



Department  
for Work &  
Pensions

# Income Dynamics

Background information and methodology

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March 2017

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# Purpose of the statistics

## Context of the statistics

Income Dynamics (ID) is a new publication containing analysis of income movements and the persistence of low income for various population groups. Reporting on the percentage of children in the United Kingdom who live in households whose income has been less than 60 per cent of median equivalised net household income in at least three of the last four survey periods is required under section 4 of the [Welfare Reform and Work Act 2016](#). Definitions for relevant key terms in the Act are consistent with those given in the Glossary of this document. Data for reporting against the other three measures are available in the Households Below Average Income (HBAI) publication.

The [Department for Work and Pension's](#) responsibilities include understanding and dealing with the causes of poverty rather than its symptoms, encouraging people to work and making work pay, encouraging disabled people and those with ill health to work and be independent and providing a decent income for people of pension age and promoting saving for retirement. Progress towards these responsibilities will affect these results.

## Key strengths and purpose of the statistics

This is a new statistical series, supplementing the [Households Below Average Income \(HBAI\) series](#). HBAI remains the best source of cross-sectional low-income statistics. We hope Income Dynamics will supplement it to give a longitudinal perspective on low-income statistics, and become a key source for statistics about income movements and the persistence of low income, filling a key gap that emerges if low-income statistics are only considered cross-sectionally. By looking longitudinally at low incomes, we can look at durations of low incomes for different groups and what characteristics generate longer spells of low income.

Potential users include: policy and analytical teams within the DWP, the Devolved Administrations and other government departments, local authorities, parliament, academics, journalists, and the voluntary sector.

Researchers and analysts outside government could use the statistics and data to examine topics such as income mobility and persistence of low income.

## Source of the statistics

These statistics are derived from the Understanding Society survey. Understanding Society is an initiative funded by the Economic and Social Research Council and various Government Departments, with scientific leadership by the Institute for Social and Economic Research, University of Essex, and survey delivery by NatCen Social Research and Kantar Public. The research data are distributed by the UK Data Service.

We have used the following dataset:

University of Essex. Institute for Social and Economic Research, NatCen Social Research, Kantar Public. (2016). Understanding Society: Waves 1-6, 2009-2015: Special Licence Access. [data collection]. 7th Edition. UK Data Service. SN: 6931, <http://doi.org/10.5255/UKDA-SN-6931-6>

We have also used the Understanding Society [Mainstage \(waves 1-6\) – User Guide](#) in pulling together this analysis and recommend other users consult this before carrying out analysis based on this data source.

Knies, Gundi (ed.) (2016). Understanding Society –UK Household Longitudinal Study: Wave 1-6, 2009-2015, User Guide. Colchester: University of Essex

We also received very valuable analysis and assistance from Dr Eleni Karagiannaki of the London School of Economics, who carried out high-quality initial analysis on the Understanding Society dataset during a secondment at the Department, contributing greatly to the development of this publication, as well as working with us to develop reweighting options to produce analysis just for fully responding households. We would also like to thank Professor Nick Buck, Dr Paul Fisher, Dr Laura Fumagalli and Dr Ricky Kanabar at the Institute for Social and Economic Research at the University of Essex for their valuable analysis and assistance.

DWP bears the sole responsibility for the analysis or interpretation presented here.

## Population

Understanding Society covers the United Kingdom. Individuals in households recruited at the first round of data collection are visited each year to collect information on changes to their household and individual circumstances. Interviews are typically carried out face-to-face in respondents' homes by trained interviewers.

Household members aged 16 or older are interviewed and the same individuals are re-interviewed in successive years to see how things have changed. Individuals become eligible for a full interview once they reach the age of 16.

## The Understanding Society sample

The Understanding Society main sample is made up of four subsamples:

- **General population sample (GPS).** This is the largest part of the survey. The England, Scotland and Wales sample in this data release is based upon an initial sample of 47,520 addresses. In Northern Ireland, 2,395 addresses were selected in a single stage from the list of domestic addresses. In combination, this data release is therefore based upon a total of 49,915 addresses.
- **Ethnic Minority Boost Sample (EMBS).** The EMBS was designed to provide at least 1,000 adults from each of five groups: Indian, Pakistani, Bangladeshi, Caribbean, and African based on sampling postal sectors with relatively high proportions of relevant ethnic minority groups, based upon 2001 Census data and more recent Annual Population Survey data.

- British Household Panel Survey (BHPS) cases.** The sample issued for wave 2 (2010-2011) consisted of all members from the BHPS sample who were still active at Wave 18 of the BHPS and who had not refused consent to be included as part of the Understanding Society sample. It should be noted that the BHPS sample contains different subsamples, including the original sample (first selected in 1991), boost samples in Scotland and Wales (first selected in 1999), and a Northern Ireland sample (selected in 2001).
- Immigrant and Ethnic Minority Boost (IMBS).** This sample was introduced at Wave 6, and is not included in this analysis. It includes people who were born outside the United Kingdom (“immigrants”) and members of five ethnic minority groups: Indian, Pakistani, Bangladeshi, Caribbean, and African.

### Survey periods

Understanding Society fieldwork is conducted over a two-calendar-year period, with each individual being interviewed on a yearly basis. Note that the periods of waves overlap, and that individual respondents are interviewed around the same time each year on an annual basis. See the schematic below showing the periods of data included in each wave.

Persistent low-income analysis is analysed on the basis of ‘rolling’ four-survey period datasets. For example, the period 2010-2014 uses individuals present in all of the following four waves, 2010-2011, 2011-2012, 2012-2013 and 2013-2014 together with all children born to original sample members (see below for definition) before their 2010-2011 interview.

### Meaning of survey period

The schematic below shows when each wave of the survey was carried out and which samples were included:

| Wave                             | Calendar year |                 |                 |                 |                 |                       |      |
|----------------------------------|---------------|-----------------|-----------------|-----------------|-----------------|-----------------------|------|
|                                  | 2009          | 2010            | 2011            | 2012            | 2013            | 2014                  | 2015 |
| Wave 1: 2009-2010 (not included) | GPS, EMBS     |                 |                 |                 |                 |                       |      |
| Wave 2: 2010-2011                |               | BHPS, GPS, EMBS |                 |                 |                 |                       |      |
| Wave 3: 2011-2012                |               |                 | BHPS, GPS, EMBS |                 |                 |                       |      |
| Wave 4: 2012-2013                |               |                 |                 | BHPS, GPS, EMBS |                 |                       |      |
| Wave 5: 2013-2014                |               |                 |                 |                 | BHPS, GPS, EMBS |                       |      |
| Wave 6: 2014-2015                |               |                 |                 |                 |                 | BHPS, GPS, EMBS, IEMB |      |

### Sample status and following rules

There are three possible sample statuses: Original Sample Members (OSMs), Temporary Sample Members (TSMs), and Permanent Sample members (PSMs).

- Original Sample Members (OSMs).** All members of Understanding Society GPS households enumerated at Wave 1 - including absent household members and those living in institutions who would otherwise be resident - are Original Sample Members (OSMs). All ethnic minority members of an enumerated household eligible for inclusion in the EMBS are OSMs.

Any child born to an OSM mother after Wave 1 and observed to be co-resident with the mother at the survey wave following the child’s birth is an OSM. In the former BHPS sample, OSMs are those who were enumerated at

the first wave of the sample from which they come (Wave 1 for the original sample, Wave 9 for the Scotland and Wales boost samples, Wave 11 for Northern Ireland) or who were subsequently born to an OSM mother or father (or both). Following the incorporation into Understanding Society from Wave 2 onward, for those in the former BHPS sample, as for all other Understanding Society samples, only children born to an OSM mother will themselves become an OSM. OSMs, of all ages, are followed for interview and remain eligible as long as they are resident within the UK. They remain potentially eligible sample members for the life of Study.

The case may arise where the only OSM in the household is a child. Other household members are then TSMs so long as they are co-resident with the child, and therefore eligible for interview, even if the child is not yet old enough to be eligible for interview. If the OSM child moves house, they are followed to their new address and those living with the OSM child are eligible for interview. If the OSM child moves into an institution, where normally just the OSM/PSM would be interviewed and not co-residents, a split-off household is created containing only the OSM child and the household enumeration grid completed. The child OSM is an eligible sample member, even if they are not eligible for interview because of their age.

- **Temporary Sample Members (TSMs).** Any members of an enumerated household eligible for inclusion in the EMBS at Wave 1 who are not from a qualifying ethnic minority are Temporary Sample Members (TSMs) at Wave 1. This was the only category of TSM at Wave 1.

In all parts of the sample, any new person found to be co-resident in an OSM or PSM household after Wave 1 is a TSM. This would include any child born to an OSM father after Wave 1 but not an OSM mother and observed to be co-resident with the father (or any other OSM) at the survey wave following the child's birth. TSMs remain eligible for interview as long as co-resident in an OSM/PSM household. TSMs who are not co-resident in an OSM/PSM household are not followed and become ineligible for interview. TSMs are identified as re-joiners if they are subsequently found in an OSM/PSM household and then become eligible for interview.

- **Permanent Sample Members (PSMs).** Any TSM father of an OSM child born after Wave 1 and observed to be co-resident with the child at the survey wave following the child's birth is a PSM. PSMs remain potentially eligible for interview for the life of survey.

Only OSMs have positive longitudinal weights, and they form the basis of the analysis included here. Account is also taken of the inevitable changes of address or location that some interviewee's experience; as noted above the survey follows OSMs if they move to a new household. This is to ensure that the household / family history is not lost, and that there is no significant fall off in interview numbers.

For further information on the survey, see the [Understanding Society homepage](#) especially the [Mainstage \(waves 1-6\) – User Guide](#).

### Sample sizes and attrition

As with most longitudinal surveys, attrition reduces the Understanding Society sample size over time. See Table M.1 below which shows how many individuals are available for analysis in each wave. These are original sample member cases with positive longitudinal weights except where noted.

**Table M.1 – Single-year cases available for analysis**

| Wave   | GPS+EMBS cases | BHPS cases   | All cases |
|--|----------------|--------------|-----------|
| 2009-2010 (not used – see limitations section) | 76,185         | Not included | 76,185    |
| 2010-2011 (cross-sectional weights)            | 60,918         | 15,489       | 76,407    |
| 2011-2012                                      | 48,883         | 11,545       | 60,428    |
| 2012-2013                                      | 43,112         | 10,374       | 53,486    |
| 2013-2014                                      | 39,121         | 9,490        | 48,611    |
| 2014-2015                                      | 34,183         | 8,510        | 42,693    |

Understanding Society 2010-2015

The persistent low-income tables are based on individuals with positive longitudinal weights in the final wave being considered meaning they are OSMs, and include individuals who were previously BHPS sample members. Table M.2 below shows the four-year samples that form the basis of these tables. Any individuals who are not in the survey for all four relevant waves are excluded from the analysis.

**Table M.2 – Four-year cases available for analysis**

| Wave      | All cases | New-born children present for fewer than four waves | Cases available for analysis |
|-----------|-----------|---|------------------------------|
| 2010-2014 | 48,611    | 1,537   | 47,074                       |
| 2011-2015 | 42,693    | 1,191   | 41,502                       |

Understanding Society 2010-2015

### Missing information

As well as attrition reducing the sample size, we have missing data for many of the variables we are using in the analysis. We exclude individuals with missing data from relevant analysis, but include individuals whenever we can. For instance, we might know that an adult has an illness or disability but do not have information on whether it is limiting. In such a case, the individual will be included in the illness or disability category, but will not be included in the further analysis looking at whether the illness or disability is limiting.

**Table M.3 – Cases used for income analysis**

| Wave      | Missing equivalised Before housing costs income information | Missing equivalised After housing costs income information |
|-----------|---|--|
| 2010-2014 | 17 cases (<1%) out of 47074                                 | 6,583 cases (14%) out of 47074                             |
| 2011-2015 | 778 cases (2%) out of 41502                                 | 6,699 cases (16%) out of 41502                             |

Understanding Society 2010-2015

Table M.3 above shows the extent of missing data for the longitudinal analysis of incomes. The most common reason for not having Before Housing Costs (BHC) incomes is having individual responses but no household response information. This affects 14 cases with positive longitudinal weights in 2010-2011 and 721 cases in 2014-2015. Other issues include missing equivalisation factors and missing interview dates (which means we are unable to deflate incomes). There is a lot more missing After Housing Costs (AHC) income information. The additional cases with missing information are mainly a result of missing housing cost information.

**Table M.4 – Missing data for other variables used**

| Classification   | 2010-2014                      | 2011-2015                      |
|--|--------------------------------|--------------------------------|
| Status (child, working-age adult or pensioner)   | 7 cases (<1%) out of 47,074    | 1 case (<1%) out of 41,502     |
| Employment status of family  | 47 cases (<1%) out of 47,074   | 15 cases (<1%) out of 41,502   |
| Ethnic group of head   | 2,473 cases (5%) out of 47,074 | 2,029 cases (5%) out of 41,502 |
| Family type  | 7 cases (<1%) out of 47,074    | 1 case (<1%) out of 41,502     |
| Number of children in family   | 7 cases (<1%) out of 47,074    | 1 case (<1%) out of 41,502     |
| Gender   | 7 cases (<1%) out of 47,074    | 1 case (<1%) out of 41,502     |
| Long-standing illness or disability (adults only)  | 1,989 cases (6%) out of 34,903 | 1,672 cases (5%) out of 31,052 |
| Limiting long-standing illness or disability (only those who have long-standing illness or disability) | 526 cases (4%) out of 11,986   | 470 cases (4%) out of 10,738   |
| Region / Country   | 77 cases (<1%) out of 47,074   | 14 cases (<1%) out of 41,502   |
| Tenure   | 87 cases (<1%) out of 47,074   | 108 cases (<1%) out of 41,502  |
| Highest educational qualification (adults only)  | 2,073 cases (6%) out of 34,903 | 1,729 cases (6%) out of 31,052 |

Source: Understanding Society 2010-2015

Table M.4 above shows the extent that information is missing for classificatory variables. In many cases less than 1 per cent of cases have missing values. For long-standing illness or disability and highest qualifications, only those completing an individual questionnaire are included (i.e. non-responding individuals in partially responding households will be missing). For highest qualification, there is also a

known issue in feeding forward information collected on the BHPS (i.e. pre-populating the question with what the respondent said previously) or asking individuals turning 16 about their qualifications. Finally, whether a long-standing illness or disability is limiting is not asked of proxy respondents (i.e. where someone else is giving information about the person in question). Around a quarter of four-year cases available for analysis are in households that contain either a proxy or missing individual interview. See the [Understanding Society survey documentation website](#) for further details.

## Weighting

Weights have been applied which take the combined GPS, EMBS and BHPS samples, adjusting for unequal selection probabilities, differential nonresponse, and potential sampling error. This adjusts for the higher sampling fraction in the Devolved Administrations and for different probabilities of selection in the EMBS, as well as for response rate differences between subgroups of the sample. Understanding Society produces weighting factors rather than grossing factors, so we do not produce estimates of numbers of individuals in low income. Instead we focus on percentages of the population.

## Definitions and terminology within the statistics

There are a range of possible measures of low income, income inequality, and material deprivation which capture different aspects of changes to living standards. In Income Dynamics, we base our analysis of low income on:

- **Relative low income**, which measures the proportion of individuals who have household incomes below a certain proportion of the average in that year - and is used to look at how changes in income for the lowest income households compare to changes in incomes near the 'average'. In the ID report we concentrate on those with household incomes below 60 per cent of the median income. Information on those with household incomes below 70 per cent of the median income is available in the detailed tables published on the Income Dynamics web-pages.
- **Income** is measured as total weekly disposable household income from all sources after tax, national insurance and other deductions in the latest period before the interview. An adjustment called 'equivalisation' is made to income to make it comparable across households of different size and composition.
- **Median household income** divides the population, when ranked by equivalised household income, into two equal-sized groups.
- **Quintile values** are income values which divide the whole population, when ranked by household income, into five equal-sized groups. This helps to compare different groups of the population.
- **Quintile groups** are five equal-sized groups - the lowest quintile describes individuals with equivalised incomes in the bottom 20 per cent of the income

distribution. **Quintile** is often used as a standard shorthand term for quintile group

- **Income distribution** is the spread of incomes across the population.
- **Equivalisation** adjusts incomes for household size and composition, taking an adult couple with no children as the reference point. See below for details.
- Income Dynamics presents information on an individual's household income by various **household** and **benefit unit (family)** characteristics. There are important differences between households and benefit units. A household is one person living alone or a group of people (not necessarily related) who either share living accommodation OR share one meal a day and who have the address as their only or main residence. A household will consist of one or more benefit units, which are single adults or a married or cohabiting couple and any dependent children.

For example, a group of students with a shared living room would be counted as a single household even if they did not eat together, but a group of bed-sits at the same address would not be counted as a single household because they do not share living space or eat together.

A husband and wife living with their young children and an elderly parent would be one household but two benefit units. The husband, wife and children would constitute one benefit unit and the elderly parent would constitute another. It should be noted that the term 'benefit unit' is used as a description of groups of individuals regardless of whether they are in receipt of any benefits or tax credits. A household will consist of one or more benefit units, which in turn will consist of one or more individuals (adults and children).

### **Interpreting persistent low-income measures**

**Persistent low income** is based on the definition of an individual being classified as in persistent low income if they live in a household in **relative low income** for at least three of their last four interviews.

**Relative low income** sets the threshold as a proportion of the average income, and moves each year as average income moves. It is used to measure the number and proportion of individuals who have incomes a certain proportion below the average.

The percentage of individuals in relative low income will increase if:

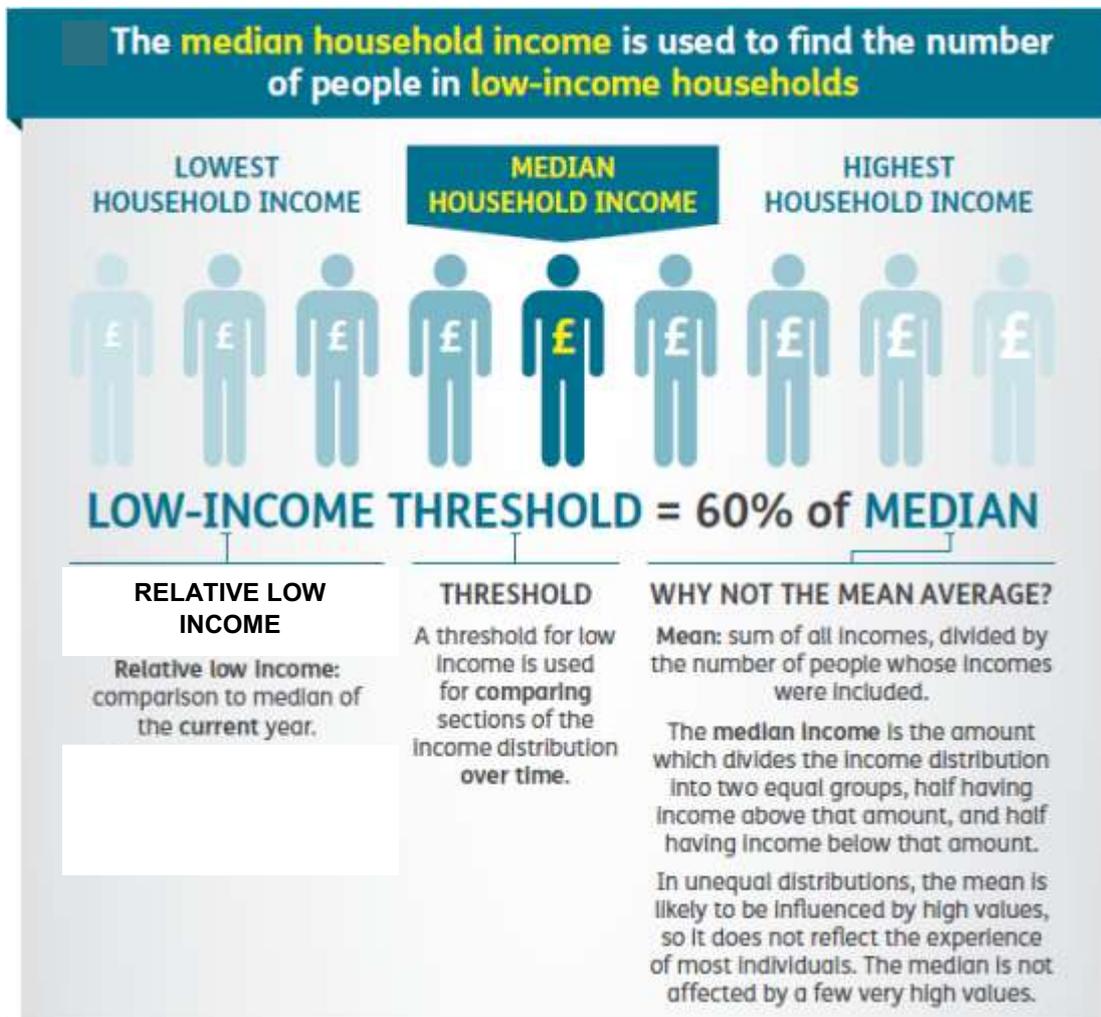
- the average income stays the same, or rises, and individuals with the lowest incomes see their income fall, or rise less, than average income; or
- the average income falls and individuals with the lowest incomes see their income fall more than the average income.

The percentage of individuals in relative low income will decrease if:

- the average income stays the same, or rises, and individuals with the lowest incomes see their income rise more than average income; or

- the average income falls and individuals with the lowest incomes see their income rise, or fall less, than average income, or see no change in their income.

Increases (decreases) in persistent relative low income can be driven by either the latest relative low-income statistics increasing (falling) or by individuals spending a longer time (a shorter time) in low income.



**Before Housing Costs (BHC)** measures allow an assessment of the relative standard of living of those individuals who were actually benefiting from a better quality of housing by paying more for better accommodation. On this basis, income growth over time incorporates improvements in living standards where higher costs reflected improvements in the quality of housing.

**After Housing Costs (AHC)** measures allow an assessment of living standards of individuals whose housing costs are high relative to the quality of their accommodation. Income growth over time may also overstate improvements in living standards for low-income groups, as a rise in Housing Benefit to offset higher rents (for a given quality of accommodation) would be counted as an income rise.

Therefore, ID presents analyses of disposable income on both a BHC and AHC basis. This is principally to take into account variations in housing costs that themselves do not correspond to comparable variations in the quality of housing. The Government's preferred measure of low income for the pensioner population is based on AHC incomes to draw out the difference in living standards for the minority of pensioners who do face housing costs. For other groups, BHC incomes are mainly used.

We count individuals as in persistent low income even if they have spent one wave out of relative low income. Indeed this could be the latest wave, so someone in persistent low income may not actually be in relative low income at their latest interview. This is to include individuals as being in persistent low income who experienced slightly higher income for very short periods, but whose long-term living standards were not actually very different from those captured in low income in each year.

This issue is relevant because the income distribution is particularly dense around the 60 and 70 per cent of median income thresholds. In addition, some short periods of recorded high income may be due to measurement error and not reflect any real improvement in living standards.

### **Equivalisation**

ID uses net disposable weekly household income, after adjusting for the household size and composition, as an assessment for material living standards - the level of consumption of goods and services that people could attain given the net income of the household in which they live. In order to allow comparisons of the living standards of different types of households, income is adjusted to take into account variations in the size and composition of the households in a process known as equivalisation. ID assumes that all individuals in the household benefit equally from the combined income of the household. Thus, all members of any one household will appear at the same point in the income distribution.

The unit of analysis is the individual, so the populations and percentages in the tables are numbers and percentages of individuals – both adults and children.

Equivalence scales conventionally take an adult couple without children as the reference point, with an equivalence value of one. The process then increases relatively the income of single person households (since their incomes are divided by a value of less than one) and reduces relatively the incomes of households with three or more persons, which have an equivalence value of greater than one.

The main equivalence scales now used in ID are the modified OECD scales, which take the values shown in Table M.5 below. These are in line with those used in HBAI and in EU low-income statistics. The equivalent values used by the McClements equivalence scales are also shown for comparison alongside modified OECD values. The McClements scales were used for the main estimates in the predecessor [Low Incomes Dynamics](#) publication with results based on the modified OECD equivalence scales published in an Appendix. In the modified OECD and McClements versions two separate scales are used, one for income BHC and one for income AHC.

**Table M.5 – Comparison of modified OECD and McClements equivalence scales**

| <b>Equivalence scales</b>                 |  |   |                       |                       |
|---|--|---|-----------------------|-----------------------|
|   | <b>Modified OECD to equalise BHC results rescaled to couple without children=1<sup>1</sup></b> | <b>OECD 'Companion' Scale to equalise AHC results</b> | <b>McClements BHC</b> | <b>McClements AHC</b> |
| First Adult                               | 0.67   | 0.58  | 0.61                  | 0.55                  |
| Spouse                                    | 0.33   | 0.42  | 0.39                  | 0.45                  |
| Other Second Adult <sup>2</sup>           | 0.33   | 0.42  | 0.46                  | 0.45                  |
| Third Adult                               | 0.33   | 0.42  | 0.42                  | 0.45                  |
| Subsequent Adults                         | 0.33   | 0.42  | 0.36                  | 0.40                  |
| Children aged under 14yrs <sup>3</sup>    | 0.20   | 0.20  | 0.20                  | 0.20                  |
| Children aged 14yrs and over <sup>3</sup> | 0.33   | 0.42  | 0.32                  | 0.34                  |

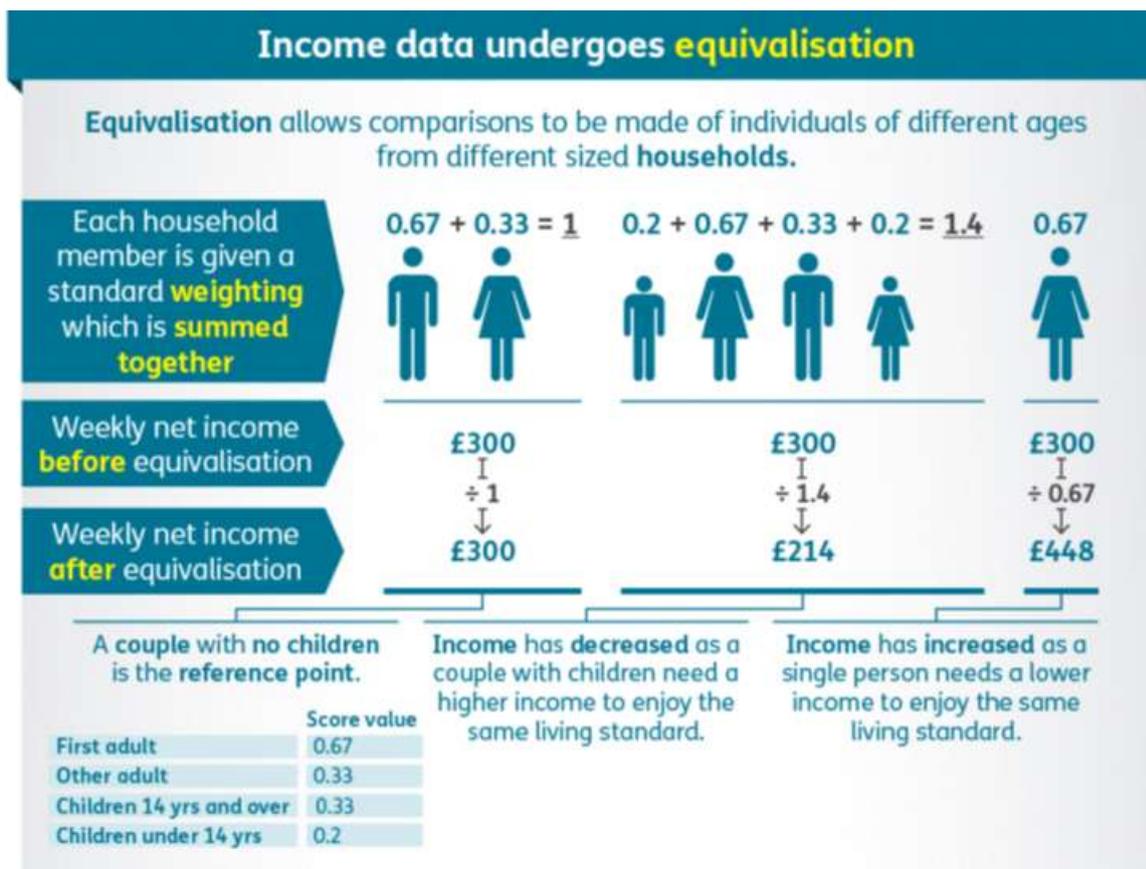
Notes:

1. Presented here to two decimal places.

2. For the McClements scale, the weight for 'Other second adult' is used in place of the weight for 'Spouse' when two adults living in a household are sharing accommodation, but are not living as a couple. 'Third adult' and 'Subsequent adult' weights are used for the remaining adults in the household as appropriate. In contrast to the McClements scales, apart from for the first adult, the OECD scales do not differentiate for subsequent adults.

3. The McClements scale varies by age within these groups; appropriate average values are shown in the table.

The construction of household equivalence values from these scales is quite straightforward. Consider a single person, a couple with no children, and a couple with two children aged twelve and ten, all having unadjusted weekly household incomes of £300 (BHC). The process of equalisation, as conducted in ID, gives an equalised income of £448 to the single person, £300 to the couple with no children, but only £214 to the couple with children.



## Income Definition

The income measure used in ID is weekly net (disposable) equivalised household income. This comprises total income from all sources of all household members including dependants.

Income is adjusted for household size and composition by means of equivalence scales. Incomes are adjusted for inflation so they are in real terms corresponding to the middle January of the latest Understanding Society wave (January 2015 in this case). Like HBAI, ID uses variants of the Consumer Price Index to adjust for inflation to look at how incomes are changing over time in real terms

Income on ID includes:

- **Labour income** – usual pay and self-employment earnings. Includes income from second jobs.
- **Miscellaneous income** – educational grants, payments from family members and any other regular payment
- **Private benefit income** – includes trade union/friendly society payments, maintenance or alimony and sickness or accident insurance
- **Investment income** – private pensions/annuities, rents received, income from savings and investments
- **Pension income** – occupational pensions income
- **State support** – tax credits and all state benefits including State Pension

Income is net of the following items:

- income tax payments
- National Insurance contributions
- council tax (note domestic rates in Northern Ireland are not deducted)

Income After Housing Costs (AHC) is derived by deducting housing costs from the above income measure. See below for what is included in housing costs.

Missing income information is imputed. See [Mainstage \(waves 1-6\) – User Guide](#) for details of the procedures used.

### **Housing costs**

Housing costs include mortgage and rent. Traditionally, HBAI presents analyses of disposable income on two bases: Before Housing Costs (BHC) and After Housing Costs (AHC). This is principally to take into account variations in housing costs that themselves do not correspond to comparable variations in the quality of housing. This report also presents results on the persistence of low income on both these measures.

The housing costs in HBAI include the following:

- rent (gross of housing benefit);
- water rates, community water charges and council water charges;
- mortgage interest payments (net of tax relief);
- structural insurance premiums (for owner occupiers);
- ground rent and service charges.

These differ from the housing costs used in ID. For this analysis, housing costs have been defined simply as weekly gross housing costs.

In the case of renters, these housing costs will include service and water charges because this is how the information is requested on the questionnaire. For mortgage payers, these amounts will not be included. There is also no information collected on cost of structural insurance payments in Understanding Society.

Another difference is that for HBAI methodology, only the interest element from a repayment mortgage is deducted as housing costs, whereas in Understanding Society both the repayment and interest elements will be included as part of 'gross housing costs'. Compared with standard HBAI methodology, the AHC income of such households will be understated.

Finally, housing costs are not imputed, meaning there are a number of cases where an After Housing Costs income measure cannot be derived.

For Northern Ireland households, water provision is funded from taxation and there are no direct water charges. Therefore, it is already taken into account in the Before Housing Costs measure.

## Negative incomes

Negative incomes are possible for both BHC and AHC incomes.

### Characteristics

We have based the characteristics being analysed on an individual's status in the **first wave being considered**, using weights from the last wave. This means that their status in any of the subsequent waves might differ from that of the first, and these changes may influence an individual's persistent low-income status. As an example, consider a single working-age adult living alone who was working in the first interview of the period being considered and not in relative low income, but then was not working for the next three interviews and was in relative low income for each of these waves, which are used in combination with the first wave to determine persistent low-income status. This individual would be classified as in a family where all adults are working but would also be classified as being in persistent low income.

### State support

The Government pays money to individuals in order to support them financially under various circumstances. Most of these benefits are administered by DWP. The exceptions are Housing Benefit and Council Tax Reduction, which are administered by local authorities. Tax Credits are not treated as benefits, but both Tax Credits and benefits are included in the term State Support. State support types in bold below are mentioned explicitly in the Understanding Society questionnaire. Those not in bold may still be included in the 'Other benefits' category.

### Table M.6 – State support

(**bold** if explicitly asked about in 2014-2015 Understanding Society questionnaire)

| Income-related benefits  | Non-income-related benefits  |
|--|--|
| <b>Council Tax Reduction</b>                                     | <b>Armed Forces Compensation Scheme / War Disablement Pension</b>      |
| <b>Employment and Support Allowance (income-related element)</b> | <b>Attendance Allowance</b>  |
| Extended Payments (Council Tax Benefit and Housing Benefit)      | <b>Carer's Allowance</b>   |
| <b>Housing Benefit</b>   | <b>Child Benefit</b>   |
| <b>In Work Credit</b>  | <b>Disability Living Allowance (both mobility and care components)</b> |
| <b>Income Support</b>  | <b>Employment and Support Allowance (contributory based element)</b>   |
| Job Grant  | <b>Guardian's Allowance</b>  |
| <b>Jobseeker's Allowance (income-based element)</b>              | <b>Incapacity Benefit</b>  |

| <b>Income-related benefits</b>   | <b>Non-income-related benefits</b>   |
|--|--|
| <b>Northern Ireland Rate Relief for full-time students, trainees, under 18s and those leaving care</b> | <b>Industrial Injuries Disablement Benefit</b>                                   |
| <b>Northern Ireland Rate Rebate through energy efficient homes</b>                                     | <b>Jobseeker's Allowance (contributory based element)</b>                        |
| <b>Northern Ireland Other Rate Rebate</b>  | <b>Maternity Allowance</b>   |
| <b>Pension Credit</b>  | <b>Northern Ireland Disability Rate Rebate</b>                                   |
| <b>Rates Rebate</b>  | <b>Northern Ireland Lone Pensioner Rate Rebate</b>                               |
| <b>Return to Work Credit</b>   | <b>Personal Independence Payment (both mobility and daily living components)</b> |
| Social Fund – Community Care Grant   | <b>Severe Disablement Allowance</b>  |
| Social Fund – Funeral Grant  | <b>State Pension</b>   |
| Social Fund – Sure Start Maternity Grant   | Statutory Maternity/Paternity/Adoption Pay                                       |
| <b>Universal Credit</b>  | Statutory Sick Pay   |
|  | <b>Widow's Pension/Bereavement Allowance</b>                                     |
| <b>State support</b>   | <b>Widow's/Bereavement Payment</b>   |
| <b>Child Tax Credit</b>  | <b>Widowed Mother's/Parent's Allowance</b>                                       |
| <b>Working Tax Credit</b>  | Winter Fuel Payments   |
|  | Other state benefits   |

## Ethnicity

Understanding Society includes detailed ethnicity classifications which are combined into the following publication splits:

**Table M.7 – Ethnicity classifications**

| <b>Detailed ethnicity classification from survey</b> | <b>Publication table category</b> |
|--|-----------------------------------|
| White: British/English/Scottish/Welsh/Northern Irish | White                             |
| White: Irish   |                                   |
| White: Gypsy or Irish Traveller                      |                                   |
| White: Any other White background                    |                                   |
| Mixed: White and Black Caribbean                     | Mixed                             |
| Mixed: White and Black African                       |                                   |
| Mixed: White and Asian                               |                                   |
| Mixed: Any other mixed background                    |                                   |
| Asian/Asian British: Indian                          | Asian                             |
| Asian/Asian British: Pakistani                       |                                   |

| Detailed ethnicity classification from survey                     | Publication table category |
|---|----------------------------|
| Asian/Asian British: Bangladeshi                                  |                            |
| Asian/Asian British: Chinese                                      |                            |
| Asian/Asian British: Any other Asian background                   |                            |
| Black/African/Caribbean/Black British: Caribbean                  | Black                      |
| Black/African/Caribbean/Black British: African                    |                            |
| Black/African/Caribbean/Black British: Any other Black background |                            |
| Other Ethnic Group: Arab  | Other                      |
| Other Ethnic Group: Any other ethnic group                        |                            |

### Disability definition

Understanding Society includes the following question to determine whether someone has a long-standing illness or disability:

“Do you have any long-standing physical or mental impairment, illness or disability? By 'long-standing' I mean anything that has troubled you over a period of at least 12 months or that is likely to trouble you over a period of at least 12 months.”

This is asked of all individuals over 16, including in proxy interviews (i.e. where someone else is giving information about the respondent). In non-proxy interviews, if a respondent says they have a long-standing illness or disability they are asked:

“Does this/Do these health problem(s) or disability(ies) mean that you have substantial difficulties with any of these areas of your life? Please read out the numbers from the card next to the ones which apply to you.”

where 12 areas are listed: mobility (moving around at home and walking); lifting, carrying or moving objects; manual dexterity (using your hands to carry out everyday tasks); continence (bladder and bowel control); hearing (apart from using a standard hearing aid); sight (apart from wearing standard glasses); communication or speech problems; memory or ability to concentrate, learn or understand; recognising when you are in physical danger; your physical co-ordination (e.g. balance); difficulties with own personal care (e.g. getting dressed, taking a bath or shower); other health problem or disability.

If a respondent answers that they have substantial difficulties with any of these areas, they are said to have a limiting long-standing illness or disability, if they answer none of these, then the long-standing illness or disability is said to be non-limiting.

## **Limitations of the statistics**

There are a range of limitations to these results, which means that this is an experimental statistical series. We hope to address some of these for the next issue of the publication.

### **Derivation of incomes**

The University of Essex has kindly shared the code deriving their income variable with DWP. We have assessed the quality of this variable and have determined that it is fit for use in this publication. However, in working with the University of Essex to consider the way incomes have been calculated, we have discovered some areas where we believe improvements can be made. We will therefore be working jointly over the summer with the University of Essex to improve the quality of the derivation of incomes. This means these statistics may be subject to revisions beyond those that occur routinely in longitudinal data analysis.

### **Non-income data**

We have also looked at the quality of non-income data. These are also of publishable quality. However, again, improvements are possible. The main area we would like to improve is to introduce imputation of housing costs. Unlike in the British Household Panel Survey (BHPS), the predecessor survey of Understanding Society, housing costs are not imputed meaning we have a number of cases with missing housing information, which will affect the quality of After Housing Costs results.

### **Individuals in partially responding households**

The Understanding Society dataset includes individuals in partially responding households, who can have positive longitudinal weights. While the University of Essex impute missing overall incomes for such cases, they do not impute all variables for such cases and do not release all imputed income sub-components for these cases, meaning for those cases we cannot determine which income component has changed and has contributed to movements into or out of low income. We have been working with Dr Eleni Karagiannaki of the London School of Economics and colleagues at Essex to develop reweighting options to produce analysis just for fully responding households. We hope to use this analysis to produce exit and entry rates for the next publication.

### **Wave 1 (2009-2010) income information**

There are known issues with the income information in the first Understanding Society wave covering 2009-2010. See Dr Paul Fisher's paper [Does repeated measurement improve income data quality?](#) (ISER Working Paper Series, 2016-11) for details of why income data on the first wave of Understanding Society are not comparable with subsequent waves and are likely to be of lower quality. We have therefore excluded the first wave from any analysis presented in this publication.

### **Survey Data**

The figures in the Income Dynamics report come from the Understanding Society Survey, a longitudinal survey with information for over 40,000 individuals in the

United Kingdom in 2014-2015. In addition to capturing a lot of information on incomes, it also captures a lot of contextual information on the household and individual circumstances, such as employment, education level and disability. This is therefore a very comprehensive data source allowing for a lot of different analysis.

Surveys gather information from a sample rather than from the whole population. The sample is designed carefully to allow for this, and to be as accurate as possible given practical limitations such as time and cost constraints. Results from sample surveys are always estimates, not precise figures. This means that they are subject to a margin of error which can affect how changes in the numbers should be interpreted, especially in the short-term. Year-on-year movements should be treated with caution.

In addition to sampling errors, consideration should also be given to non-sampling errors. Non-sampling errors arise from the introduction of some systematic errors in the sample as compared to the population it is supposed to represent. As well as response bias, errors include inappropriate definition of the population, misleading questions, data input errors or data handling problems – in fact any factor that might lead to the survey results systematically misrepresenting the population. There is no simple control or measurement for such non-sampling errors, although the risk can be minimised through careful application of the appropriate survey techniques from the questionnaire and sample design stages through to analysis of results.

Income Dynamics is based on data from a longitudinal household survey and so subject to the nuances of using a survey, including:

- **Attrition.** Some respondents will inevitably drop out between interviews. To minimise attrition, the Understanding Society team maintains a database of information on respondents so they can send communications to respondents. The database builds on contact information collected during the survey interviews, and is updated throughout the year. A between-wave-mailing is also used to help maintain contact with participants and update addresses. The mailing has a report of research findings, an address confirmation slip and materials to encourage registration with the participant website.
- **Sampling error.** Results from surveys are estimates and not precise figures. In general terms the smaller the sample size, the larger the uncertainty.
- **Non-response error.** As with any survey, analysis based on Understanding Society is at risk from a systematic bias due to non-response, when households that had been selected for interview do not respond to the survey. Individuals within households may also be non-responders even if the rest of the household does respond. In an attempt to correct for these biases, the results are weighted to adjust for non-response, taking account of previous responses.
- **Item non-response.** Item non-response occurs where a respondent has given a full interview, but has refused or given a 'don't know' answer to a particular question, which consequently leads to a missing value for that item. ISER have used imputation for some variables in Understanding Society to correct for this item non-response, whereby a valid value is imputed in to replace the

missing value, with the aim of reducing potential bias caused by the missing values. Imputation is used to derive overall incomes where missing data is present.

- **Survey coverage.** Understanding Society covers private households in the United Kingdom (although it does collect information from households about their children if a child has moved into an institution). Therefore individuals in nursing or retirement homes, for example, will not be included. This means that figures relating to the most elderly individuals may not be representative of the United Kingdom population, as many of those at this age will have moved into homes where they can receive more frequent help.
- **Sample size.** Although Understanding Society has a large sample size for a household survey, small sample sizes for some more detailed analyses may mean results are more volatile.
- **Measurement error.** Other social surveys underestimate incomes from certain sources when compared with administrative data. Like these surveys, it is likely that Understanding Society also does not fully capture all income streams. However, the longitudinal nature of the survey means that this may improve over time with the use of dependent interviewing (where respondents can be reminded of previous responses) and panel conditioning (where through familiarity with the questionnaire, respondents respond more accurately to later waves of the questionnaire). See Dr Paul Fisher's paper [Does repeated measurement improve income data quality?](#) (ISER Working Paper Series, 2016-11) for further details.

### Reporting Uncertainty

As noted above, survey results are always estimates, not precise figures and so subject to a level of uncertainty. Two different random samples from one population, for example the UK, are unlikely to give exactly the same survey results, which are likely to differ again from the results that would be obtained if the whole population was surveyed. We are unable to calculate sampling uncertainties for these statistics, but please note that small changes are unlikely to be statistically significant.

### Rounding and suppression

Figures are rounded to the nearest percentage point independently and as a result, differences may not sum exactly due to rounding. Any proportions based on a sample population of 100 or less are suppressed.

### Survey-based income data

The following issues need to be considered when using any survey-based income information:

**Lowest incomes.** Comparisons of household income and expenditure suggest that those households reporting the lowest incomes may not have the lowest living standards.

**Benefit receipt.** Relative to administrative records, surveys tend to under-report benefit receipt.

**Self-employed.** All analyses in the Income Dynamics publication include the self-employed. A proportion of this group are believed to report incomes that do not reflect their living standards and there are also recognised difficulties in obtaining timely and accurate income information from this group. This may lead to an understatement of total income for some groups for whom this is a major income component, although this is likely to be more important for those at the top of the income distribution.

**High incomes.** Unlike in the Households Below Average Income series, no adjustment is made to correct for a likely undercount of 'very rich' households in survey data. However, this should not affect low-income statistics based on median incomes.

**Gender analysis.** Income Dynamics analysis assumes that both partners in a couple benefit equally from the household's income, and will therefore appear at the same position in the income distribution. Research has suggested that, particularly in low-income households, the assumption with regard to income sharing is not always valid as men sometimes benefit at the expense of women from shared household income. This means that it is possible that results broken down by gender could understate differences between the two groups.

**Students.** All analyses in the Income Dynamics publication include students. Information for students should be treated with some caution because they are often dependent on irregular flows of income.

**Elderly.** The effect of the exclusion of the elderly who live in residential homes is likely to be small overall except for results specific to those aged 80 and above.

**Ethnicity analysis.** Smaller ethnic minority groups exhibit year-on-year variation which limits comparisons over time. The Understanding Society includes an ethnic minority boost which will mean it has larger sample sizes for non-white ethnic groups than if such a boost was not present.

**Disability analysis.** No adjustment is made to disposable household income to take into account any additional costs that may be incurred due to the illness or disability in question. This means that using income as a proxy for living standards for these groups, as shown here, may be somewhat upwardly biased.

**Regional analysis.** Although the Understanding Society sample is large enough to allow some analysis to be performed at a regional level, it should be noted that no adjustment has been made for regional cost of living differences. It is therefore assumed that there is no difference in the cost of living between regions, although the After Housing Costs measure will partly take into account differences in housing costs.

## Revisions to the statistics

Figures presented in this publication are subject to future revisions because changes are made by the data providers. New information can be collected from respondents for earlier years. In addition, we are planning to work with the University of Essex to further improve data quality for the next publication, which means these statistics may be subject to revisions beyond those that occur routinely in longitudinal data analysis.

## Comparisons between the statistics

This is a successor series to DWP's [Low Income Dynamics](#) publication, the final issue of which was published in September 2010.

A related publication is the Office for National Statistics' publication on [Persistent Poverty in the UK and EU](#). This is based on the EU Survey of Income and Living Conditions (EU-SILC) and uses a slightly different definition of persistent low income of individuals who are in low-income households for at least three of the last four years, **including the latest year**. This means EU persistent low income statistics for the UK will be lower than those presented in ID because a different definition is used.

Design of the EU-SILC survey varies from country to country. Since 2012, cross-sectional EU-SILC data for the UK have been produced from the Department for Work and Pension's (DWP) Family Resources Survey (FRS), with longitudinal data produced using a follow-up survey known as the Survey on Living Conditions (SLC). For details of SILC calculations see [EU statistics on income and living conditions \(EU-SILC\) methodology - monetary poverty](#), while "[The relationship between EU indicators of persistent and current poverty](#)" by Stephen P. Jenkins and Philippe Van Kerm contains a commentary on the EU-SILC persistent low-income methodology. Persistent low-income data sourced from EU-SILC for other countries is available at <http://ec.europa.eu/eurostat/web/income-and-living-conditions/overview>.

## Comparison with EU persistent low-income statistics

In addition to the definitional differences, EU persistent low-income figures will differ for a number of reasons:

- **Time period:** The figures are presented on different timescales, the ID figures are presented over two financial years, while the EU comparable figures are presented for the calendar year.
- **Population groups:** The European low-income statistics are presented in different age groups than the ID figures:
  - **children:** the EU figures relate to those under 18 – ID figures define a dependent child as one aged under 16 or aged 16-18 and in school or non-advanced further education, not married and living with parent. If an individual aged 16-18 and in full time education did not receive an interview (to determine their educational status), they were assumed to

be dependent children. It does not include any children who have a spouse, partner or child living in the household

- **pensioners:** EU figures relate to the 65+ population – ID figures include women aged 60 to 64 who are above State Pension age
- **After Housing Cost measures:** European low-income estimates are usually presented on a Before Housing Costs Basis. Both measures are included here.
- **Income derivation:** The definition of income in the European figures differs from the Understanding Society derivation:
- The European definition of income includes the **value of non-cash employee income from company cars as employee income**, which will raise the average income of people in work.
- **In year deflation:** The ID estimates make an in year adjustment to individuals incomes to ensure that respondents income collected across the financial year are comparable. This adjustment is not applied to the European figures.
- **Income tax and national insurance:** The European income tax and national insurance figures are calculated using a model of taxation, whilst the ID estimates are mostly calculated on the amount of tax and national insurance reported as being paid.

### Other relevant statistics

The ID publication and tables are released alongside a number of other statistics focused on income and low-income statistics across Government.

In February 2015, the United Kingdom Statistics Authority (UKSA) published a report on the outcome of a monitoring review into the [Coherence and Accessibility of Official Statistics on Income and Earnings](#). A [progress report](#) was published in January 2016.

This review considers the way in which official statistics about income and earnings across Government are presented and includes summary details of the official statistics within the Review's scope; discussion of the conceptual issues faced by users and advice needed when attempting to analyse official statistics; and makes recommendations around potential solutions to concerns identified and for the longer term development of income and earnings statistics.

The statistics highlighted below represent a number of statistical releases which might be considered alongside results from ID in order to give a more complete picture. This is not intended to be an exhaustive list and should be considered alongside details from the UKSA review highlighted, as well as recent [ONS guidance on sources of data on earnings and income](#).

### Low-Income Dynamics (predecessor series to ID)

<https://www.gov.uk/government/publications/low-income-dynamics-1991-to-1998>

## **Households Below Average Income**

The Households Below Average Income (HBAI) report presents information on living standards in the UK based on household income measures for the 2015/16 financial year. Estimates are provided for average incomes, and for the number and percentage of people living in low income households. Tables M.8 and M.9 below compare single year income statistics derived from Understanding Society with the HBAI figures, and show a good level of coherence. HBAI remains the best source of cross-sectional low-income statistics.

<https://www.gov.uk/government/collections/households-below-average-income-hbai--2>

## **Family Resources Survey**

<https://www.gov.uk/government/collections/family-resources-survey--2>

## **Pensioners' Incomes series**

This gives more a more detailed analysis of pensioners' incomes.

<https://www.gov.uk/government/collections/pensioners-incomes-series-statistics--3>

## **Poverty and income inequality in Scotland**

<http://www.scotland.gov.uk/Topics/Statistics/Browse/Social-Welfare/incomepoverty>

## **Households Below Average Income Report for Northern Ireland**

<https://www.communities-ni.gov.uk/topics/family-resources-survey#toc-2>

## **EU comparisons**

A description of how levels of low income in the UK compare with other EU countries is available at:

<http://ec.europa.eu/eurostat/web/income-and-living-conditions/data/main-tables>

## **OECD international comparisons**

The OECD income distribution database provides international comparisons on trends and levels in Gini coefficients before and after taxes and transfers, average household disposable incomes, relative poverty rates and poverty gaps, before and after taxes and transfers.

<http://www.oecd.org/social/inequality.htm>

## **The effects of taxes and benefits on household income**

The article provides a detailed breakdown of household income, including estimates of both direct and indirect taxes, cash benefits and in-kind benefits provided by the state by decile groups ranked by equivalised disposable income.

<http://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth>

## **Personal Incomes statistics**

<https://www.gov.uk/government/collections/personal-incomes-statistics>

## **Wealth in Great Britain**

The Wealth & Assets Survey (WAS) is a key source of information on how households in Great Britain are managing economically. The survey focuses on household assets and debts, borrowing and saving, and plans for retirement. This publication presents headline results from WAS incorporating results from the survey's fourth wave (2012/14).

<http://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/compendium/wealthingreatbritainwave4/2012to2014>

## **Measuring National Well-being**

Drawing on social and economic data (including household income and expenditure) from government and other organisations; painting a picture of UK society and how it changes.

<http://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing>

## **Estimates of income and low-income levels for small areas**

We do not publish data below the level of region, due to sample size issues. However there are some related data sources that present information at smaller geographies:

### **Children in Low-Income Families Local Measure**

Administrative data sources on benefits and tax credits from the Department for Work and Pensions (DWP) and Her Majesty's Revenue and Customs (HMRC) are used in the calculation of the Children in Low-Income Families Local Measure. These statistics are published on an annual basis by HMRC and are available at regional, county, local authority, ward, parliamentary constituency, or Lower Layer Super Output Area (LSOA) level.

The Children in Low-Income Families Local Measure is based on administrative tax credits and benefit data sources and includes children who are living in families either in receipt of out-of-work benefits or in receipt of tax credits with reported income less than 60 per cent of median income.

Data are available here:

<https://www.gov.uk/government/statistics/personal-tax-credits-children-in-low-income-families-local-measure-2014-snapshot-as-at-31-august-2014-30-september-2016>

### **Small area model-based income estimates for England and Wales**

ONS produce model-based estimates of income at Middle Layer Super Output Area (MSOA) level for 2013/14. This is available at:

<https://www.ons.gov.uk/releases/smallareamodelbasedincomeestimatesfinancialyearending2014>

### **English Indices of Deprivation**

The English Indices of Deprivation, produced by the Department for Communities and Local Government is a measure of relative levels of deprivation in small areas of England called Lower Layer Super Output Areas and is available at:

<https://www.gov.uk/government/collections/english-indices-of-deprivation>

### **Welsh Index of Multiple Deprivation**

This is the official 2014 measure of deprivation in small areas in Wales. It is a relative measure of concentrations of deprivation at the small area level.

<http://gov.wales/wimd>

### **Scottish Index of Multiple Deprivation**

The Scottish Index of Multiple Deprivation (SIMD) is the Scottish Government's official tool for identifying those places in Scotland suffering from deprivation.

<http://www.gov.scot/simd>

### **Northern Ireland Multiple Deprivation Measure**

The Northern Ireland Multiple Deprivation Measure (NIMDM) is the official measure of spatial deprivation in Northern Ireland.

[http://www.nisra.gov.uk/deprivation/nimdm\\_2010.htm](http://www.nisra.gov.uk/deprivation/nimdm_2010.htm)

## Status of the statistics

### **Experimental statistics**

The statistics have been developed using guidelines set out by the UK Statistics Authority, while they undergo evaluation they are labelled as [experimental statistics](#).

### **Quality Statement**

We have worked closely with the University of Essex to review their income derivation. We have also cross-checked persistent low-income results with the previous Low Income Dynamics publication and with EU-SILC results, as well as comparing single year income distribution and low-income statistics with HBAI. While we would expect differences between these sources because of different survey vehicles, timings and definitions, as can be seen in the relevant tables, there is a good level of consistency between different data sources. See Table M.8 and M.9 for comparisons between HBAI and ID income distribution and relative low-income statistics.

**Table M.8 – Comparison of ID and HBAI income distribution statistics, United Kingdom**

£pw equivalised

| Understanding Society wave <sup>1</sup> | HBAI year <sup>2</sup> | Median |      | 60% of median |      | Mean |      | 10th percentile |      | 30th percentile |      | 70th percentile |      | 90th percentile |      |
|---|------------------------|--------|------|---------------|------|------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|
|   |                        | ID     | HBAI | ID            | HBAI | ID   | HBAI | ID              | HBAI | ID              | HBAI | ID              | HBAI | ID              | HBAI |
| <b>Before housing costs</b>             |                        |        |      |               |      |      |      |                 |      |                 |      |                 |      |                 |      |
|   | 2009/10                |        | 470  |               | 282  |      | 589  |                 | 238  |                 | 353  |                 | 626  |                 | 968  |
| 2010-2011                               | 2010/11                | 472    | 463  | 283           | 278  | 581  | 564  | 243             | 240  | 360             | 352  | 624             | 610  | 932             | 931  |
| 2011-2012                               | 2011/12                | 477    | 453  | 286           | 272  | 575  | 559  | 250             | 236  | 366             | 344  | 622             | 601  | 921             | 915  |
| 2012-2013                               | 2012/13                | 474    | 455  | 284           | 273  | 567  | 554  | 249             | 235  | 366             | 347  | 613             | 598  | 896             | 914  |
| 2013-2014                               | 2013/14                | 476    | 458  | 286           | 275  | 561  | 568  | 255             | 242  | 370             | 347  | 619             | 611  | 906             | 921  |
| 2014-2015                               | 2014/15                | 499    | 474  | 299           | 284  | 607  | 581  | 265             | 244  | 384             | 359  | 648             | 627  | 954             | 948  |
|   | 2015/16                |        | 481  |               | 288  |      | 593  |                 | 244  |                 | 363  |                 | 638  |                 | 946  |
| <b>After housing costs</b>              |                        |        |      |               |      |      |      |                 |      |                 |      |                 |      |                 |      |
|   | 2009/10                |        | 403  |               | 242  |      | 512  |                 | 164  |                 | 284  |                 | 554  |                 | 879  |
| 2010-2011                               | 2010/11                | 399    | 395  | 239           | 237  | 493  | 488  | 175             | 167  | 292             | 284  | 536             | 537  | 824             | 841  |
| 2011-2012                               | 2011/12                | 404    | 386  | 243           | 232  | 492  | 484  | 183             | 163  | 298             | 278  | 538             | 530  | 818             | 826  |
| 2012-2013                               | 2012/13                | 400    | 386  | 240           | 232  | 485  | 477  | 183             | 161  | 299             | 275  | 532             | 529  | 796             | 828  |
| 2013-2014                               | 2013/14                | 406    | 390  | 244           | 234  | 477  | 491  | 188             | 164  | 301             | 278  | 535             | 541  | 801             | 836  |
| 2014-2015                               | 2014/15                | 426    | 404  | 256           | 243  | 527  | 504  | 196             | 168  | 318             | 289  | 568             | 555  | 846             | 858  |
|   | 2015/16                |        | 413  |               | 248  |      | 516  |                 | 169  |                 | 292  |                 | 565  |                 | 873  |

Understanding Society 2010-2015 and Family Resources Survey 2009/10 to 2015/16

**Notes:**

1. Understanding Society is based on a two calendar year survey period, with everyone in the sample being interviewed on an annual basis. See Background information and methodology for further details.
2. HBAI data is taken from the Family Resources Survey (FRS) and is based on a financial year survey period. The HBAI series differs from the Understanding Society series due to methodological and coverage differences.
3. The underlying figures are subject to revisions due to changes to the base dataset made by the data providers.

**Table M.9 - Comparison of ID based estimates of the percentage of individuals below 60% of median household income at a point in time and their HBAI equivalents, United Kingdom**

| Understanding Society wave <sup>1</sup> | HBAI year <sup>2</sup> | Before housing costs |      | After housing costs |      |
|---|------------------------|----------------------|------|---------------------|------|
|   |                        | ID                   | HBAI | ID                  | HBAI |
| <b>All individuals</b>                  |                        |                      |      |                     |      |
|   | <i>2009/10</i>         |                      | 17   |                     | 22   |
| 2010-2011                               | <i>2010/11</i>         | 16                   | 16   | 20                  | 21   |
| 2011-2012                               | <i>2011/12</i>         | 16                   | 16   | 19                  | 21   |
| 2012-2013                               | <i>2012/13</i>         | 15                   | 15   | 18                  | 21   |
| 2013-2014                               | <i>2013/14</i>         | 15                   | 15   | 19                  | 21   |
| 2014-2015                               | <i>2014/15</i>         | 15                   | 16   | 19                  | 21   |
|   | <i>2015/16</i>         |                      | 16   |                     | 22   |
| <b>Children</b>                         |                        |                      |      |                     |      |
|   | <i>2009/10</i>         |                      | 20   |                     | 30   |
| 2010-2011                               | <i>2010/11</i>         | 19                   | 18   | 28                  | 27   |
| 2011-2012                               | <i>2011/12</i>         | 19                   | 18   | 26                  | 27   |
| 2012-2013                               | <i>2012/13</i>         | 18                   | 17   | 25                  | 27   |
| 2013-2014                               | <i>2013/14</i>         | 18                   | 17   | 26                  | 28   |
| 2014-2015                               | <i>2014/15</i>         | 19                   | 19   | 28                  | 29   |
|   | <i>2015/16</i>         |                      | 20   |                     | 30   |
| <b>Working-age adults</b>               |                        |                      |      |                     |      |
|   | <i>2009/10</i>         |                      | 16   |                     | 22   |
| 2010-2011                               | <i>2010/11</i>         | 14                   | 15   | 19                  | 21   |
| 2011-2012                               | <i>2011/12</i>         | 14                   | 15   | 19                  | 21   |
| 2012-2013                               | <i>2012/13</i>         | 13                   | 15   | 18                  | 21   |
| 2013-2014                               | <i>2013/14</i>         | 13                   | 14   | 19                  | 21   |
| 2014-2015                               | <i>2014/15</i>         | 13                   | 15   | 18                  | 21   |
|   | <i>2015/16</i>         |                      | 15   |                     | 21   |
| <b>Pensioners</b>                       |                        |                      |      |                     |      |
|   | <i>2009/10</i>         |                      | 18   |                     | 15   |
| 2010-2011                               | <i>2010/11</i>         | 19                   | 17   | 13                  | 14   |
| 2011-2012                               | <i>2011/12</i>         | 18                   | 16   | 13                  | 13   |
| 2012-2013                               | <i>2012/13</i>         | 16                   | 16   | 12                  | 13   |
| 2013-2014                               | <i>2013/14</i>         | 16                   | 16   | 12                  | 14   |
| 2014-2015                               | <i>2014/15</i>         | 17                   | 16   | 13                  | 14   |
|   | <i>2015/16</i>         |                      | 17   |                     | 16   |

Understanding Society 2010-2015 and Family Resources Survey 2009/10 to 2015/16

Notes:

1. Understanding Society is based on a two calendar year survey period, with everyone in the sample being interviewed on an annual basis. See Background information and methodology for further details.
2. HBAI data is taken from the Family Resources Survey (FRS) and is based on a financial year survey period. The HBAI series differs from the Understanding Society series due to methodological and coverage differences.
3. The underlying figures are subject to revisions due to changes to the base dataset made by the data providers.

## Feedback

### **We welcome feedback**

This is an experimental statistical series that we will develop further. We would welcome any feedback you might have, and would also be particularly interested in knowing how you make use of these data to inform your work and any changes or additions you would like us to consider to improve its usefulness. Please contact us via email: [teamincome.dynamics@dwp.gsi.gov.uk](mailto:teamincome.dynamics@dwp.gsi.gov.uk). The responsible analyst is Peter Matejic who can be reached at 2nd Floor, Caxton House, Tothill Street, London SW1H 9NA or by phone on 020 7340 4076.

## Useful links

See <https://www.gov.uk/government/statistics/income-dynamics-experimental> for all material on this product including the detailed tables

The [Households Below Average Income](#) series is the standard source of single low-income estimates.

# Glossary

## **Adult**

All those individuals who are aged 16 and over, unless defined as a dependent child (see Child); all individuals aged 16 or over in the household are interviewed as part of Understanding Society.

## **Benefit units or Family**

A single adult or a married or cohabiting couple and any dependent children.

## **Child**

A dependent child is defined as one aged under 16 or aged 16-18 and in school or non-advanced further education, not married and living with parent. If an individual aged 16-18 and in full time education did not receive an interview (to determine their educational status), they were assumed to be dependent children. It does not include any children who have a spouse, partner or child living in the household.

## **Contemporary median income**

The average income for the period covered by the survey. Household incomes are adjusted for inflation so they are in real terms corresponding to the middle January of the latest Understanding Society wave.

## **Disability**

Understanding Society includes the following question to determine whether someone has a long-standing illness or disability:

“Do you have any long-standing physical or mental impairment, illness or disability? By 'long-standing' I mean anything that has troubled you over a period of at least 12 months or that is likely to trouble you over a period of at least 12 months.”

This is asked of all individuals over 16, including in proxy interviews (i.e. where someone else is giving information about the respondent). In non-proxy interviews, if a respondent says they have a long-standing illness or disability they are asked:

“Does this/Do these health problem(s) or disability(ies) mean that you have substantial difficulties with any of these areas of your life? Please read out the numbers from the card next to the ones which apply to you.”

where 12 areas are listed: mobility (moving around at home and walking); lifting, carrying or moving objects; manual dexterity (using your hands to carry out everyday tasks); continence (bladder and bowel control); hearing (apart from using a standard hearing aid); sight (apart from wearing standard glasses); communication or speech problems; memory or ability to concentrate, learn or understand; recognising when you are in physical danger; your physical co-ordination (e.g. balance); difficulties with own personal care (e.g. getting dressed, taking a bath or shower); other health problem or disability.

If a respondent answers says they have substantial difficulties with any of these areas, they are said to have a limiting long-standing illness or disability, if they answer none of these, then the long-standing illness or disability is said to be non-limiting.

### **Economic status of the family**

Families are allocated to the first applicable category:

- **All adults working** – Benefit units where all adults regard themselves as working.
- **Some adults working** – Benefit units with two adults where only one is working.
- **Workless** - Benefit units where no one is working.

### **Equivalisation**

Income measures used in ID take into account variations in the size and composition of the households in which people live. This process is called equivalisation.

Equivalisation reflects the fact that a family of several people needs a higher income than a single individual in order for them to enjoy a comparable standard of living.

Equivalence scales conventionally take a couple with no children as the reference point.

Consider a single person, a couple with no children, and a couple with two children aged twelve and ten, all having unadjusted weekly household incomes of £300 (BHC). The process of equivalisation, as conducted in HBAI, gives an equivalised income of £448 to the single person, £300 to the couple with no children, but only £214 to the couple with children.

### **Ethnicity**

More detailed ethnicity information is combined into five groups:

- White – made up of White: British/English/Scottish/Welsh/Northern Irish; White: Irish; White: Gypsy or Irish Traveller; and Any other White background.
- Mixed – made up of Mixed: White and Black Caribbean; Mixed: White and Black African; Mixed: White and Asian; and Mixed: Any other mixed background.
- Asian – made up of Asian/Asian British: Indian; Asian/Asian British: Pakistani; Asian/Asian British: Bangladeshi; Asian/Asian British: Chinese; and Asian/Asian British: Any other Asian background
- Black – made up of Black/African/Caribbean/Black British: Caribbean; Black/African/Caribbean/Black British: African; and Black/African/Caribbean/Black British: Any other Black background
- Other – made up of Other Ethnic Group: Arab; and Other Ethnic Group: Any other ethnic group

### **Families/ family unit**

The terms ‘families’ and ‘family units’ are used interchangeably with benefit units. See Benefit unit definition.

### **Family type**

For some analyses, individuals are classified into family type. Individuals are classified according to the status of the benefit unit in which they live. All individuals in a benefit unit (adults and children) will therefore be given the same classification. The classifications are defined below and individuals are allocated to the first applicable category.

- **Pensioner couple** - a couple where one or more of the adults are State Pension age or over.
- **Single male pensioner** - single male adult of State Pension age or over.
- **Single female pensioner** - single female adult of State Pension age or over.
- **Couple with children** - a non-pensioner couple with dependent children.
- **Single with children** - a non-pensioner single adult with dependent children.
- **Couple without children** - a non-pensioner couple with no dependent children.

- **Single male without children** - a non-pensioner single adult male with no dependent children.
- **Single female without children** - a non-pensioner single adult female with no dependent children.

Note that a working-age partner with a pension-age partner would be included as part of a pensioner couple, as would any dependent children in the family.

### **Gender**

In any analysis of gender, it must be remembered that ID attempts to measure the living standards of an individual as determined by household income. This assumes that both partners in a couple benefit equally from the household's income, and will therefore appear at the same position in the income distribution. Any difference in figures can only be driven by gender differences for single adults, which will themselves be diluted by the figures for couples. The lower level gender disaggregation in the family type classification is therefore likely to be more informative.

Research has suggested that, particularly in low-income households, the above assumption with regard to income sharing is not always valid as men sometimes benefit at the expense of women from shared household income. This means that it is possible that ID results broken down by gender could understate differences between the two groups.

### **Head of household**

The head of household, also known as the household reference person, is defined as the owner or renter of the accommodation in which the household lives. If there are multiple owners or renters, the default is the eldest of them is the Household reference person. The Household reference person may change as the household composition changes.

### **Household**

One person living alone or a group of people (not necessarily related) who either share living accommodation or share one meal a day and who have the address as their only or main residence is defined as a household. A household will consist of one or more benefit units. A child is living in a household if they live in a household as defined here.

### **Housing costs**

Housing costs have been defined simply as weekly gross housing costs. In the case of renters, these housing costs will include service and water charges because this is how the information is requested on the questionnaire. For mortgage payers, these amounts will not be included. Unlike in HBAI, both the repayment and interest elements of a repayment mortgage will be included as part of 'gross housing costs'.

### **Income**

The income measure used in ID is weekly net (disposable) equivalised household income. This comprises total income from all sources of all household members including dependants.

Income is adjusted for household size and composition by means of equivalence scales. Incomes are adjusted for inflation so they are in real terms corresponding to the middle January of the latest Understanding Society wave (January 2015 in this case).

Income on ID includes:

- **Labour income** – usual pay and self-employment earnings. Includes income from second jobs.
- **Miscellaneous income** – educational grants, payments from family members and any other regular payment
- **Private benefit income** – includes trade union/friendly society payments, maintenance or alimony and sickness or accident insurance
- **Investment income** – private pensions/annuities, rents received, income from savings and investments
- **Pension income** – occupational pensions income
- **State support** – tax credits and all state benefits including State Pension

Income is net of the following items:

- income tax payments;
- National Insurance contributions;
- council tax;

Income After Housing Costs (AHC) is derived by deducting a measure of housing costs from the above income measure.

### **Income distribution**

The spread of incomes across the population.

### **Low income**

'Low income' is defined using thresholds derived from percentages of median income for the whole population.

Individuals are said to be in *relative low income* if they live in a household with an equivalised income below a percentage of contemporary median income BHC or AHC. Relative low-income statistics fall if income growth at the lower end of the income distribution is greater than overall income growth.

### **Mean**

*Mean equivalised household income* of individuals is found by adding up *equivalised household incomes* for each individual in a population and dividing the result by the number of people.

### **Median**

Median household income divides the population, when ranked by equivalised household income, into two equal-sized groups. *Contemporary median income* refers to the median income in the survey period being considered.

### **Pensioner**

Pensioners are defined as all those adults above State Pension age (SPa).

For women born on or before 5th April 1950, SPa is 60. From 6th April 2010, the SPa for women born on or after 6th April 1950 will increase gradually between April 2010 and November 2018.

Therefore the age groups have changed over time. The changes do not affect the State Pension age for men, currently 65.

Other changes are planned and have been announced. From December 2018 the SPa for both men and women will start to increase to reach 66 in October 2020. Further increases to bring the SPa to 67 are proposed to be phased in between 2026 and 2028. These changes are published at: <https://www.gov.uk/changes-state-pension>

### **Pensioner classifications**

In ID tables, the classification *pensioner couple* includes individuals in a family unit where one member is above State Pension age, and one is below.

### **Persistent low income**

We use the definition of an individual being in a household in relative low income for at least three of their last four interviews as the definition of persistent low income.

One possible measure of ‘persistence’ of low incomes would be to consider only those individuals whose income was ‘low’ in each year of the period in question. However, this would exclude people who experienced slightly higher income for very short periods, but whose long-term living standards were not actually very different from those captured in low income in each year.

This issue is relevant because the income distribution is particularly dense around the 60 and 70 per cent of median income thresholds. In addition, some short periods of recorded high income may be due to measurement error and not reflect any real improvement in living standards.

### **Qualifications**

Highest qualification is derived as follows:

- Degree level – University Higher Degree (e.g. MSc, PhD); First degree level qualification including foundation degrees, graduate membership of a professional Institute, PGCE
- Other higher degree – Diploma in higher education; Teaching qualification (excluding PGCE); Nursing or other medical qualification not yet mentioned
- A-level etc – A Level; Welsh Baccalaureate; International Baccalaureate; AS Level; Higher Grade/Advanced Higher (Scotland); Certificate of sixth year studies
- GCSE etc – GCSE/O Level; Standard/Ordinary (O) Grade / Lower (Scotland)
- Other qualifications – CSE; Other school (inc. school leaving exam certificate or matriculation)
- No qualifications

### **Quintiles**

**Quintile values** are income values which divide the whole population, when ranked by household income, into five equal-sized groups. This helps to compare different groups of the population. **Quintile groups** are five equal-sized groups - the lowest quintile describes individuals with incomes in the bottom 20 per cent of the income distribution. Quintile is often used as a standard shorthand term for decile/quintile group

### **Region and country**

Regional classifications are based on the standard statistical geography of the former Government Office Regions: nine in England, and a single region for each of Scotland, Wales and Northern Ireland. These regions are built up of complete counties or unitary authorities. Tables also include statistics for England as a whole. For more information on National Statistics geography see <http://www.ons.gov.uk/guide-method/geography/ons-geography/index.html>.

Although the Understanding Society sample is large enough to allow some analysis to be performed at a regional level, it should be noted that no adjustment has been made for regional cost of living differences, as the necessary data are not available. In the analysis here it is therefore assumed that there is no difference in the cost of living between regions, although the AHC measure will partly take into account differences in housing costs.

### Sampling error

The uncertainty in the estimates which arises from taking a random sample of the household population.

### State support

The Government pays money to individuals in order to support them financially under various circumstances. Most of these benefits are administered by DWP. The exceptions are Housing Benefit and Council Tax Reduction, which are administered by local authorities. Tax Credits are not treated as benefits, but both Tax Credits and benefits are included in the term State Support. State support types in bold below are mentioned explicitly in the Understanding Society questionnaire. Those not in bold may still be included in the 'Other benefits' category.

| <b>Income-related benefits</b>   | <b>Non-income-related benefits</b>                                     |
|--|--|
| <b>Council Tax Reduction</b>   | <b>Armed Forces Compensation Scheme / War Disablement Pension</b>      |
| <b>Employment and Support Allowance (income-related element)</b>                                       | <b>Attendance Allowance</b>  |
| Extended Payments (Council Tax Benefit and Housing Benefit)  | <b>Carer's Allowance</b>   |
| <b>Housing Benefit</b>   | <b>Child Benefit</b>   |
| <b>In Work Credit</b>  | <b>Disability Living Allowance (both mobility and care components)</b> |
| <b>Income Support</b>  | <b>Employment and Support Allowance (contributory based element)</b>   |
| Job Grant  | <b>Guardian's Allowance</b>  |
| <b>Jobseeker's Allowance (income-based element)</b>  | <b>Incapacity Benefit</b>  |
| <b>Northern Ireland Rate Relief for full-time students, trainees, under 18s and those leaving care</b> | <b>Industrial Injuries Disablement Benefit</b>                         |
| <b>Northern Ireland Rate Rebate through energy efficient homes</b>                                     | <b>Jobseeker's Allowance (contributory based element)</b>              |
| <b>Northern Ireland Other Rate Rebate</b>  | <b>Maternity Allowance</b>   |
| <b>Pension Credit</b>  | <b>Northern Ireland Disability Rate Rebate</b>                         |
| <b>Rates Rebate</b>  | <b>Northern Ireland Lone Pensioner Rate Rebate</b>                     |

| <b>Income-related benefits</b>           | <b>Non-income-related benefits</b>   |
|--|--|
| <b>Return to Work Credit</b>             | <b>Personal Independence Payment (both mobility and daily living components)</b> |
| Social Fund – Community Care Grant       | <b>Severe Disablement Allowance</b>  |
| Social Fund – Funeral Grant              | <b>State Pension</b>   |
| Social Fund – Sure Start Maternity Grant | Statutory Maternity/Paternity/Adoption Pay                                       |
| <b>Universal Credit</b>                  | Statutory Sick Pay   |
|  | <b>Widow's Pension/Bereavement Allowance</b>                                     |
| <b>State support</b>                     | <b>Widow's/Bereavement Payment</b>   |
| <b>Child Tax Credit</b>                  | <b>Widowed Mother's/Parent's Allowance</b>                                       |
| <b>Working Tax Credit</b>                | Winter Fuel Payments   |
|  | Other state benefits   |

### **Tenure**

A four-way split is presented:

- Owned outright
- Owned with mortgage.
- Social rented – local authority rent or housing association rent.
- Private rented – rented from employer, rented privately or other renting.

Part-own, part rent are classified as being rented. A small proportion of cases have a tenure classification of 'other'. These are included in sample sizes but not shown separately in tables.

### **Working-age adult**

Adults below State Pension age (SPa).