

Assessment of compliance with the Code of Practice for Official Statistics

Small Area Income Estimates for England and Wales

(produced by the Office for National Statistics)

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About the UK Statistics Authority

The UK Statistics Authority is an independent body operating at arm's length from government as a non-ministerial department, directly accountable to Parliament. It was established on 1 April 2008 by the *Statistics and Registration Service Act 2007*.

The Authority's overall objective is to promote and safeguard the production and publication of official statistics that serve the public good. It is also required to promote and safeguard the quality and comprehensiveness of official statistics, and good practice in relation to official statistics.

The Statistics Authority has two main functions:

1. oversight of the Office for National Statistics (ONS) – the executive office of the Authority;
2. independent scrutiny (monitoring and assessment) of all official statistics produced in the UK.

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ASSESSMENT AND DESIGNATION

The *Statistics and Registration Service Act 2007* gives the UK Statistics Authority a statutory power to assess sets of statistics against the *Code of Practice for Official Statistics*.

Assessment will determine whether it is appropriate for the statistics to be designated as National Statistics.

Designation as National Statistics means that the statistics comply with the *Code of Practice*. The *Code* is wide-ranging. Designation can be interpreted to mean that the statistics: meet identified user needs; are produced, managed and disseminated to high standards; and are explained well.

Designation as National Statistics should not be interpreted to mean that the statistics are always correct. For example, whilst the *Code* requires statistics to be produced to a level of accuracy that meets users' needs, it also recognises that errors can occur – in which case it requires them to be corrected and publicised.

Assessment reports will not normally comment further on a set of statistics, for example on their validity as social or economic measures. However, reports may point to such questions if the Authority believes that further research would be desirable.

Assessment reports typically provide an overview of any noteworthy features of the methods used to produce the statistics, and will highlight substantial concerns about quality. Assessment reports also describe aspects of the ways in which the producer addresses the 'sound methods and assured quality' principle of the *Code*, but do not themselves constitute a review of the methods used to produce the statistics. However the *Code* requires producers to "seek to achieve continuous improvement in statistical processes by, for example, undertaking regular reviews".

The Authority may grant designation on condition that the producer body takes steps, within a stated timeframe, to fully meet the *Code's* requirements. This is to avoid public confusion and does not reduce the obligation to comply with the *Code*.

The Authority grants designation on the basis of three main sources of information:

- i. factual evidence and assurances by senior statisticians in the producer body;
- ii. the views of users who we contact, or who contact us, and;
- iii. our own review activity.

Should further information come to light subsequently which changes the Authority's analysis, it may withdraw the Assessment report and revise it as necessary.

It is a statutory requirement on the producer body to ensure that it continues to produce the set of statistics designated as National Statistics in compliance with the *Code of Practice*.

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1 Summary of findings

1.1 Introduction

1.1.1 This is one of a series of reports¹ prepared under the provisions of the *Statistics and Registration Service Act 2007*². The Act requires all statistics currently designated as National Statistics to be assessed against the *Code of Practice for Official Statistics*. The Act also allows the National Statistician to request an assessment of other official statistics in order for them to gain National Statistics status. This report is in response to such a request; it covers the set of statistics, *Small Area Model-Based Income Estimates*³ (SAIE), produced by the Office for National Statistics (ONS).

1.1.2 Section 3 of this report adopts an ‘exception reporting’ approach; this abbreviated style of report reflects the Head of Assessment’s consideration of aspects of risk and materiality⁴. The Assessment team nonetheless assessed compliance with all parts of the *Code of Practice*.

1.1.3 This report was prepared by the Authority’s Assessment team, and approved by the Board of the Statistics Authority on the advice of the Head of Assessment.

1.2 Decision concerning designation as National Statistics

1.2.1 The Statistics Authority judges that the statistics covered by this report are readily accessible, produced according to sound methods and managed impartially and objectively in the public interest. The Statistics Authority confirms that the statistics published in *Small Area Model-Based Income Estimates* can be designated as new National Statistics.

1.3 Summary of strengths and weaknesses

1.3.1 ONS engages users through a variety of formal and informal methods in seeking their views about the statistics. Its development of methods was informed by user feedback; it recently published information about users’ views and experiences that informed its methodological developments.

1.3.2 ONS undertook in-depth research to develop a method to produce model-based estimates of weekly household income, which are not available for small areas from other official sources. It produced a detailed technical report and user guide to provide explanatory material on the methods and on the quality and reliability of the estimates.

¹ <http://www.statisticsauthority.gov.uk/assessment/assessment-reports/index.html>

² http://www.opsi.gov.uk/Acts/acts2007/pdf/ukpga_20070018_en.pdf

³ <http://www.neighbourhood.statistics.gov.uk/dissemination/Info.do;jsessionid=d6ZpTynfwkqWJmFrC002zJ2lyFL0YKnLFCm8zDTY6K606tcL2d7X!-1930910657!1319643007962?m=0&s=1319643007962&enc=1&page=analysisandguidance/analysisarticles/small-area-model-based-income-estimates.htm&nsjs=true&nsck=true&nssvg=false&nswid=1020>

⁴ <http://www.statisticsauthority.gov.uk/assessment/assessment/guidance-about-assessment/criteria-for-deciding-upon-the-format-of-an-assessment-report.pdf>

1.3.3 ONS publishes the estimates on the Neighbourhood Statistics website in online data tables, supported by comprehensive metadata documents and commentary. It has additionally published a detailed analysis article.

1.4 Detailed recommendations

1.4.1 The Assessment team identified areas where it felt that ONS could strengthen its compliance with the *Code*. ONS addressed these issues through the course of assessment in discussion with the Assessment team.

2 Subject of the assessment

- 2.1 ONS produced the model-based estimates of mean household income to meet a user need for income estimates at a local level, on boundaries consistent with the 2001 Census. Neither the 2001 nor the 2011 censuses included an income question. The geographical coverage is England and Wales.
- 2.2 The estimates were first published in 2003, when the statistics for income in 1998/99 were produced at ward level. The 2001/02 income estimates were also produced at ward level. The geography classification was changed to middle-layer super output area⁵ (MSOA) level for the income estimates produced for 2004/05 and for 2007/08, in line with the new ONS geography policy.
- 2.3 ONS produces four measures of mean weekly household income: total; net; equivalised⁶ before house costs; and equivalised after housing costs. The method for producing the estimates involves combining data from the Family Resources Survey (FRS) with relevant administrative data sources (including benefit claimant counts, council tax bandings and tax credit claims). ONS produces a model which describes the relationship between the survey and administrative data. It then applies this relationship to the administrative sources at the small area level to produce estimates of weekly household income. ONS constrains the regional income estimates to the equivalent FRS regional statistics.
- 2.4 The estimates are published around every three years, a frequency which ONS considers appropriate in terms of the production costs, the quality of the estimates, and the expected use of these statistics. ONS publishes the estimates⁷ in tables using the Neighbourhood Statistics dissemination tool⁸. It also presents the estimates using an online interactive map⁹. It published some commentary and guidance alongside the 2007/08 estimates, within a technical report¹⁰ and a user guide¹¹. It subsequently published an article giving a detailed analysis of spatial differences in weekly household income¹² and a brief explanation of rural/urban differences using the MSOA estimates¹³.
- 2.5 There is no national or international legal requirement to produce these statistics. Equivalent figures are not produced for Scotland or Northern Ireland. The costs for producing these estimates are predominantly staffing resource,

⁵ <http://www.neighbourhood.statistics.gov.uk/dissemination/Info.do?page=nessgeography/superoutputareasexplained/output-areas-explained.htm>

⁶ Equivalised income means that the household income values have been adjusted to take into consideration the household size and composition

⁷ <http://www.neighbourhood.statistics.gov.uk/dissemination/Info.do?page=analysisandguidance/analysisarticles/income-small-area-model-based-estimates-200708.htm>

⁸ <http://www.neighbourhood.statistics.gov.uk/dissemination/>

⁹ <http://www.neighbourhood.statistics.gov.uk/HTMLDocs/incomeestimates.html>

¹⁰ Technical report: see footnote 7

¹¹ User guide: see footnote 7

¹² <http://www.neighbourhood.statistics.gov.uk/dissemination/Info.do?page=analysisandguidance/analysisarticles/understanding-income-at-small-area-level.htm>

¹³ <http://www.neighbourhood.statistics.gov.uk/dissemination/Info.do?page=analysisandguidance/analysisarticles/understanding-income-at-small-area-level-a-rural-urban-approach.htm>

given that these estimates reuse existing data sources. ONS told us that it costs approximately £27,500 to produce these estimates each time.

- 2.6 The statistics are used by the NHS to assess the relationship between income and health, by local government for service planning and delivery, by central government departments for policy development and monitoring and briefing for ministers and Parliament, by private business to inform marketing strategies and by members of the public to find out about local levels of income.

3 Assessment findings

- 3.1 ONS consulted users during the development of SAIE and more recently as part of the ONS review of its statistical work programme. It also consulted users regarding the possible inclusion of an income question within the 2001 and 2011 censuses. ONS also has informal contact with users. In response to advice from the Assessment team, ONS recently published¹⁴ user feedback about the small area income estimates and ONS's views about potential areas for further development.
- 3.2 ONS published a detailed technical report, validation report, user guide and summary quality report¹⁵ alongside the estimates for 2007/08. The statistics release, user guide and the technical report include confidence intervals for the estimates. These documents provide detailed explanations of the methods and quality of the model-based estimates. Following advice from the Assessment team, ONS has recently extended the background information to explain the impact of the known under-reporting in the FRS of the receipt of benefits on the small area income estimates.
- 3.3 Some users told us that they find the statistics of limited value as they aren't sufficiently timely, with a long delay between the reference period and publication, and they are produced infrequently. ONS is aware of the user interest in more frequent and timely estimates but told us that, due to the nature of the modelling method, estimates of small changes in income levels for the small areas are not reliable. Users were also interested in obtaining income estimates for smaller areas such as lower-layer super output areas (LSOAs). ONS told us that the current method doesn't support the production of sufficiently accurate estimates for areas smaller than MSOAs. In response to advice from the Assessment team, ONS has produced a document setting out its plans for developing the small area income estimates and highlighting how it will involve users. ONS told us that it intends to publish the plan shortly.
- 3.4 ONS provides a brief introduction to the estimates in its summary commentary but this does not set out the main findings, such as giving a description of variations over time or by area. Following advice from the Assessment team, ONS provided clearer signposting to its commentary in the user guide and technical report. It has published an article in *Regional Trends*¹⁶ that provides helpful commentary on the use of the estimates. ONS has reassured the Authority that it will provide commentary and analysis that aids interpretation alongside the next release of statistics. We suggest ONS consider the points detailed in annex 2.

¹⁴ Uses, feedback and future development: see footnote 7

¹⁵ Summary quality information: see footnote 7

¹⁶ <http://www.neighbourhood.statistics.gov.uk/dissemination/Info.do?page=analysisandguidance/analysisarticles/understanding-income-at-small-area-level.htm>

Annex 1: Suggestions for improvement

A1.1 This annex includes a suggestion for improvement to ONS's small area income estimates, in the interest of the public good. This is not formally required for designation, but the Assessment team considers that its implementation will improve public confidence in the production, management and dissemination of official statistics.

Suggestion 1

Consider the points detailed in annex 2, in seeking to further improve the statistical releases (para 3.4).

Annex 2: Compliance with Standards for Statistical Releases

- A2.1 In October 2010, the Statistics Authority issued a statement on *Standards for Statistical Releases*¹⁷. Whilst this is not part of the *Code of Practice for Official Statistics*, the Authority regards it as advice that will promote both understanding and compliance with the *Code*. In relation to the statistical releases associated with the small area income statistics, this annex comments on compliance with the statement on standards.
- A2.2 In implementing any Requirements of this report (at paragraph 1.5) which relate to the content of statistical releases, we encourage the producer body to apply the standards as fully as possible.

Appropriate identification of the statistics being released

- A2.3 The introductory text doesn't describe the coverage of the release, although it does include the period to which the statistics relate. The commentary refers to previous estimates (2001/02 and 2004/05) but doesn't make an explicit statement about how frequently the estimates are produced nor when the statistics are compiled. The *SA/E* web page shows the ONS logo at the top of the page and the name and contact details for the responsible statistician. The web page lists a series of links to the related material, including the online data tables, summary commentary and metadata.

Include commentary that is helpful to the non-expert and presents the main messages in plain English

- A2.4 The summary commentary for the 2007/08 estimates doesn't highlight the main messages. The explanation of the statistics is very brief. It states which regions¹⁸ had the highest and lowest income levels and illustrates the differences across the North East region. It doesn't comment on other regions, trends or changes over time, or comparisons between regions. A bar chart shows the differences between Government Office Regions and Wales and a map shows the income bands in the North East by colour. No other charts or maps are included in the release.
- A2.5 The language used in the summary commentary is straightforward. ONS doesn't give the definition of the measure, weekly average of gross or 'total' household income (unequalised), but gives a link to the user guide, which explains technical terms.
- A2.6 The technical report and user guide both contain more commentary than *SA/E*, including geographic and period comparisons. These documents include maps, charts and tables showing total and net weekly income, before and after housing costs, for the English Government Office Regions and Wales. ONS

¹⁷ <http://www.statisticsauthority.gov.uk/news/standards-for-statistical-releases.html>

¹⁸ ONS constrains the regional income estimates to the equivalent FRS regional statistics

subsequently published detailed analysis and commentary in a *Regional Trends* article¹⁹.

A2.7 The summary commentary has a brief outline of the types of users and uses of the statistics. The user guide refers to user demands but does not say why the statistics are needed. ONS recently published a paper on uses and users of these statistics.

Use language that is impartial, objective and professionally sound

A2.8 The commentary is impartial. The descriptions of patterns in the technical report and user guide are professionally sound. The summary commentary doesn't explain sampling and non-sampling variability but provides links to the confidence intervals relating to these statistics.

Include information about the context and likely uses

A2.9 The technical report gives an outline of the context in which the statistics have been produced and will be used. A separate summary quality report includes comments on the quality of the statistics. This document includes guidance on use and interpretation. The user guide sets out the limitations of the estimates.

Include, or link to, appropriate metadata

A2.10 The technical report explains the limitations of the various data sources and method, and plots the confidence intervals around the estimates. The user guide includes information about sources, methods and definitions.

A2.11 While *SAIE* is the only source of small area weekly household income estimates, ONS conducted validation checks to see the degree of consistency with other types of income statistics, such as the income domain of the Index of Multiple Deprivation, and published the results of this. It has also carried out a comparison of income data sources, some of which cover the UK and the EU, and has created a document which highlights the strengths and weaknesses of these sources. ONS told us that it plans to publish this.

A2.12 The level at which estimates are produced changed from wards in 2001/02 to MSOAs in 2004/05. Changes to the geography were explained on the website and in the technical report.

A2.13 The statistics are not subject to scheduled revisions.

¹⁹<http://www.neighbourhood.statistics.gov.uk/dissemination/Info.do?page=analysisandguidance/analysisarticles/understanding-income-at-small-area-level.htm>

Annex 3: Summary of assessment process and users' views

A3.1 This assessment was conducted from June to November 2011.

A3.2 The Assessment team – Penny Babb and Emma Bowditch – agreed the scope of and timetable for this assessment with representatives of ONS in June. The Written Evidence for Assessment was provided on 22 June 2011. The Assessment team subsequently met ONS during September to review compliance with the *Code of Practice*, taking account of the written evidence provided and other relevant sources of evidence. These included the steps taken by ONS to: extend its explanatory information on limitations of FRS data; improve the signposting to commentary; and, publish user feedback.

Summary of users contacted, and issues raised

A3.3 Part of the assessment process involves our consideration of the views of users. We approach some known and potential users of the set of statistics, and we invite comments via an open note on the Authority's website. This process is not a statistical survey, but it enables us to gain some insights about the extent to which the statistics meet users' needs and the extent to which users feel that the producers of those statistics engage with them. We are aware that responses from users may not be representative of wider views, and we take account of this in the way that we prepare assessment reports.

A3.4 The Assessment team received 11 responses from the user consultation. The respondents were grouped as follows:

ONS	1
Central government	3
Devolved administration	2
Local government	2
Commercial	1
Academic	1
Other	1

A3.5 Users reported using the estimates in: monitoring policies, such as with low income families; assessing the impact of spending cuts; helping to validate other data sources, and as a guide to variability of average household income across regions.

A3.6 For some the usefulness of the estimates was limited by their infrequent publication and the geographic level which they relate to. Several users said that they would like data for even smaller area levels such as LSOA or postcodes, and to have estimates of the income distribution for small areas, as well as the average. Users were also keen to have data presented by different characteristics of the population such as children in households, work status of adults, and by household tenure.

A3.7 Users were satisfied with their engagement with the producer team, where they have had contact through asking questions or via consultations. Users were

generally satisfied with the access to and presentation of the statistics. However, one user said that it would be helpful to have a guide about how to use the statistics, which suggests that they were unaware of the *SAIE* user guide.

Key documents/links provided

Written Evidence for Assessment document

