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Information paper

Quality and Methodology Information

General details

Title of output:	Families and households
Designation:	National Statistics
Geographic coverage:	United Kingdom (UK)
Date of last SQR or QMI*:	November 2016
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Executive summary

Quality and Methodology Information reports (QMIs) are overview notes which pull together key qualitative information as well as providing a summary of methods used to compile the output.

This report relates to estimates of Families and households in the UK. These estimates were first published in 2011, and are now published annually (based on 3 months of data in each year). Estimates currently published show figures for 1996 to 2016.

The families and households release presents time series of estimates of the number of families by type, people in families by family type and children in families by type. Types of family include married couple families, cohabiting couple families and lone parent families. Tables on household size, household types and people in different household types are also provided. These include estimates of the numbers of people living alone and multi-family households.

The Labour Force Survey (LFS), a social survey of the private resident population in the UK, is used to provide estimates about the UK's families and households. The estimates are published on our website around 4 months after the end of the April to June reference period. Further information about the questionnaire, methodology and topics covered in the LFS can be found on our website.

This document contains the following sections:

- Output quality
- About the output
- How the output is created
- Validation and quality assurance
- Concepts and definitions
- Other information, relating to quality trade-offs and user needs
- Sources for further information or advice

Output quality

This document provides a range of information that describes the quality of the output and details any points that should be noted when using the output.

* Quality and Methodology Information (QMI) replaced Summary Quality Reports (SQR) from April 2011

We have developed Guidelines for Measuring Statistical Quality; these are based upon the 5 European Statistical System (ESS) quality dimensions. This document addresses these quality dimensions and other important quality characteristics, which are:

- relevance
- timeliness and punctuality
- coherence and comparability
- accuracy
- output quality trade-offs
- assessment of user needs and perceptions
- accessibility and clarity

More information is provided about these quality dimensions in the sections below.

About the output

Relevance

(The degree to which the statistical outputs meet users' needs.)

The Labour Force Survey (LFS) provides a time series of data on families and households back to 1996. It covers people in private households, NHS accommodation and students in halls of residence whose parents live in the UK. Such students are included through proxy interviews with their parents. People who live in other communal establishments such as prisons and nursing homes are not covered. LFS interviewers attempt to interview all adults resident at a selected address. Further information about the LFS can be found in the Validation and quality assurance section.

The families and households tables published are:

- Table 1: Families by family type and presence of children
- Table 2: People in families by family type and presence of children
- Table 3: Families with dependent children by family type and number of dependent children
- Table 4: Dependent children in families by family type
- Table 5: Households by size
- Table 6: People living alone by age and sex
- Table 7: Households by type of household and family
- Table 8: People in households by type of household and family

These tables are updated annually. The choice to publish these particular tables was based on analysis of ad-hoc requests by users of families and households data during 2010. It would be impossible to provide tables to meet all user needs, but the tables published aim to answer the most basic and common questions on the number of families in the UK by family type and the number of people in such families, including children. The tables also answer basic questions on the number of households in the UK, what types of family are living in these households and the number of people living in these households. Further information about the strengths and limitations of other sources of data which were considered when developing this output are in the Comparability and coherence section. Information on user needs can be found in the Assessment of user needs and perceptions section.

Timeliness and punctuality

(Timeliness refers to the lapse of time between publication and the period to which the data refer. Punctuality refers to the gap between planned and actual publication dates.)

Before publication of this output, estimates about the UK's families and households were published in an ad hoc manner in publications such as Focus on Families and Social Trends. Neither of these continues to be published. The release described in this document provides key estimates of families and people in families, as well as households and people in households. They are now updated annually, around 4 months after the end of the April to June reference period.

The Labour Force Survey (LFS) datasets are reweighted in most years to take account of the latest available population estimates and projections. This means that there are small revisions to previously published estimates. We publish a table which shows the impact of reweighting of the LFS datasets on the estimates.

Estimates were revised back to the reference year 2002 following the incorporation of the results from the 2011 Census into the weighting for this publication; the revised estimates (2002 to 2013) were first published in Families and Households: 2014 in January 2015.

Estimates for the reference years 2013 to 2015 have been revised due to further reweighting of the LFS and published in Families and Households: 2016 in November 2016. Therefore estimates for 2013 to 2015 may not match estimates which have been published in previous years. Users are advised to use the estimates published in Families and Households: 2016 for all reference years as these are the most up to date estimates. The impact of the reweighting on the 2013 to 2015 estimates is summarised in the impact of reweighting dataset.

If more major changes to the estimates are proposed, for example to methods or classifications, we will consult users by announcing proposals on our website with a time limit by which users can share their views with us.

For more details on related releases, the GOV.UK statistics release calendar provides 12 months' notice of release dates. In the unlikely event of a change to the pre-announced release schedule, public attention will be drawn to the change and the reasons for it explained fully at the same time, as set out in the Code of Practice for Official Statistics.

How the output is created

The original output objective was to provide summary statistics covering the most basic and commonly asked questions posed by users regarding families and households. This includes the number of families in the UK, number of cohabiting couples and families with children.

The data are produced using the Labour Force Survey (LFS). The LFS is a social survey of the private resident population in the UK. Its purpose is to provide information on the UK labour market but it includes data on a variety of other variables such as family types and household types.

Full details of the background and methodology used to produce the LFS can be found in Volume 1 of the LFS user guide. Quality and Methodology Information for the LFS is also available. For information on response rates and other quality-related issues for the LFS, including breakdowns of responses by region and by question, please see the Labour Force Survey quality measures.

The LFS household dataset is used for this publication. The household dataset differs from the person-level dataset in the way that the weighting is applied to the sample. The household dataset ensures that the weight given to each member of the same household is the same, whereas the person-level dataset, which is more commonly used for information on the labour market, includes only individual weights, which usually differ between members of the same household. The design of the household dataset is such that it gives the best estimate of families and households, as well as people in families and households.

Estimates based on sample sizes of fewer than 3 are suppressed in published tables but this has little impact on the estimates for most years.

Validation and quality assurance

Accuracy

(The degree of closeness between an estimate and the true value.)

The Labour Force Survey (LFS) is a social survey of the private resident population in the UK. It covers people in private households, NHS accommodation and students in halls of residence whose parents live in the UK. Such students are included through proxy interviews with their parents. People who live in other communal establishments are not covered. LFS interviewers attempt to interview all adults resident at a selected address. The key purpose of the LFS is to provide information on the UK labour market but it includes data on a variety of other variables such as families and households.

Each quarter's LFS sample of 41,000 households is made up from 5 "waves", each of approximately 8,000 households. Each wave is interviewed in 5 successive quarters, so that in any 1 quarter, 1 wave will be receiving their first interview, 1 wave their second and so on, with 1 wave receiving their fifth and final interview. Thus, there is an 80% overlap in the samples for each successive quarter and the samples for the sixth quarter and the first quarter have no common elements. The LFS

household datasets are produced twice a year (1 for the April to June quarter, and 1 for the October to December quarter). Families and households uses the April to June quarter each year.

As estimates of the UK's families and households are based on the LFS, all estimates produced are subject to sampling variability. This is because the sample selected is only 1 of a large number of possible samples that could have been drawn from the population. Estimates produced from a sample survey vary according to the specific characteristics of the respondents that have been sampled. Some inferences can be made as to the characteristics of non-respondents, and whether non-response has an impact on the quality of the survey results.

Once LFS household datasets are received, quality checks are made on the most commonly used family and household type variables by tabulating 1 variable against another. The checks which are carried out include verifying that:

- lone parents do not have a partner in the household
- no under-16s are married
- children are not heads of families
- there are no large year-on-year changes

If errors are found, these are referred back to Social Survey Division in ONS for investigation and correction before estimates about families and households are published.

Confidence intervals and coefficient of variation

Confidence intervals are commonly used as indicators of the extent to which the estimate based on a sample may differ from the true population value; the larger the confidence interval, the less precise the estimate is. Confidence intervals are shown alongside the estimates. The estimates themselves have been colour coded using the coefficient of variation to indicate statistical robustness as follows:

Coefficient of variation	**Description**	**Format**
Coefficient of variation ≤ 5%	Estimates are considered precise	None
Coefficient of variation >5% and ≤ 10%	Estimates are considered reasonably precise	Light blue
Coefficient of variation >10 and ≤ 20%	Estimates are considered acceptable	Blue
Coefficient of variation > 20%	Estimates are considered unreliable for practical purposes	Dark blue

The coefficient of variation is the ratio of the standard error of the estimate to the estimated value itself, and the smaller this value, the more precise the estimate.

Estimates with a coefficient of variation > 20% are considered unreliable for practical purposes. This means that they should not be used in isolation or relied upon for making policy. They have been included in the tables for completeness (where omitting the estimate would mean that the sum of the estimates in each category would not equal the total) and in some cases, because users are specifically interested in particular estimates (such as same-sex couples with dependent children).

Statistical significance

Changes in the estimates from the LFS from one period to the next may occur simply by chance. In other words, the change may be due to which individuals were selected to answer the survey, and may not represent any real changes in family and household structures.

Statistical tests can be used to determine whether any increases or decreases that we see in the estimates from the LFS are due to chance, or whether they are likely to represent a real change. When comparing two estimates, a t test is performed which results in the calculation of a 95% confidence interval for the difference between these estimates. If this interval excludes the value 0, then we can conclude that the change is statistically significant and that the difference is very likely to be a real change in family or household structures and not as a result of sampling variation.

The t test divides the difference of the estimates by the square root of the sum of the squared standard errors. The resulting t value needs to be greater than 1.96 to be 95% certain that the estimates are different. The usual standard is to carry out these tests at the 5% level of statistical significance. This means that we would expect only 1 out of 20 statistically significant differences to have occurred purely by chance.

An indication of whether the change in an estimate over time is statistically significant is presented in the statistical bulletin for the Families and households publication. From the year 2015 onwards the use of a t test, as described above, has been used. In the years previous to 2015 a method of checking whether the confidence intervals around the estimates overlap or not, in order to decide whether the change was statistically significant, was used.

The main threats to the accuracy of the data are sampling error and non-sampling error, where non-sampling error includes coverage error, non-response error, measurement error and processing error. Many of the sources of non-sampling error are difficult to measure. However, in the LFS Performance and Quality Monitoring reports, detailed response rates for all waves of the survey are published.

Coherence and comparability
(Coherence is the degree to which data that are derived from different sources or methods, but refer to the same topic, are similar. Comparability is the degree to which data can be compared over time and domain for example geographic level.)

The data are produced using the Labour Force Survey (LFS), with a published comparable time series going back to 1996.

In 2012, we published a document which analysed the differences between various other administrative, survey and modelled sources of families and household data and the LFS, in order to explain the strengths and limitations of all sources. The document also provides guidance on the best source of data for different purposes.

Some common themes emerged from the analysis, such as lower estimates of 1-person households in the LFS compared with other non-survey sources, due to non-contact with 1-person households in surveys. Surveys also generally provided higher estimates of civil partners than registration data, for a variety of possible reasons including people who have formed a civil partnership outside the UK, either before or after civil partnerships became legal in the UK in 2005. However in general it was reassuring that the estimates are so similar to the other sources, given the quite different collection methods.

In 2013 we undertook some initial comparisons with the results of the 2011 Census for families and households. The main findings from this comparison are in the 2013 statistical bulletin.

It may be necessary to make future revisions to the families and households estimates to reflect occasional or post-census revisions to the national mid-year population estimates, which will also have an impact on the weighting used for the LFS. This is in line with our revisions policies for population statistics.

Concepts and definitions
(Concepts and definitions describe the legislation governing the output, and a description of the classifications used in the output.)

Definitions used in the output are shown below. They are nationally agreed definitions and consistent with other sources of data (such as those used for the Census). No classifications are used in the output.

A family is a married, civil partnered or cohabiting couple with or without children, or a lone parent with at least 1 child. Children may be dependent or non-dependent.
Dependent children are those living with their parent(s) and either (a) aged under 16, or (b) aged 16 to 18 in full-time education, excluding children aged 16 to 18 who have a spouse, partner or child living in the household.
Non-dependent children are those living with their parent(s), and either (a) aged 19 or over, or (b) aged 16 to 18 who are not in full-time education and have no spouse, partner or child living in the household. Non-dependent children are sometimes called adult children.
For 1996 to 2010, a household is defined as a person living alone, or a group of people living at the same address who have the address as their only or main residence and either share 1 main meal a day or share living accommodation (or both). For 2011 onwards, it is defined as 1 person living alone, or a group of people (not necessarily related) living at the same address who share cooking facilities and share a living room or sitting room or dining area. In order to measure the impact of the introduction of the new household definition, we developed a set of questions to be asked by interviewers for each address they visited. Overall only 2 addresses out of 2,188 productive cases

(less than 0.1% of interviewed households) would change classification under the new household definition.

Other information

Output quality trade-offs

(Trade-offs are the extent to which different dimensions of quality are balanced against each other.)

The data are produced using the Labour Force Survey (LFS). When deciding the best source of data to use for this publication, we considered using the LFS, the Annual Population Survey (APS), the General Lifestyle Survey (GLF) and the Integrated Household Survey (IHS).

The APS combines results from the LFS and the English, Welsh and Scottish Labour Force Survey boosts. As such, the APS provides similar information to the LFS and has a larger sample size, so is more commonly used for estimates for smaller geographical areas, such as local authorities, than the LFS. The APS is available annually from 2004 onwards.

The GLF is a multi-purpose continuous survey carried out by us, which collects information from people living in Great Britain on a range of topics including households, families, marriage and cohabitation. The survey ran continuously between 1971 and 2011, when it finished. It has a smaller sample size than the LFS.

The IHS is a composite survey combining questions asked on a number of our social surveys to produce a dataset of “Core” variables, including those on families and households. In 2009 to 2010 the IHS was created from six of our surveys including the APS. After April 2011, the number of surveys contributing to the IHS dataset fell, as 2 surveys could not continue asking the core questions. The GLF finished at the end of December 2011, and then the IHS comprised only of the Living Cost and Food Survey and APS. In February 2014, we announced the result of a consultation which ceased the “core” questions being asked in the Living Costs and Food Survey. This effectively ended the IHS as it now consists only of the APS. The IHS had a larger sample size than the LFS, but a shorter time series because data are only available from April 2009 onwards.

We looked at 4 main factors when deciding the best source of data.

Timeliness

The LFS is more timely than the APS, IHS and GLF, with the quarterly dataset being available 2 to 3 months after the April to June reference date. The IHS dataset is available around seven months after the January to December reference date, the equivalent APS dataset is available around nine months after the January to December reference date and the equivalent GLF dataset is available 2 years after the January to December reference date.

Sample size

The LFS has a sample size of 43,000 households, the APS 143,000 households, the IHS 153,000 households and the GLF around 8,000 households. Although the IHS and APS have a larger sample size than the LFS, the estimates from these 3 sources are still very robust at the UK level.

Time series

The LFS has a longer time series than the APS and IHS, with comparable time series going back to 1996. APS data are only available from 2004 and IHS data are only available from April 2009 onwards. GLF data are available from 1971 but stop in 2011.

Consistency

Data are available from the LFS, APS and IHS on a consistent basis across the UK, but the GLF does not cover Northern Ireland.

These factors were evaluated, and on balance it was decided that the LFS was the best source because users were keen to have a long time series and the quality of estimates is robust at UK level. Further, estimates of families and households produced from interviews in the April to June quarter are thought to be representative of the rest of the year.

Assessment of user needs and perceptions
(The processes for finding out about uses and users, and their views on the statistical products.)

An understanding of families and households is crucial for those involved in planning and decision making. In addition, family and social relationships are 1 of the most important factors contributing to wellbeing.

The statistics are used by those who want to improve their understanding of the UK's families and households including:

- policymakers
- MPs
- journalists
- charities
- the private sector
- students
- researchers and academics
- members of the general public

The team which produces these statistics at the Office for National Statistics has received feedback from:

- consulting a small selection of people who are known to be interested in families and households during the initial development of these statistics
- contacting a wider range of users on the day of publication to notify them that the statistics have been released and asking for feedback
- the UK Statistics Authority, who asked people who use these statistics for their views during the assessment of the statistics
- presentations at conferences such as the British Society for Population Studies conference; and
- people who contact the Office for National Statistics directly

A summary of feedback from the people who use our statistics and our response to specific points is available in a user experience document.

Sources for further information or advice

Accessibility and clarity
(Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the release details, illustrations and accompanying advice.)

Our recommended format for accessible content is a combination of HTML web pages for narrative, charts and graphs, with data being provided in usable formats such as CSV and Excel. Our website also offers users the option to download the narrative in PDF format. In some instances other software may be used, or may be available on request. Available formats for content published on our website but not produced by us, or referenced on our website but stored elsewhere, may vary. For further information please refer to the contact details at the beginning of this document.

For information regarding conditions of access to data, please refer to the links below:
- terms and conditions (for data on the website)
- accessibility

Links from the GOV.UK statistics release calendar make the release date and location of each new set of estimates clear. The families and households estimates can be downloaded free of charge in Excel format. The data tables are also available to download. A statistical bulletin will accompany each publication. Supporting documentation is also available on the families and households estimates page.

Other data not published online may be available by emailing us at pop.info@ons.gsi.gov.uk . Metadata describing the limits of data from more detailed tables are provided with each individual request. Most queries can be answered using our datasets or supporting methods documents. Any other enquiries regarding the families and households estimates can be made by emailing pop.info@ons.gsi.gov.uk.

In addition to this Quality and Methodology Information, quality information relevant to each release is available in the statistical bulletins.

Useful links

Families and households estimates page for links to:
Data tables
Statistical bulletin

Labour Force Survey (LFS) user guidance