



Department  
for Work &  
Pensions

# Income Dynamics

Background information and methodology

March 2020 (revised September 2020)

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# Introduction

## Context

Income Dynamics (ID) contains 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](#), and regarding Scotland the [Child Poverty \(Scotland\) Act 2017](#). Definitions for relevant key terms in these Acts 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 Pensions'](#) 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. The extent of progress towards these responsibilities will affect these results.

## Key strengths and purpose of the statistics

This is the fourth publication of this statistical series, supplementing the HBAI series. HBAI remains the best source of cross-sectional low income statistics. Income Dynamics supplements HBAI to give a longitudinal perspective on low income statistics. It fills a key gap that emerges if low income statistics are only considered cross-sectionally.

By looking longitudinally at low income, we can look at durations of low income for different groups and what characteristics are associated with longer spells of low income. Longitudinal analysis also allows us to track how many individuals – and which individuals - enter and exit low income, and to calculate entry and exit rates.

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.

## Status of these statistics and changes for this publication

There have been no significant developments or changes to the way in which these statistics have been produced since the 2019 publication. There are also no major methodological changes currently planned, and a decision has been taken to remove the experimental label from these statistics in line with [official guidance](#) from the UK Statistics Authority.

In discussion with some users of these statistics, changes have been made to the headline summary document, 'Income Dynamics: Income movements and the persistence of low incomes':

- The introduction of maps in order to illustrate variation in rates of persistent low income across the United Kingdom and within English regions.
- The introduction of Sankey diagrams to show movement between income quintiles.

## Revisions to the statistics

Since the first ID release, DWP have worked with the University of Essex to improve the quality of the derivation of incomes, and therefore these statistics have been subject to revisions beyond those that occur routinely in longitudinal data analysis. In particular, the derivation of housing costs was improved to bring the AHC analysis into line with HBAI e.g. only mortgage interest payments (not capital repayments) are included when deriving owner-occupier housing costs. This change was implemented for ID 2010-2017 published in March 2019.

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 which affects their data in earlier years. We will continue to work with the University of Essex to improve data quality where possible.

## Source of the statistics

These statistics are derived from the Understanding Society (USoc) survey. USoc 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 which was released in November 2019:

University of Essex, Institute for Social and Economic Research (2019). 'Understanding Society: Waves 1-9, 2009-2018 and Harmonised BHPS: Waves 1-18, 1991-2009: Special Licence Access'. [data collection]. 11th Edition. UK Data Service. SN: 6931, <http://doi.org/10.5255/UKDA-SN-6931-10>

We have also used the Understanding Society [Mainstage \(waves 1-9\) – User Guide](#) in pulling together this analysis and recommend other users consult this before carrying out analysis based on this data source.

We would like to thank Dr Magda Borkowska, Dr Paul Fisher and Dr Laura Fumagalli at the University of Essex for their valuable analysis and assistance.

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

## Population

USoc 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 USoc sample

The USoc 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 USoc 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 (IEMB).** 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

USoc 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 diagram below showing the periods of data included in each wave.

For the purposes of this publication, 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. We do not

publish the dataset used to produce ID statistics. Please contact us if you require further information about how we process and analyse USoc data.

### Meaning of survey period

Figure 1. below shows when each wave of the survey was carried out and which samples were included.

**Figure 1: USoc survey waves and samples**

Wave	Calendar year									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
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				
Wave 7: 2015-2016							BHPS, GPS, EMBS, IEMB			
Wave 8: 2016-2017								BHPS, GPS, EMBS, IEMB		
Wave 9: 2017-2018									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 USoc 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 USoc from Wave 2 onward, for those in the former BHPS sample, as for all other USoc 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 the survey.

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 the 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 interviewees 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 [USoc homepage](#) especially the [Mainstage \(waves 1-9\) – User Guide](#).

### **Sample sizes and attrition**

As with most longitudinal surveys, attrition reduces the USoc 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 <sup>1</sup> + EMBS <sup>2</sup> cases	BHPS <sup>3</sup> cases	All cases
2009-2010 (not used – see limitations section)	76,185	Not included	76,185
2010-2011 (cross-sectional weights)	60,914	15,493	76,407
2011-2012	48,878	11,549	60,427
2012-2013	43,108	10,378	53,486
2013-2014	39,117	9,494	48,611
2014-2015	34,178	8,512	42,690
2015-2016	30,699	7,740	38,439
2016-2017	28,063	7,171	35,234
2017-2018	25,457	6,718	32,175

Source: Understanding Society 2010-2018

1. General Population Survey. 2. Ethnic Minority Boost Sample. 3. British Household Panel Survey.

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
2010-2011 to 2013-2014	48,611	1,537	47,074
2011-2012 to 2014-2015	42,690	1,190	41,500
2012-2013 to 2015-2016	38,439	966	37,473
2013-2014 to 2016-2017	35,236	777	34,459
2014-2015 to 2017-2018	32,175	663	31,512

Source: Understanding Society 2010-2018

### Missing information

As well as attrition reducing the sample size, we have missing data for some of the variables used 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 below shows the extent of missing data for the longitudinal analysis of incomes for individuals in each four-wave sample. The most common reason for not having income information is having individual responses but no household questionnaire. As shown in Table M.3, the percentage of individuals for whom this is the case has risen since the start of the survey, with a noticeable increase in the period 2014-2015 to 2017-2018. A change in fieldwork procedures, and in particular the introduction of mixed mode data collection (online reporting) from Wave 8 (2016-2017), has led to an increase in households not completing household questionnaires. For further information, see [‘Understanding Society. The UK Household Longitudinal Study Waves 1-9 User Guide’](#).

Other reasons for missing income data include missing equivalisation factors and missing interview dates (which means we are unable to deflate incomes). Improvements to the imputation of housing costs means that the number of cases with missing AHC incomes is the same as those with missing BHC incomes. As noted above, this change was brought about for the ID 2010-2017 publication, released in March 2019.

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

Wave	Missing equivalised Before housing costs income information	Missing equivalised After housing costs income information
2010-2011 to 2013-2014	29 cases (<1%) out of 47,074	29 cases (<1%) out of 47,074
2011-2012 to 2014-2015	777 cases (2%) out of 41,500	777 cases (2%) out of 41,500
2012-2013 to 2015-2016	967 cases (3%) out of 37,473	967 cases (3%) out of 37,473
2013-2014 to 2016-2017	1,440 cases (4%) out of 34,459	1,440 cases (4%) out of 34,459
2014-2015 to 2017-2018	2,168 cases (7%) out of 31,512	2,168 cases (7%) out of 31,512

Source: Understanding Society 2010-2018

Table M.4 below 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. 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). See [USoc survey documentation](#) for further details.

Finally, in the latest four-year period (2013-2014 to 2017-2018), there was an increase in the proportion of missing values for the ID derived variable which identifies whether an individual was up to date with their bills. This measure is derived from three USoc variables, one of which ([‘problems paying council tax’](#)) saw an increase in the amount of missing data in Wave 6 (2014-2015), i.e. the start of our most recent four-year analysis period. This increase may be linked to an increase in

the proportion of individuals not completing a household questionnaire (as documented above), although Wave F preceded the introduction of mixed mode data collection. It may also be related to an increase in item non-response. See ['Understanding Society and its income data'](#) for further discussion regarding this.

**Summary of Table M.4: Missing data for other variables used**

<b>Classification</b>	<b>2010-2011 to 2013-2014</b>	<b>2011-2012 to 2014-2015</b>	<b>2012-2013 to 2015-2016</b>	<b>2013-2014 to 2016-2017</b>	<b>2014-2015 to 2017-2018</b>
Status (child, working-age adult or pensioner)	<1% out of 47,074	0 out of 41,500	0 out of 37,473	0 out of 34,459	<1% out of 31,512
Employment status of family	<1% out of 47,074	<1% out of 41,500	1% out of 37,473	<1% out of 34,459	1% out of 31,512
Ethnic group of head	4% out of 47,074	4% out of 41,500	4% out of 37,473	4% out of 34,459	4% out of 31,512
Family type	<1% out of 47,074	<1% out of 41,500	0 out of 37,473	0 out of 34,459	<1% out of 31,512
Number of children in family	<1% out of 47,074	0 out of 41,500	0 out of 37,473	0 out of 34,459	<1% out of 31,512
Gender	<1% out of 47,074	0 out of 41,500	0 out of 37,473	0 out of 34,459	<1% out of 31,512
Long-standing illness or disability (adults only)	6% out of 34,655	5% out of 30,826	4% out of 28,041	4% out of 26,016	4% out of 24,057
Limiting long-standing illness or disability (only those who have long-standing illness or disability)	4% out of 11,954	4% out of 10,714	4% out of 9,787	4% out of 8,911	4% out of 8,567
Region / Country	<1% out of 47,074	<1% out of 41,500	<1% out of 37,473	<1% out of 34,459	<1% out of 31,512
Tenure	<1% out of 47,074	<1% out of 41,500	1% out of 37,473	1% out of 34,459	1% out of 31,512
Highest educational qualification (adults only)	6% out of 34,655	5% out of 30,826	5% out of 28,041	4% out of 26,016	4% out of 24,057
Up to date with all bills <sup>1</sup>	<1% out of 47,074	<1% out of 41,500	<1% out of 37,473	1% out of 34,459	13% out of 31,512
Age	<1% out of 47,074	0 out of 41,500	0 out of 37,473	0 out of 34,459	<1% out of 31,512
Age of youngest child (only those in families with children)	<1% out of 24,104	<1% out of 20,790	<1% out of 18,348	<1% out of 16,456	<1% out of 14,513

Source: Understanding Society 2010-2018. This table is a summary version of Table M.4. For the full version please refer to the Income Dynamics [methodology tables](#).

1. This measure is derived from three Understanding Society variables. The amount of missing data for one of these variables ('problems paying council tax'), increased in Wave 6 (2014-2015).

## Weighting

Weights have been applied which take the combined GPS, EMBS and BHPS samples, adjusting for unequal selection probabilities, differential non-response, 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. USoc 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.

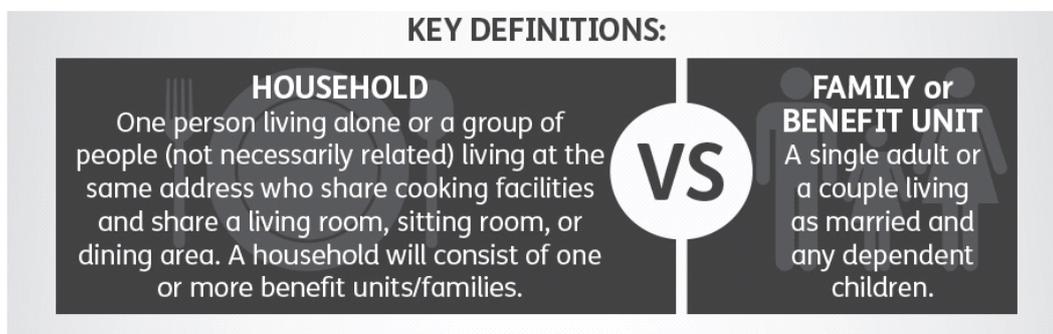
## Definitions and terminology within the statistics

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 alongside [this release](#).
- **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. These are illustrated in Figure 2 below.

**Figure 2: Infographic on household versus benefit unit**



- 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.

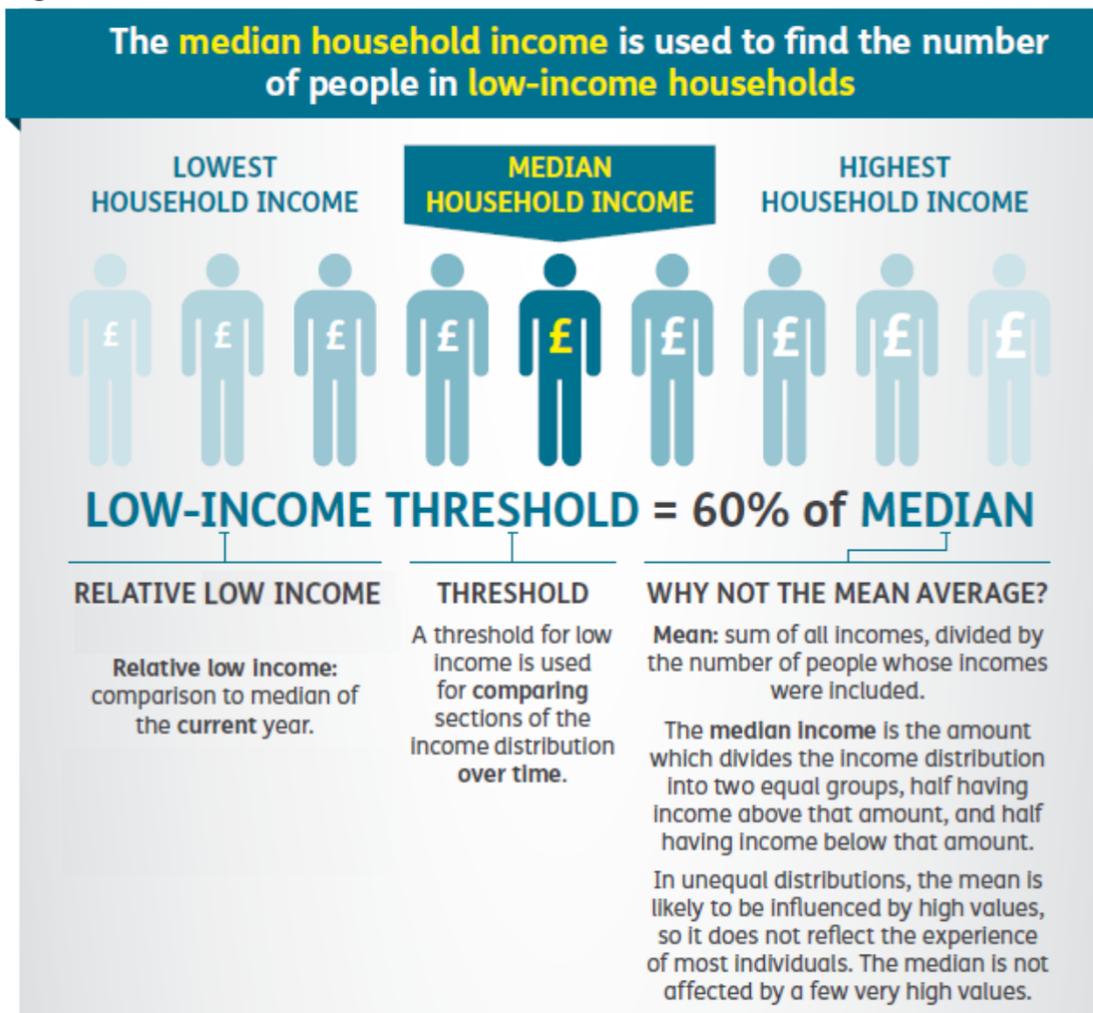
A husband and wife living with their young children and an elderly parent would be one household but two benefit units. The husband, wife and children would constitute one benefit unit and the elderly parent would constitute another. It should be noted that the term ‘benefit unit’ is used as a description 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**

An individual is classified as being 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 median income, and moves each year as median income moves. It is used to measure the number and proportion of individuals who have incomes a certain proportion below the median. Figure 3 below shows how the low income threshold is calculated based upon median income.

**Figure 3: How the low-income threshold is calculated**



Changes in the rates of persistent relative low income can be driven by changes in single year relative low income estimates or by individuals spending a longer or shorter time in relative low income.

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.

**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.

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.

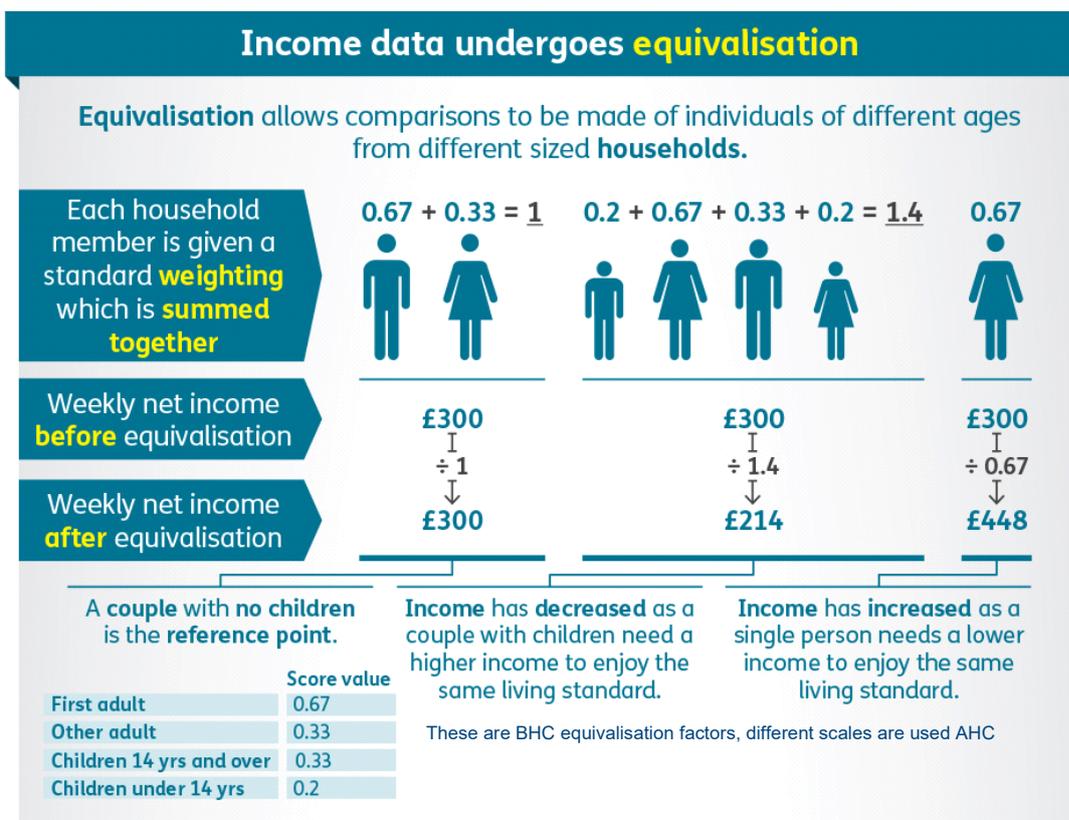
### **Equivalisation**

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. Please see Figure 4 below which sets out the equivalisation process.

Figure 4: How household income is equivalised



The main equivalence scales 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 Income 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

Equivalence scales	Modified OECD to equivalise BHC results rescaled to couple without children=1 <sup>1</sup>	OECD 'Companion' Scale to equivalise AHC results	McClements BHC	McClements AHC
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 equivalisation, as conducted in ID, 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.

## 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 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

- Pension contributions
- council tax (note domestic rates in Northern Ireland are not deducted)

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 USoc wave (for 2014-2018 analysis January 2018 is used). Like HBAI, ID uses a bespoke variant of the Consumer Price Index (CPI) to adjust for inflation to look at how incomes are changing over time in real terms. Since the HBAI 2017/18 publication, the Office for National Statistics (ONS) made some very minor revisions to this index. Because the effect of these revisions on low income measures was negligible, no revisions were made to the deflators used by HBAI in their series, and ID followed the same approach. See the following [ONS update](#) for more details. Because USoc fieldwork for Wave 9 extended into April and May 2019, ONS provided additional deflators for this period to ensure all individuals with income data in our four-year dataset could be included in ID analysis. Deflator values used for April and May 2019 can be found [here](#).

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 \(waves 1-9\) – User Guide](#) and '[Understanding Society and its income data](#)' for more detail on the procedures used.

### **Housing costs**

Housing costs include mortgage and rent. Analysis of household incomes takes place 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.

Housing costs in ID include the following:

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

In the case of renters, these housing costs will include service and water charges because this is how the information is requested on the USoc questionnaire. For owner-occupiers, these amounts will not be included.

The main difference between HBAI and ID in terms of housing costs data is that, for owner-occupiers, HBAI includes structural insurance payments, whereas ID does not: no information is collected on structural insurance payments in USoc.

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.

## Entry and Exit rates

The methodology used here is the same as in the predecessor [Low Income Dynamics](#) publication. This analysis looks at individuals moving into and out of low income and uses a measure of equivalised household income consistent with that used elsewhere in ID.

When analysing transitions into and out of low income, the threshold used is the standard 60 per cent of median income Before Housing Costs (BHC). Analysis of transitions between one wave and the next only includes 'clear' transitions. This is because all survey estimates - including household incomes and measures based on them such as the low income threshold - are subject to sampling and measurement error. For example, for an exit or entry to occur, household incomes must change such that they cross the threshold and are at least 10 per cent higher or lower than 60 per cent median income in the following wave. The exit or entry rate for individuals is calculated as, using exit rates as an example, the number of individuals in low income in one wave who exited low income in the following wave, expressed as a percentage of all those who were in low income. Entry rates are much lower than exit rates, because the starting population is those in the original state i.e. for entry rates the starting population is all those individuals not in low income and for exit rates it is those in low income. There are more individuals not in low income than are in low income, so even if an equal number of individuals exit and enter low income (as is suggested by the stable persistent low income rates), then we would still see higher exit rates than entry rates.

The unit of analysis is the individual. However, as individuals live in households and we assume that all members of the household benefit equally from the household's income, they will be affected by changes at the household level. This could come about either through changes in income levels, or by changes in the household composition which affects incomes through the equivalisation process.

For the publication tables containing detailed breakdowns we have presented the rates as an average over three two-wave periods as this will, to some extent, remove the volatility and help to create a more robust and stable series. This contrasts with the presentation given in Low Income Dynamics which was a pooled estimate from the transitions between all adjacent two-year periods.

## 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 it is possible that such 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. An individual is in receipt of state support if they receive one or more benefits, or are being paid Tax Credits. Most of these benefits are administered by DWP. The exceptions are Housing Benefit and Council Tax Reduction, which are administered by local authorities. Child Benefit is administered by HM Revenue and Customs, who also administer Tax Credits. These are not treated as benefits, but both Tax Credits and benefits are included in the term 'State Support'. Tax Credits will ultimately be superseded by Universal Credit. Benefits are often divided into income-related benefits and non-income related benefits. State support types in bold below are mentioned explicitly in the USoc 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 2017-2018 [USoc questionnaire](#))

<b>Income-related benefits</b>	<b>Non-income-related benefits</b>
<b>Council Tax Reduction</b>	<b>War Disablement Pension</b>
<b>Employment and Support Allowance (income-related element)</b>	<b>Attendance Allowance</b>
Extended Payments (Council Tax Support and Housing Benefit)	<b>Carer's Allowance</b>
<b>Housing Benefit</b>	<b>Child Benefit (including Lone Parent Child Benefit payments)</b>
<b>In Work Credit for Lone Parents</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>Foster Allowance / Guardian's Allowance</b>
<b>Jobseeker's Allowance (income-based element)</b>	<b>Incapacity Benefit</b>
Northern Ireland Other Rate Rebate	<b>Industrial Injury Disablement Benefit</b>
<b>Pension Credit – including Guarantee Credit &amp; Savings Credit</b>	<b>Jobseeker's Allowance (contributory based element)</b>
<b>Rates Rebate</b>	<b>Maternity Allowance</b>
<b>Rent Rebate</b>	<b>Personal Independence Payment (both mobility and daily living components)</b>
<b>Return to Work Credit</b>	<b>Severe Disablement Allowance</b>
Social Fund – Community Care Grant	<b>State Pension</b>

<b>Income-related benefits</b>	<b>Non-income-related benefits</b>
Social Fund – Funeral Grant	Statutory Maternity/Paternity/Adoption Pay
Social Fund – Sure Start Maternity Grant	Statutory Sick Pay
<b>Universal Credit</b>	<b>Widow’s or War Widow’s Pension</b>
<b>Child Tax Credit</b>	<b>Widowed Mother’s Allowance, Parent’s Allowance or Bereavement Allowance</b>
<b>Working Tax Credit</b>	Winter Fuel Payments
	Other state benefits

Source: Understanding Society 2017-2018 [questionnaire](#).

## Ethnicity

USoc 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	
Asian/Asian British: Bangladeshi	
Asian/Asian British: Chinese	
Asian/Asian British: Any other Asian background	
Black/Black British: Caribbean	Black
Black/Black British: African	
Black/Black British: Any other Black background	
Other Ethnic Group: Arab	Other
Other Ethnic Group: Any other ethnic group	

Source: Understanding Society 2017-2018 [questionnaire](#).

## Disability definition

USoc 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:

“Do you have any health problems or disabilities that mean you have substantial difficulties with any of the following 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**

A number of issues with these statistics have been addressed in previous years. There remain other limitations associated with these results, which are summarised below. Where possible, we will continue to make improvements over time.

### **Adjustments to the data**

We found three cases in Wave 4 with missing equivalised household income after housing costs, which we removed for our analysis. The effect on our results and headline statistics was negligible.

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

The USoc 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.

## Wave 1 (2009-2010) income information

There are known issues with the income information in the first USoc 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 USoc 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 USoc, a longitudinal survey. In 2017-2018, the survey gathered information on over 32,000 individuals. In addition to capturing detailed information on incomes, it also captures contextual information on the household and individual circumstances, such as employment, education level and disability. This is therefore a 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 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 USoc 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 USoc is at risk from a systematic bias due to non-response. This is 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 USoc 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.** USoc 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 USoc 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 USoc 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 familiarity with the questionnaire means that respondents respond more accurately to later waves of the survey). 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.

### 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. USoc includes an ethnic minority boost which means 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 may be somewhat upwardly biased.

**Regional analysis.** Although the USoc 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.

## Comparisons between the statistics

Income Dynamics 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 [European Union Statistics on Income and Living Conditions](#) (EU-SILC) and, as well as drawing on a different data source, uses slightly different definitions, counting persistent low income i.e. individuals who are in low income households for at least three of the last four years, **including the latest year**. This definitional difference means EU persistent low income statistics for the UK tend to be a little lower than those presented in ID. 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 cover those above State Pension age at the point of their USoc interview.
- **After Housing Costs 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 USoc 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 publications 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 and [updated](#) in December 2018.

This review considered the way in which official statistics about income and earnings across Government were presented and included 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 made 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](#) and [useful information on income and earnings statistics produced by the ONS](#).

### Low income Dynamics (predecessor series to ID)

<https://www.gov.uk/government/statistics/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 2018/19 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 USoc 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>

[HBAI data](#) are now available on the [Stat-Xplore](#) online tool.

### **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**

This collection includes figures on persistent poverty for children in Scotland. These statistics are based on Income Dynamics, and are produced for the Scottish Government by the DWP.

<https://www.gov.scot/collections/poverty-and-income-inequality-statistics/>

### **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.

<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/theeffectsoftaxesandbenefitsonhouseholdincome/financialyearending2018>

Commentary on average household income in financial year ending 2019 is reported in a separate bulletin:

<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/householddisposableincomeandinequality/financialyearending2019>

Commentary on household income inequality in financial year ending 2019 is reported in a separate bulletin:

<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/householdincomeinequalityfinancial/financialyearending2019>

### **Personal Incomes statistics**

These statistics include data on UK taxpayers, their incomes and the income tax they are liable for, based on the annual Survey of Personal Incomes.

<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. WAS is a large scale longitudinal survey with six rounds currently published. 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 sixth round (2016-2018).

<https://www.ons.gov.uk/releases/wealthingreatbritainwave62016to2018>

### **Personal and economic well-being in the UK**

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. ONS now also publish statistics of combined findings for personal well-being and economic well-being measures.

<https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/personalandeconomicwellbeingintheuk/february2020>

### **Improving Lives**

This compendium of nine indicators tracks progress in tackling the disadvantages that affect families and children's outcomes. It includes measures of worklessness and problem debt.

<https://www.gov.uk/government/collections/improving-lives-helping-workless-families-indicators-and-evidence-base>

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

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

### **Children in Low Income Families Local Area Statistics**

This is a new set of DWP experimental statistics which will be first published in March 2020. These statistics will provide estimates of the number and proportion of children living in relative and absolute (before housing costs) low income by local area across Great Britain. These new statistics replace earlier Official Statistics previously published by DWP ([Children in out-of-work benefit households](#)) and HMRC ([Children in low-income families local measure](#)). In December 2018, DWP and HMRC published their respective releases and announced a commitment to combine releases going forward.

With the rollout of Universal Credit and the Higher Income Child Benefit charge, neither previous measure offered an accurate view of children in low income families at a local level, and both Departments announced that a new set of statistics would be developed and published in order to better meet users' needs.

The methodology underpinning these new statistics addresses three of the key limitations of the previous official statistics:

- [i] inclusion of Universal Credit and Tax Credits
- [ii] calibration to HBAI estimates at regional level and by work-status
- [iii] calculation of rates using ONS population estimates rather than Child Benefit claims which no longer provide a useable proxy given the Higher Income Child Benefit charge.

<https://www.gov.uk/government/collections/children-in-low-income-families-local-area-statistics>

### **Income estimates for small areas, England and Wales: financial year ending 2018**

ONS produce model-based estimates of income at Middle Layer Super Output Area (MSOA) level for 2017/18. This is available at:

<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/smallareamodelbasedincomeestimates/financialyearending2018>

### **Admin-based income statistics, England and Wales**

ONS also produce experimental estimates of gross and net income based on data from the Pay As You Earn and benefits systems

<https://www.ons.gov.uk/census/censustransformationprogramme/administrativedatacensusproject/administrativedatacensusresearchoutputs/populationcharacteristics/adminbasedincomestatisticsenglandandwalestaxyearending2016>

### **English Indices of Deprivation**

The English Indices of Deprivation produced by the Ministry of Housing, Communities and Local Government is a measure of relative levels of deprivation in small areas of England called Lower Layer Super Output Areas (latest indices are for 2019).

<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. 2019 indices were published in November 2019.

<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 (latest indices are for 2020).

<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.

<https://www.nisra.gov.uk/statistics/deprivation/northern-ireland-multiple-deprivation-measure-2017-nimdm2017>

## Status of the statistics

### Official statistics

These statistics have been developed using guidelines set out by the UK Statistics Authority. Income Dynamics was first published in 2017 as experimental statistics. Until now, it has retained the experimental statistics label while undergoing developments relating to the derivation of income and non-income data. Because these planned developments have been implemented, a decision has been taken, in line with [official guidance](#) published by the UK Statistics Authority, to remove the experimental label from these statistics.

### Quality Statement

We have worked closely with the University of Essex to review their income derivations. We also review our persistent low income results 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, and also [Persistent Poverty in the UK and EU: 2017](#).

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

															£pw equivalised <sup>1</sup>	
Understanding Society wave <sup>2,3</sup>	HBAI year <sup>4</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		498		299		625		253		375		664		1,027	
2010-2011	2010/11	500	491	300	295	594	599	256	254	380	374	660	647	987	988	
2011-2012	2011/12	505	480	303	288	598	593	266	251	388	365	660	638	975	970	
2012-2013	2012/13	506	482	304	289	594	587	268	249	389	368	660	634	971	969	
2013-2014	2013/14	510	486	306	292	593	602	274	256	394	368	662	648	966	978	
2014-2015	2014/15	537	503	322	302	652	617	287	259	415	381	699	666	1,017	1,006	
2015-2016	2015/16	543	510	326	306	636	629	289	259	419	385	709	677	1,033	1,003	
2016-2017	2016/17	552	519	331	311	644	624	288	261	422	390	711	679	1,055	1,012	
2017-2018	2017/18	546	519	327	312	639	628	282	257	422	393	702	683	1,035	1,022	
	2018/19		514		308		635		256		392		685		1,035	
<b>After housing costs</b>																
	2009/10		430		258		545		175		303		590		937	
2010-2011	2010/11	446	422	267	253	527	520	193	178	324	303	600	572	916	897	
2011-2012	2011/12	450	412	270	247	532	515	203	174	331	296	601	565	910	880	
2012-2013	2012/13	452	412	271	247	530	509	206	172	334	294	603	563	904	883	
2013-2014	2013/14	455	416	273	249	528	524	214	175	337	296	606	576	900	891	
2014-2015	2014/15	480	431	288	259	590	537	226	179	360	308	642	591	954	915	
2015-2016	2015/16	486	440	292	264	574	550	228	180	364	311	649	602	970	931	
2016-2017	2016/17	497	449	298	269	582	546	225	183	365	315	655	604	996	928	
2017-2018	2017/18	493	447	296	268	576	549	222	181	364	316	648	607	965	936	
	2018/19		447		268		555		176		319		607		940	

Source: Understanding Society 2010-2018 and Family Resources Survey 2009/10 to 2018/19.

Notes:

1. Amounts are expressed in real terms for the relevant series i.e. ID amounts are 2017-2018 prices and HBAI amounts 2018/19 prices.
2. USoc is based on a two calendar year survey period, with everyone in the sample being interviewed on an annual basis.
3. The underlying figures are subject to revisions due to changes to the base dataset made by the data providers.
4. HBAI data are taken from the Family Resources Survey (FRS) and is based on a financial year survey period. The HBAI series differs from the USoc series due to methodological and coverage differences.

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

Understanding Society wave <sup>1,2</sup>	HBAI year <sup>3</sup>	Before housing costs		After housing costs	
		ID	HBAI	ID	HBAI
<b>All individuals</b>					
	2009/10		17		22
2010-2011	2010/11	16	16	21	21
2011-2012	2011/12	15	16	20	21
2012-2013	2012/13	15	15	19	21
2013-2014	2013/14	15	15	19	21
2014-2015	2014/15	15	16	19	21
2015-2016	2015/16	15	16	19	22
2016-2017	2016/17	15	16	20	22
2017-2018	2017/18	15	17	19	22
	2018/19		17		22
<b>Children</b>					
	2009/10		20		30
2010-2011	2010/11	20	18	28	27
2011-2012	2011/12	19	18	27	27
2012-2013	2012/13	18	17	27	27
2013-2014	2013/14	18	17	26	28
2014-2015	2014/15	19	19	27	29
2015-2016	2015/16	19	20	27	30
2016-2017	2016/17	20	19	28	30
2017-2018	2017/18	20	22	26	30
	2018/19		20		30
<b>Working-age adults</b>					
	2009/10		16		22
2010-2011	2010/11	14	15	19	21
2011-2012	2011/12	13	15	18	21
2012-2013	2012/13	13	15	18	21
2013-2014	2013/14	13	14	18	21
2014-2015	2014/15	13	15	17	21
2015-2016	2015/16	13	15	18	21
2016-2017	2016/17	13	15	18	21
2017-2018	2017/18	13	15	18	20
	2018/19		15		21
<b>Pensioners</b>					
	2009/10		18		15
2010-2011	2010/11	19	17	16	14
2011-2012	2011/12	18	16	16	13
2012-2013	2012/13	16	16	15	13
2013-2014	2013/14	16	16	15	14
2014-2015	2014/15	17	16	16	14
2015-2016	2015/16	16	17	16	16
2016-2017	2016/17	16	17	16	16
2017-2018	2017/18	17	18	16	16
	2018/19		18		16

Source: Understanding Society 2010-2018 and Family Resources Survey 2009/10 to 2018/19

Notes:

1. USoc is based on a two calendar year survey period, with everyone in the sample being interviewed on an annual basis.

2. The underlying figures are subject to revisions due to changes to the base dataset made by the data providers.
3. HBAI data are taken from the Family Resources Survey (FRS) and is based on a financial year survey period. The HBAI series differs from the USoc series due to methodological and coverage differences.

## Feedback

### **We welcome feedback**

We would welcome any feedback on these statistics and would also be 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.

Feedback is always welcome. Please contact us via email:

[teamincome.dynamics@dwp.gov.uk](mailto:teamincome.dynamics@dwp.gov.uk)

## Useful links

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

The [Households Below Average Income](#) series is the standard source of single year 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 USoc.

## **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 USoc wave.

## **Disability**

USoc 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:

“Do you have any health problems or disabilities that mean you have substantial difficulties with any of the following 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 reports 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.

### **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.

Individuals who have retired are counted as workless. Therefore, analysis of economic status based on 'all individuals' will include retired people in the 'workless' total.

### **Entry and Exit rates**

The standard threshold, 60 per cent of median income Before Housing Costs (BHC) is used is when analysing transitions into and out of low income.

For an entry into low income to occur, the individual must be in a household whose income is at least 10 per cent below the low income threshold, while in the previous wave they were in a household whose income was above the relative low income threshold.

For an exit from low income to occur, the individual must be in a household whose income is at least 10 per cent above the low income threshold in a wave, while in the previous wave they were in a household whose income was below the relative low income threshold.

### **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 ID, 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**

Ethnicity information is combined into five groups for the purposes of analysis:

- **White** – made up of White: British/English/Scottish/Welsh/Northern Irish; White: Irish; White: Gypsy or Irish Traveller; and White: 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/Black British: Caribbean; Black/Black British: African; and Black/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.
- **Mixed-age couple** – one of the couple are above State Pension age and one below.
- **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.

### **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 are the rent or mortgage interest payments, plus service and water charges. Consistent with HBAI, for mortgage-holders only the mortgage interest payments are included as housing costs i.e. capital repayment amounts are excluded.

### **Income**

The Before Housing Costs (BHC) 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 USoc wave (January 2017 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 housing costs from the above BHC 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. For men born on or before this date, SPa is 65. From 6th April 2010, the SPa for women born on or after 6th April 1950 increased gradually between April 2010 and November 2018. The SPa for men remained at 65.

From December 2018, the SPa for both men and women began to increase, and will 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/government/uploads/system/uploads/attachment\\_data/file/310231/spa-timetable.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/310231/spa-timetable.pdf)

### **Pensioner couples and Mixed-age couples**

In the ID pensioner tables, the *pensioner couple* category includes individuals above SPa in couples where the other partner is below SPa. Similarly, the mixed-age couple category in the Working-age adult tables covers adults below SPa in couples where the other partner is above SPa.

### **Persistent low income**

Individuals are described as being in persistent low income if they live in a household in relative low income (below 60 or 70 per cent of median income) in at least three out of four consecutive annual interviews. One possible measure of persistence of low incomes would be to consider only those individuals whose household 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 and above – University Higher Degree (e.g. MSc, PhD); First degree level qualification including foundation degrees, graduate membership of a professional institute, PGCE
- Higher education diploma – 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

**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 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 the definitive Office for National Statistics geography classifications and codes see <http://geoportal.statistics.gov.uk/>.

Although the USoc 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. An individual is in receipt of state support if they

receive one or more benefits, or are being paid Tax Credits. Most of these benefits are administered by DWP. The exceptions are Housing Benefit and Council Tax Reduction, which are administered by local authorities. Child Benefit is administered by HM Revenue and Customs, who also administer Tax Credits. These are not treated as benefits, but both Tax Credits and benefits are included in the term 'State Support'. Tax Credits will ultimately be superseded by Universal Credit. Please refer to Table M6 above for more detail on types of state support asked about in the USoc questionnaire.

### **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).