

Summary Quality Report for Household Income and Expenditure Analysis: The effects of taxes and benefits on household income

1 Introduction

This report is part of a rolling programme of quality reports being introduced by the Office for National Statistics (ONS). The full programme of work being carried out on [Statistical Quality](#)¹ is available on the National Statistics website. Summary Quality Reports are overview notes which pull together key qualitative information on the various dimensions of quality as well as providing a summary of methods used to compile the output.

This report relates to statistics for [The Effects of Taxes and Benefits on Household Income \(ETB\)](#)² and aims to provide users with information on the usability and fitness for purpose of these estimates.

[ETB](#)² is published annually and is based on data from the [Living Costs and Food survey \(LCF\)](#)³. Appendix 2 of the most recent publication provides details of the methods and terminology used in compiling [ETB](#)².

2 Summary of Quality

2.1 Relevance

The degree to which the statistical product meets user needs for both coverage and content.

[ETB](#)² has been produced by the ONS since 1957 making it one of ONS's longest standing outputs. Its main purpose is to provide quantitative analysis of the effects of government intervention (through taxes and benefits) on the income of households in the UK.

The data cover the UK as a whole; there are currently no published estimates at a regional level. [ETB](#)² does provide estimates for retired (and non-retired) households.

These data are used to provide information for policy makers and analysts. The main users of these data, in Government, are [HM Treasury](#)⁴, [Department for Work and Pensions \(DWP\)](#)⁵ and [HM Revenue and Customs](#)⁶. Outside Government, research organisations and academia use the data in their work on income distribution.

2.2 Accuracy

The closeness between an estimated result and the (unknown) true value.

As the [LCF](#)³ is a sample survey, population values estimated from the survey are subject to sampling error. Sampling error arises from the fact that the sample generally will not reproduce the population values exactly. The extent to which any given selected sample does not reproduce sample values depends upon random chance factors underlying selection. The standard error is a measure of the extent to which population estimates drawn from the sample differ from the true population value being estimated. A large sample size will produce a lower standard error because there are fewer missing data elements contributing to the difference between the sample and the population.

Aside from sampling error, recording household income through a survey is not easy, particularly where the complexities of the tax and benefit system are concerned. Consequently there will also be a significant amount of non-sampling error attached to some estimates. Non-sampling error includes the effects of measurement error (such as respondents making mistakes in their responses), non-response error (for example, if certain types of households are less likely to respond than others) and issues relating to the selection of the sampling frame.

2.3 Timeliness and Punctuality

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

[ETB](#)² data are published each summer with a one year lag. For instance, 2007/08 data were first published in summer 2009.

Notification of the exact date on which these data are published each year is made public approximately three months beforehand via the [National Statistics Release Calendar](#)⁷. To date, publication of these data has occurred without delay.

In the unlikely event of a change to the pre-announced release schedule, public attention should be drawn to the change and the reasons for the change should be explained fully at the same time, as set out in the [Code of Practice for Official Statistics](#)⁸.

2.4 Accessibility and Clarity

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

[ETB](#)² data and text are presented in as clear a way as possible to ensure access to as wide a range of readers as possible. Data are available in excel tables. Where technical terms are used, these are explained to users in the text. Additionally, an appendix provides information about the methodology and any underlying assumptions.

The data are also deposited with the [UK Data Archive](#)⁹.

Queries about [ETB](#)² can be made directly to the team by calling +44(0)1633 455951.

2.5 Comparability

The degree to which data can be compared over time and domain.

The results in all analyses are intended to be free standing: they were not designed for direct comparison with other years except where some limited comparisons were made in them. Such comparisons are difficult because of changes in definitions; however, some broad measures (for example, [Gini coefficients](#)¹⁰) are relatively robust and can be compared across years. Additionally, in December 2008 a relatively consistent time series was published for the period 1977 to 2006/07.

2.6 Coherence

The degree to which data that are derived from different sources or methods, but which refer to the same phenomenon, are similar.

The output complements analysis by the DWP of [Households Below Average Income \(HBAI\)](#)¹¹, published annually. [HBAI](#)¹¹ which is based on the Family Resources Survey provides statistics on household income and the number and characteristics of low income households. This output provides more detailed information about sources of income, and the way that taxes and benefits redistribute income. There is some overlap between [HBAI](#)¹¹ and this output. Where this is the case, the two outputs are broadly consistent in terms of the main messages and trends. However, they are based on different household surveys, and therefore there will inevitably be some differences between the figures appearing in the two outputs.

3 Summary of Methods Used to Compile the Output

There are considerable difficulties in moving from estimates of government expenditure and financing published in the [United Kingdom National Accounts - Blue Book 2009](#)¹², to

apportioning taxes and benefits to individual households. It is possible to get information about the types of household that receive benefits and pay taxes through the [LCF](#)³. But there are other kinds of financing, such as corporation tax and government receipts from public corporations: no attempt is made in this analysis to apportion them to households because it would be too difficult. Similarly, there are other items of government expenditure, such as capital expenditure and expenditure on defence and on the maintenance of law and order, for which there is no clear conceptual basis for allocation to households, or for which we do not have sufficient information to make an allocation.

The estimates in this analysis are based mainly on data derived from the [LCF](#)³. The number of households in Great Britain responding to the [LCF](#)³ in 2007 was 5,545 (about 1 in every 4,600 households). The response rate was 53 per cent. An additional sample of 572 households covers Northern Ireland. The results in the analysis are weighted so that statistics represent the total population in private households in the UK. This process also takes account of households that do not respond to the survey, based on 2001 Census data.

The basic unit of analysis used is the household. The starting point of the analysis is original income. This is the annualised income in cash of all members of the household before the deduction of taxes or the addition of any state benefits. The next stage of the analysis is to add cash benefits and tax credits to original income to obtain gross income. Income tax, council tax and Northern Ireland rates, and employees' and self-employed National Insurance contributions are then deducted to give disposable income. The next step is to deduct indirect taxes to give post-tax income. Finally, the analysis adds benefits which are provided 'in kind' to households by government for which there is a reasonable basis for allocation to households, to obtain final income. These 'in kind' benefits include the provision of education, health services and subsidised travel and housing.

The households are ranked by their equivalised disposable income, which the analysis uses as a proxy for standard of living. Equivalisation is a process that adjusts households' incomes to take account of their size and composition, to recognise that this affects the demand on resources. For example, a couple with a child would need a higher income than a childless couple for the two households to achieve the same standard of living. The equivalence scale used in this analysis is the [McClements scale](#)¹³.

4 References

	Title of Reference	Website Location
1	Statistical Quality	http://www.ons.gov.uk/about-statistics/methodology-and-quality/quality/index.html
2	The Effects of Taxes and Benefits on Household Income (ETB)	http://www.statistics.gov.uk/STATBASE/Product.asp?vlnk=10336
3	Living Costs and Food Survey	http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=361
4	HM Treasury	http://www.hm-treasury.gov.uk/
5	Department for Work and Pensions	http://www.dwp.gov.uk/
6	HM Revenue and Customs	http://www.hmrc.gov.uk/index.htm
7	National Statistics Release Calendar	http://www.statistics.gov.uk/ReleaseCalendar
8	Code of Practice for Official Statistics	http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html
9	UK Data Archive	http://www.data-archive.ac.uk/search/indexSearch.asp?ct=xmISn&q1=33299
10	Gini coefficients	http://www.statistics.gov.uk/about/methodology_by_theme/gini/default.asp
11	Households Below Average Income	http://research.dwp.gov.uk/asd/hbai_arc.asp
12	United Kingdom National	http://www.statistics.gov.uk/statbase/Product.asp?vlnk=1143&More=N

	Accounts - Blue Book 2009	
13	McClements scale	http://www.ons.gov.uk/about-statistics/harmonisation/secondary-concepts-and-questions/S4.pdf

Date of Publication: January 2010