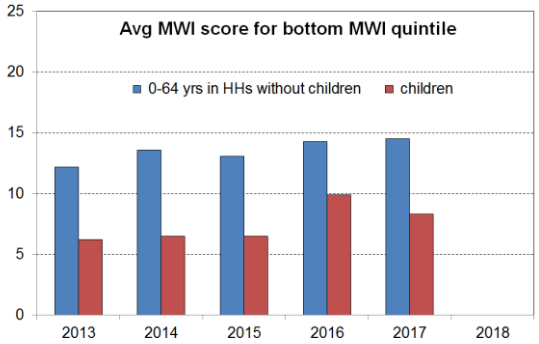


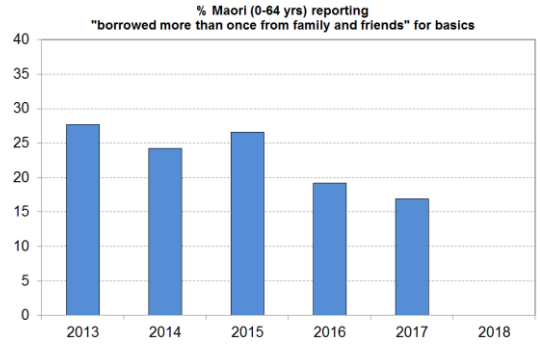
Generally better off samples in 2016 and 2017 compared with 2013 to 2015?

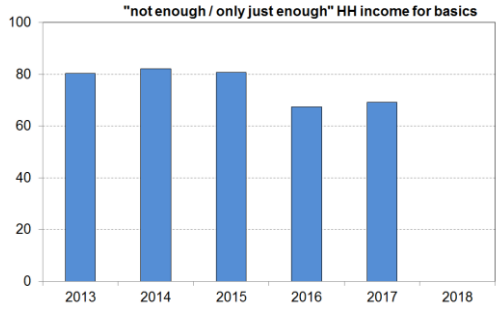
The charts below show that the 2016 and 2017 responses indicate ‘better off’ samples for those years compared with the previous three.





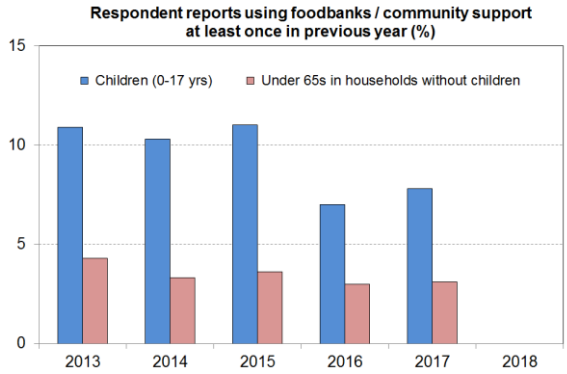


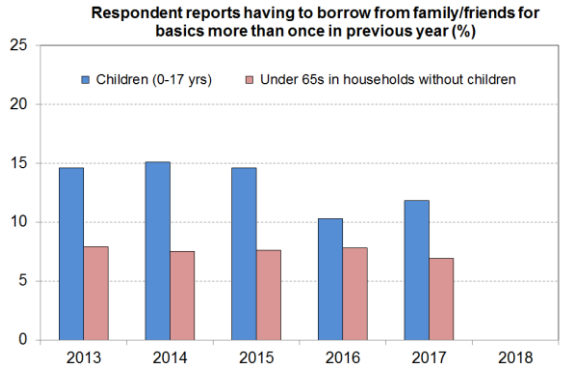


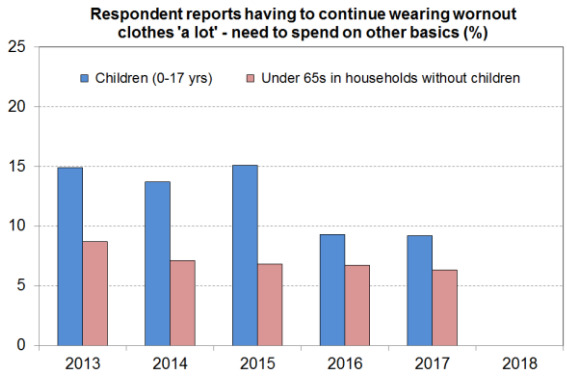


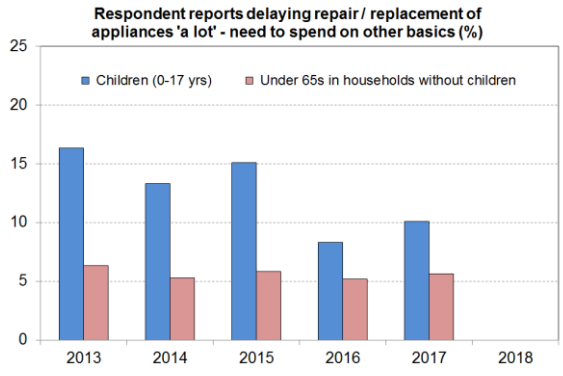
Looking at children in their HHs and comparing with those living in HHs without children

The responses from households with children indicate that at the lower end (more deprived) the responders in 2016 and 2017 were on average better off (less deprived) than their counterparts in 2013 to 2015. In contrast, the trends for those in households without children were fairly flat in the whole period.









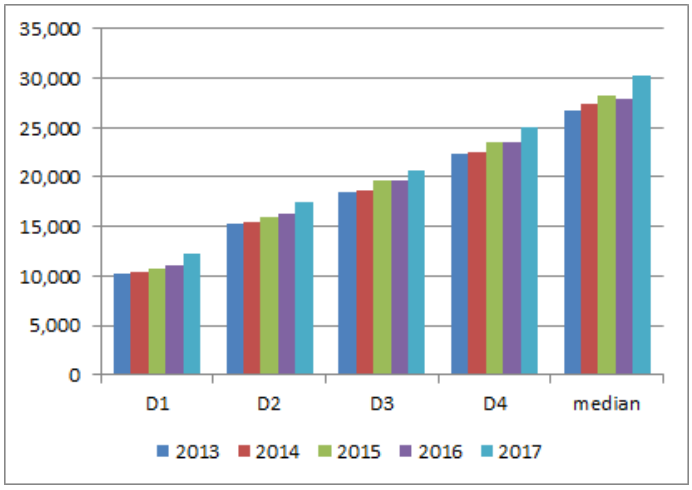
Not all as clear cut as this in all cases, but none have households with children worse off in 2016 and 2017 than earlier three years.

Household income decile upper boundaries

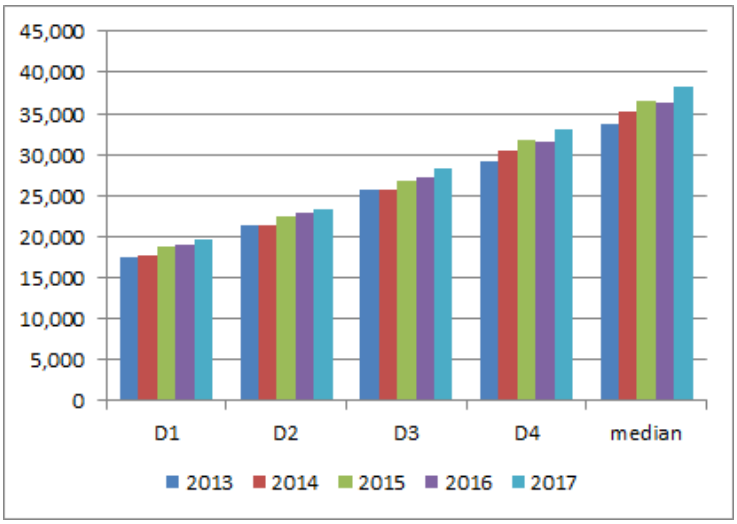
There are several features of interest in the AHC and BHC charts below for the issues discussed in this note:

- for each of deciles 1-5 and for both AHC and BHC incomes, there is a steady upward trend from 2013 to 2017
- from 2015 to 2016, both the AHC and the BHC reported medians barely changed (down 1%)
- from 2016 to 2017:
    - the AHC median rose 8% and the BHC 5%
    - the AHC P10 rose 10% and the BHC P10 4%
- there are no known factors in the economy or policy that explain the apparently low 2016 medians, but the variability is within the 4% sampling error generally applying to HES medians
- the lower-than-expected 2016 AHC low-income rates are consistent with the low median together with the small rise in P10 for 2016
- the lower-than-expected 2017 AHC low-income rates occurred despite the large rise in the median to 2017 … because the P10 number went up a little more.

AHC household incomes ($2017)



BHC household incomes ($2017)



The steepness of the income distribution curve at around the 50% and 60% of median lines …

…. is another factor that can contribute to considerable year-on-year variability in measured low-income rates. A small shift in the position of the 50% line and/or a clump or two of households around the 50% line can make a large difference to reported rates.