

# Monitoring Review

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## *The Coherence and Accessibility of Official Statistics on Income and Earnings*

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## Chapter 1 Introduction

- 1.1 Few issues are as important to so many people as the income they receive. And yet few issues are as complex to illustrate, using official statistics, in ways that are understandable. Understanding trends in levels of income and earnings in society is an essential factor in understanding trends in living standards and being able to develop policy in an informed way.
- 1.2 There are numerous sources of official statistics on income and earnings, and these are produced by different government departments. The statistics are derived from a variety of different data sources, including both administrative and survey data. The derived statistics are analysed and presented in different ways reflecting the data source and the purpose of the analysis.
- 1.3 This Review considers the way in which official statistics about income and earnings, and their components, are presented, with a particular focus on:
  - **Coherence** – the extent to which official statistics drawn from different sources, and about different components of income and earnings, complement one another; also, whether there are any significant gaps in the statistical picture.
  - **Accessibility** – the extent to which users of official statistics on income and earnings are able to find, understand and use the statistics; and whether related statistics are presented in ways that help users to understand the interrelationships.

### Structure of the report

- 1.4 **Chapter 2** of this report presents a summary of the official statistics included within the Review's scope. **Annex 2** provides a more detailed description of each official statistic, including key features of each, such as:
  - the data source on which the statistic is based
  - the statistic's coverage
  - the reference periods presented
  - frequency of publication
  - the headline measures presented
  - an appraisal of the guidance on the strengths and limitations of each statistic**Annex 2** is not intended to provide a guide to these sources, but to summarise key features of each source.
- 1.5 **Chapters 3 and 4** discuss the conceptual issues that users face and advice they need when attempting to analyse official statistics on income and earnings. They also present our findings, based on our consultations with a range of users of official statistics on income

and earnings (listed in **Annex 1**). The findings include what users want from official statistics, and related concerns highlighted by them.

- 1.6 **Chapter 5** considers the longer-term development of income and earnings statistics, presents potential solutions to the concerns identified in earlier chapters, and sets out principles that should be followed to achieve these longer-term ambitions.

## Summary, findings and recommendations

- 1.7 It is clear that **measuring income and earnings is not straightforward**. The complexity is due to a variety of reasons. There are different ways of defining income and earnings, and there are also alternative sources of information, including surveys of employers and employees, and analysis of tax records. Moreover, society and the economy are constantly changing, and statisticians face the challenge of trying to measure an evolving phenomenon. As a result of this constant change, average measures of income and earnings can give a misleading picture where the population is growing and where there are significant differences in the experiences of different cohorts within society. The constant change gives rise to new demands for different kinds of analysis, to which statisticians must respond. We find that **statisticians across the Government Statistical Service (GSS) have often addressed these challenges in a thoughtful way**, and that the individual statistical series they produce meet defined user needs. There is a real opportunity for statisticians to enhance the value of their statistics and deliver improvements across the statistical system.

- 1.8 Against this background of complexity, we conclude that:

- **There is a wide range of official income and earnings statistics.** We identified 15 different statistical reports that report on aspects of income and earnings for UK households and individuals. These statistics are produced by different departments on different bases over different time periods.
- **This range of income and earning statistics could be more coherent and comprehensive.** Each individual statistic plays an important and valuable role for a defined user community. But such a diffuse system does not always keep pace with changes in the structure of the economy, such as the increase in self-employment, which are often masked by an emphasis on average measures of income and earnings. There are differences between the statistics that are not always well explained, and which therefore create a confusing picture for users, and it is difficult to obtain an overall view of the key factors in and movements of income and earnings statistics. There is scope for statistical producers to make more of what is currently available.
- **Accessibility of the statistics could be improved.** It is not always easy for users to access the key income and earnings statistics. In particular, we encourage improvements in methodological guidance, links between statistics, and in the access to the underlying datasets ('microdata') for research purposes. There is also a clear need for a single explanatory guide to official statistics on income and earnings.

1.9 We recognise that addressing these concerns is difficult, solutions are complex and may take time to develop, and that statisticians are already seeking to address some of the issues. **Chapters 3 and 4** present examples of some recent developments by statistical producers to improve coherence and accessibility, and we note that other work is in train. In particular, we welcome:

- The development of a user guide by Office for National Statistics (ONS), Department for Work and Pensions (DWP) and Her Majesty's Revenue and Customs (HMRC).
- ONS's development work exploring the differences between the Annual Survey of Hours and Earnings (ASHE) and Average Weekly Earnings (AWE), which is due to be published in 2015.
- The exploration by ONS and others of nowcasting – developing more timely data by drawing on a range of sources rather than relying on the creation of official statistics from structured data collection exercises like surveys.
- Greater use of the estimates of Household Disposable Income (a component of the ONS National Accounts) to give insight into household income at both the aggregate and individual level.

1.10 In the light of these positive future developments, **our main recommendations** are that:

- The GSS, under the leadership of the National Statistician, should engage with a range of stakeholders to develop solutions to address the timeliness of statistics on income from self-employment.
- Statistical producers should consider how best to provide users with more themed analyses in a way that remains current and sustainable. This might take the form of an annual publication, supplemented by producing a regular series of analysis and articles.
- Producers and users should work together to improve accessibility to the wide range of statistics available and their underpinning data, and to improve guidance on their strengths and limitations, particularly in relation to their use.

**Table 1** below presents our more detailed findings and recommendations of actions that should be taken by the producers of official statistics in the immediate term.

### ***Further development of income and earnings statistics***

1.11 We recognise that we have not addressed a range of important aspects of income and earnings statistics in this report, including international comparisons (what do other countries do?) and the work of statisticians outside the GSS who produce estimates of income and earnings (what do others in the UK do?). This is because we focussed on the perspective of UK users of UK official statistics. Our intention is to invite producers of statistics to come together and create a programme of improvement to address the systemic issues we identify – and to prioritise our recommendations into those for immediate action. We look forward to working with them as they develop this programme.

- 1.12 We also note that one of our principal recommendations – that there should be an annual summary or compendium drawing together a coherent picture from the range of income and earnings statistics – aligns well with the findings of the *Review of UK Consumer Price Statistics*<sup>1</sup>, led by Paul Johnson, published on 8 January 2015. This report recognises that individuals and different groups experience different rates of inflation depending on what they buy, and discusses the merits of measuring this to help to understand living standards for different groups. The review recommends that ‘ONS should develop an annual analytical publication that produces inflation indices as experienced by a range of different household types, along with appropriate advice on what income measures these analytical indices can be compared to.’ Addressing the second part of the recommendation could be facilitated by an annual analytical publication that includes comparable income and earnings data.
- 1.13 In the longer term, we recognise that the current system is not ideal, with its multiple measures from different statistical producers on different bases with different levels of accessibility. But we do not propose a wholesale overhaul of the current system, because of the costs that would entail, the loss of time series data, and the fact that each individual series provides valuable insights. Instead, we conclude that to achieve a transformation in coherence and accessibility, the statistical system needs to rethink the way it operates from within – to seize opportunities for improvement and to generate innovative ways of evolving the current system. We set out four principles that should underpin this rethinking:
- serving the public
  - involving users as a resource
  - utilising new sources of data
  - cultivating a spirit of curiosity
- 1.14 In addition, and in light of these findings, the Director General for Regulation will consider which National Statistics included within this Review’s scope will merit a re-assessment, as part of the 2015/16 Programme of Assessment.
- 1.15 We would like to acknowledge the input from all the users of official statistics who contributed to this Review. Users who provided detailed insight and advice are listed in **Annex 1**. We would also like to thank staff at ONS, DWP and HMRC who supported the Review. This Review benefited from the detailed advice and input from Robert Joyce of the Institute for Fiscal Studies (IFS), who was a core member of our team, and the review comments of Jonathan Cribb of IFS and Jonathan Portes of the National Institute of Economic and Social Research.

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<sup>1</sup> <http://www.statisticsauthority.gov.uk/reports---correspondence/current-reviews/uk-consumer-price-statistics---a-review.pdf>

**Table 1: Summary of Findings and Recommendations**

	<b>Findings</b>	<b>Recommendation</b>
<b>Answering the questions posed by an increasingly complex and diverse society (paras 3.5 to 3.11)</b>		
1	Meeting user needs is not always about collecting more data – users point to the need for a more coherent and consistent approach across official statistics, more creative application of what already exists and providing better access and information to help users to help themselves. This is in keeping with the Statistics Authority's Strategy.	<u>We recommend</u> that statisticians should consider whether the statistical outputs they are producing are keeping pace with a changing society and help to tell the story, engaging with users to inform their reflections. They also need to consider how to supplement average measures with other indicators of income and earnings ( <b>para 3.11</b> ).
2	Official statistics need to be presented in such a way that they respond to greater user demand to help to answer questions about an increasingly complex and diverse society. Statistical producers need to consider whether their statistics are as helpful as they can be and demonstrate a desire to enhance their usefulness ( <b>para. 3.11</b> ).	
<b>Meeting growing demand for statistics about the self-employed (paras 3.12 to 3.20)</b>		
3	There is a clear user need for more robust and timely statistics on income relating to self-employment. Without this, the picture of the labour market is only partial, and does not reflect the extent of the changing composition of the employment in the UK. We recognise the challenges associated with addressing this gap, and that the solution is not straightforward ( <b>para. 3.20</b> ).	<u>We recommend</u> that the GSS, under the leadership of the National Statistician, continues to engage with this debate and works to develop a swift solution to address this gap in official statistics. Users are keen to contribute to these discussions that could be convened in the form of an expert group ( <b>para. 3.20</b> ).
<b>Examining distributions and the extremes of income and earnings (paras 3.21 to 3.24)</b>		
4	Users highlighted difficulties in carrying out analysis at the upper and lower end of the income distribution. There is a user need for statistical publications and supporting guidance to present more information on distributions.	
<b>Recognising coherence between different sources and explaining differences (paras 3.25 to 3.34)</b>		
5	Official statistics include only limited explanation of the differences between different but related statistics. This can present issues of inconsistency as well as incoherence, which can have an adverse impact on user confidence in the statistics. The most striking example is the differences between ASHE and AWE, which are not explained. The Authority considers this to be a serious shortcoming	<u>We recommend</u> that ONS develops and publishes its analysis plan as a matter of priority, setting out its intention in 2015 and beyond to answer key questions posed by users in relation to ASHE and AWE; we would encourage ONS to seek appropriate channels to communicate this plan, to ensure that key users

	(para. 3.31).	outside government are sufficiently engaged and have an opportunity to shape this development in the future (para. 3.32).
6	There is a lack of producer guidance that provides an explanation of reasons for differences between statistical outputs that measure similar aspects of income and earnings (para. 3.34).	<u>We recommend</u> that statistical producers do more to explain and quantify how methodological differences between related statistics contribute to the different results, and present advice on whether one measure is preferable to another for a particular use (para. 3.34).
<b>Presenting better and more relevant income and earnings statistics for households and individuals (paras 3.35 to 3.37)</b>		
7	Users have different needs in relation to the types of preferred measures presented in statistics on income and earnings. Some users have a strong interest in measures at a household level, in order to explore topical household level themes. Other users are more concerned about measures relating to individuals.	
<b>Communication of detailed assumptions and methodology (paras 3.38 to 3.40)</b>		
8	User feedback throughout this Review has highlighted the need for statistical producers to ensure that any supporting guidance on the assumptions and methodology underpinning these statistics goes beyond simply listing the processes involved in deriving the statistics (para. 3.40).	<u>We recommend</u> that statistical producers review their guidance to ensure that it: <ul style="list-style-type: none"> <li>a. presents the relative strengths and limitations of the different official income and earnings statistics, particularly in relation to their use</li> <li>b. presents sufficient detail of the assumptions that underpin the statistics, suitable for expert users, and on the underlying data sources</li> <li>c. summarises the key assumptions, to aid accessibility to less-expert users (para. 3.40).</li> </ul>
<b>Adding value by bringing official statistics together (para. 3.41)</b>		
9	Government statisticians should add value by bringing official statistics on income and earnings together to present a more coherent picture of trends in the UK. This could also draw on related analysis and research from outside government. There is also a user need for access to more thematic publications that include analysis of areas of emerging interest (para. 3.41).	

<b>Identifying the overall picture (paras 3.42 to 3.47)</b>		
10	There is a lack of information that identifies the overall picture in trends in income and earnings, that sets out what official statistics are available, when they are published, and if they complement one another ( <b>para. 3.42</b> ).	<u>We recommend</u> that statistical producers consider how best to provide users with more themed analyses in a way that remains current and sustainable; we suggest that this could be addressed by the publication of an annual compendium, supplemented by a regular series of analysis and articles. We consider that these analyses should present statistics for different groups and levels and help users to answer key policy questions ( <b>para. 3.47</b> ).
11	ONS has been working in collaboration with other statistical producers including DWP, BIS and HM Treasury to publish a one-off analysis article that will explore trends in income and earnings. Despite initial plans to publish this analysis in early 2015, this work has been impacted by a lack of resources in several departments. There is hope to re-energise this work, with ONS possibly taking a leadership role. ( <b>para. 3.44</b> ).	
12	ONS is keen to explore the value of estimates of household disposable income (HHDI), produced as part of the National Accounts, to develop more-timely estimates of income at an economy-wide level. ( <b>para. 3.45</b> ).	<u>We recommend</u> that ONS explores the value of developing existing estimates of household disposable income in providing more timely estimates of income ( <b>para. 3.45</b> ).
<b>Identifying which statistics best meet different needs (paras 3.48 to 3.52)</b>		
13	Users identified a clear need for better information about the relative strengths and limitations of the different official statistics on income and earnings, and in particular, guidance about what statistics would best serve different user needs, and the relationships between statistics ( <b>para. 3.49</b> ).	<u>We recommend</u> that future versions of the guide to official income and earnings statistics should: include guidance on which source(s) are most appropriate for different uses, including a contrast of sources that attempt to measure the same things, in order to optimise their appropriate use by different users. This guide should also remain current and should be publicised through a range of fora ( <b>para. 3.51</b> ).
14	There is scope for statistical producers to review the structure of data sources and statistics as part of their longer term plans ( <b>para. 3.50</b> ).	
15	ONS has been working in collaboration with other statistical producers including DWP and HMRC to produce a guide to official income and earnings statistics. This guide was published on ONS's website on 30 January 2015 ( <b>para. 3.51</b> ).	
16	Producers of official statistics on income and earnings should continue to work together in order to add value to and to enhance the utility of their income and earnings statistics, for users within and outside government. Previous reviews have identified a lot of these issues, but an ongoing commitment to address the issues has not been established in a way that is sustainable ( <b>para. 3.52</b> ).	<u>We recommend</u> that the National Statistician takes a leadership role in establishing and supporting a network of statistical producers and users to develop momentum for this cross-working; and to develop a continuous engagement strategy that involves a range of statistical producers and users ( <b>para. 3.52</b> ).
<b>Navigating the range of official statistics (paras 4.3 to 4.6)</b>		
17	ONS's website continues to present barriers to accessibility. The Authority	<u>We recommend</u> that the National Statistician facilitates solutions



	supports ONS's decision to focus its efforts on developing a new website. This will require some patience from users but we are encouraged by the way that ONS is systematically engaging users ( <b>para. 4.4</b> ).	to the problems with the GOV.UK Statistics Release Calendar, and considers commissioning his Good Practice Team to issue guidance on how to communicate statistics through GOV.UK to best effect ( <b>para. 4.6</b> ).
18	Users find it difficult to navigate their way across the various official websites and data portals in order to identify and locate available income and earnings statistics. The Authority considers that the new Statistics Release Calendar on GOV.UK has the potential, in lieu of a single portal, to help users to find their way but users have found the transition of many official statistics to GOV.UK has reduced their accessibility ( <b>para. 4.6</b> ).	
<b>Facilitating timely access to official statistics (paras 4.7 to 4.19)</b>		
19	Timely access to official statistics and the datasets that underpin them is critical to better informed decisions. Despite some limited improvements, there have been some slippages in timetables in recent years, for a number of reasons. There is also scope for producers to minimise the lag from publishing the headline statistics to publishing detailed datasets and regional and local statistics.	<p><u>We recommend</u> that DWP: shares with users the outcomes of its FRS process review and what it has done to optimise HBAI and FRS schedules (<b>para. 4.11</b>); provides better information for users about the cross-sectional EU-SILC data that Eurostat publishes for the UK and its strengths, limitations and possible applications (<b>para. 4.11</b>); and reviews its arrangements for making datasets available through UKDS in a more timely manner (<b>para. 4.15</b>).</p> <p><u>We consider</u> that it will be important for HMRC to keep users of its Survey of Personal Income statistics regularly apprised of its strategic plans for exploiting Real-Time Information to improve official statistics, including their timeliness (<b>para. 4.12</b>).</p> <p><u>We consider</u> that ONS might consider its scope for prioritising investment in ASHE systems within the resource it has available to it (<b>para. 4.13</b>).</p>
<b>Promoting flexibility of access and supporting re-use (paras 4.20 to 4.24)</b>		
20	Users very much appreciate the availability of interrogation tools like StatXplore and NOMIS and want statistical producers to make more datasets available through those services – the potential for the re-use of data is significantly reduced where the statistical producer only publishes large numbers of tables. Users are frustrated by a lack of information and good sign-posting about what data are available and want access to long and consistent time series supported	<u>We consider</u> that good signposting should be a minimum requirement and improvements should represent a quick win for statistical producers. <u>We recommend</u> that ONS, DWP and HMRC communicate better with users about what data are available, and where, including time series; and that ONS works with users to make ASHE data available in a more helpful form ( <b>para. 4.23</b> ).

	by guidance on how to deal with discontinuities in time series as a result of changes in methodology.	
<b>Facilitating equality and ease of access (paras 4.25 to 4.34)</b>		
21	When users know what datasets are available, and where to access them from, those who can obtain licences for accessing detailed datasets are able to realise substantial benefits for their research. However, many users experience difficulties accessing those datasets, to the point that some have been discouraged from applying altogether.	<u>We recommend</u> that ONS, DWP and HMRC work with the UKDS, VML and the HMRC Datalab to provide guidance tailored to researchers outside academic organisations that clearly explains the criteria, process and timings for granting licences, including dispelling any myths, and that they make this guidance available alongside the statistics ( <b>para. 4.31</b> ).
22	The National Statistician has recently commissioned a full review of the Approved Researcher criteria and process used to grant lawful access. This review will be informed by a full, public, consultation exercise which will launch in February 2015. This review is expected to conclude with the National Statistician agreeing updated criteria and processes in June 2015, which will clarify who may access ONS microdata ( <b>para. 4.34</b> ).	<u>We recommend</u> that HMRC and DWP reflect on the findings of this review, and how far its findings could be implemented within their different legal contexts ( <b>para. 4.34</b> ).
<b>Engaging users to improve official income and earnings statistics (paras 4.35 to 4.36)</b>		
23	Good user engagement represents a key element of supporting the interpretation and re-use of the statistics. Members of existing user groups gave positive reports although mostly they tended to work within government departments. Using a wider range of mechanisms would allow producers to reach a more diverse range of users ( <b>para. 4.35</b> ).	<u>We consider</u> that statistical producers could approach engagement more creatively, and to better effect. The users we spoke with had an appetite to work constructively with statisticians to improve official statistics ( <b>para. 4.36</b> ).
<b>Supporting the regional and local agenda (paras 4.37 to 4.40)</b>		
24	Users told us that a perceived lack of reliable and timely statistics at a local level, such as by local authority, is a limitation of statistics on income and earnings. We recognise that there are some good examples of income and earnings statistics that are published at a local level ( <b>para. 4.37</b> ).	<u>We consider</u> that addressing the demand for regional and local analysis need not necessarily require new data collections. Instead, producers could go a long way towards addressing the demand by making users more aware of what is already available, especially the rich resource of the Survey of Personal Incomes ( <b>para. 4.40</b> ).

## Chapter 2 Summary of official statistics on Income and Earnings

- 2.1 This chapter describes the range of available official statistics about income and earnings to set the context for the remainder of the report. **Figure 1** illustrates how the different statistics might be of interest depending on their intended use. This is not intended to provide a full description of these official statistics, but simply to illustrate the wide range of official statistics currently produced.
- 2.2 A detailed summary of each publication is available at **Annex 2**. This includes details for<sup>2</sup>:
- Annual Survey of Hours and Earnings (ASHE)
  - Average Weekly Earnings (AWE)
  - Labour Force Survey (LFS)
  - Family Resources Survey (FRS)
  - Households Below Average Income (HBAI)
  - Pensioners' Income Series (PI)
  - Living Costs and Food Survey (LCF)
  - Effects of Taxes and Benefits (ETB)
  - Wealth and Assets Survey (WAS)
  - Survey of Personal Incomes (SPI)
  - Benefits and tax credits data from DWP and HMRC
  - Small Area Income Estimates
  - National Accounts – Compensation of Employees, Mixed Income, Household Disposable Income and Real Disposable Household Income
  - EU Statistics on Income and Living Conditions (EU-SILC)
  - Pension Trends
- 2.3 In addition to the sources of official statistics listed above, there are other useful sources of data that users can draw upon to gain a broader understanding of how changes over time affect particular individuals and households. Important examples of these include: the British Household Panel Survey<sup>3</sup> (BHPS) and the English Longitudinal Study of Ageing<sup>4</sup> (ELSA), although the BHPS was discontinued in 2010 but has been replaced with the survey Understanding Society.

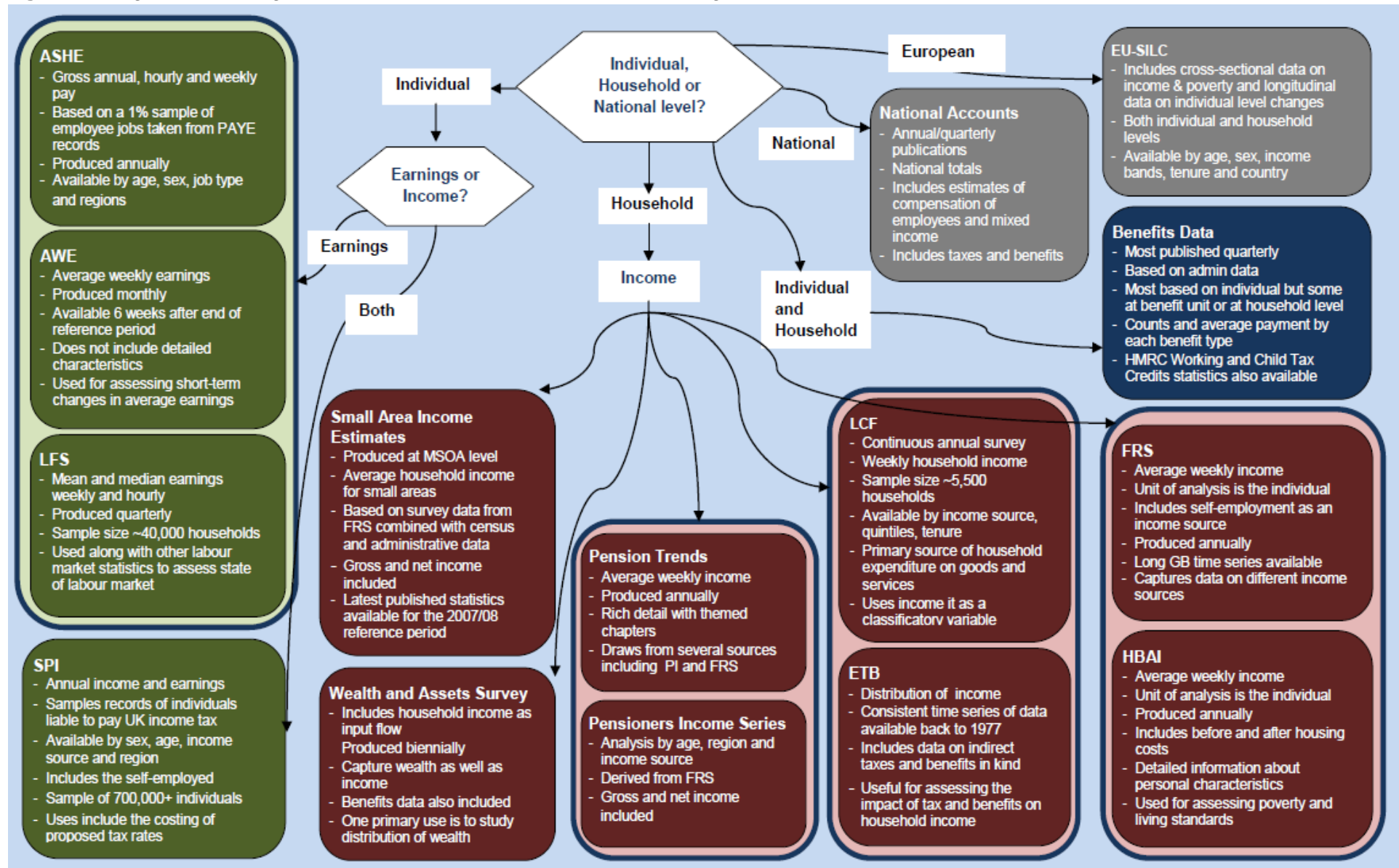
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<sup>2</sup> ONS also produces statistics on the Index of Labour Costs per hour. We have not included these within the Review's scope, as they are not strictly statistics on income or earnings.

<sup>3</sup> <http://data.gov.uk/dataset/british-household-panel-survey>

<sup>4</sup> <http://www.elsa-project.ac.uk/>

Figure 1: Diagram illustrating the available statistics on Income and Earnings



2.4 These statistics are based on a range of sources:

- primary analysis of survey sources (e.g. FRS)
- secondary analysis of survey sources (e.g. HBAI, which is based on the FRS)
- administrative data (such as benefits statistics)
- compendia of other published statistics (e.g. Pension Trends)

Understanding the major differences between sources is vital in helping users decide which source best meets their needs and to aid interpretation of the statistics. In addition, data may be collected from either employer or employee, and may relate to earnings from a person's main or other job. Total income extends beyond earnings to include income from investments, pensions and savings. The source and coverage for each statistic in the Review scope is described more fully in **Annex 2**.

2.5 Many of these sources provide similar measures of income and earnings although often they show different trends. This is often due to the differences in data collection methods and coverage. For example, ASHE and AWE both show average earnings but ASHE is based on a 1 per cent sample of employee jobs taken from HMRC's PAYE records and AWE is based on the Monthly Wages and Salaries Survey (MWSS), which is completed by employers of medium to large companies on behalf of their employees. AWE does include an adjustment for small firms since approximately 90 per cent of these small companies account for approximately 15 per cent of employment. These coherence issues are discussed more fully in **Chapter 3**.

## Chapter 3 Coherence

3.1 In this Chapter we look at whether official statistics on income and earnings are coherent, and explain why and where differences exist. Coherence in this sense means: the extent to which official statistics drawn from different sources, and about different components of income, complement each other; are consistent with each other; and whether there are any significant gaps in the statistical picture of income and earnings.

### Why coherence matters

3.2 We consulted with a wide range of users during this Review. This consultation highlighted that coherence matters, because there are different ways that income and earnings can be measured, and these measures are presented in a range of official statistics (the range of official statistics are summarised in **Chapter 2**). There are a number of classifications and reporting concepts that a user will need to consider when analysing data on income and earnings, and when making comparisons between these sources. For example, a user will need to consider:

- **The way that individuals are grouped together for various analytical purposes:** such as the whole economy in the UK, on a national or regional basis; or for a household or a family; and from the perspective of an individual.
- **Types of Income and Earnings:** There are many sources of income and earnings received by individuals or households, such as earnings from employment, pensions, investments and benefits.
- Whether statistics are presented as **levels or trends**.
- **Summary statistics measures:** Examples of the types of summary statistics presented in official statistics on income and earnings include totals, means, medians and distributions/quintiles. **Annex 2** summarises the headline measures that are presented for each official statistic being considered.
- **The stability of the sample and population:** an understanding of the ever-changing population relating to the data and how issues like an ageing population and migration, for example, affect statistical measures such as mean and median incomes.

3.3 Users of these statistics range from expert users, including academia, research organisations, think tanks, and policy developers, to more casual users such as members of the public who wish to understand the trends in income and earnings.

3.4 Many users who contributed to this Review commented that there is no shortage of official statistics relating to income and earnings in the UK. However, many of these statistics are produced by different producer teams across several government departments, and are published at different frequencies.

## Coherence Issues from a User Perspective

### Answering the questions posed by an increasingly complex and diverse society

- 3.5 Users of official statistics on income and earnings are seeking to answer questions posed by a complex and diverse society that continues to evolve, particularly in the wake of the recent recession – for example, there is increased user demand to understand the growth in self-employment, an ageing population, welfare reform, the changing profile of a ‘household’, and increasingly local decision making. While users broadly appreciate and trust official statistics, they identify the need to present statistics in a coherent way supported by accessible datasets.
- 3.6 There are three components of these changes. Firstly, the *profile* of employee earnings and of employment in the UK is changing, as the size and composition of the population changes. The recent annual 2014 ASHE results<sup>5</sup> (published on 19 November 2014) highlighted that while gross median weekly earnings in the UK changed relatively little between April 2013 and April 2014, the profile of earnings growth was significantly different for those employees considered to be in continuous employment, compared to those not in continuous employment. There is also user appetite to understand the effect of low pay on overall earnings growth and on earnings above the Lower Earnings Limit (LEL); the distribution of earnings around the National Minimum Wage and the living wage; and the prevalence of under-employment, especially for the self-employed (see paras 3.12 to 3.20).
- 3.7 There is also significant user interest in the prominence of zero hours contracts and its potential impact on the trends in employee earnings. At present, it is not possible to differentiate between those employees on zero hours contracts and those on fixed hour contracts from the ASHE data. It should be noted that while there is a tendency to compartmentalise people as employees either on zero hours contracts, employees on fixed hours or those who are self-employed, these are not always mutually exclusive. The ASHE statistical report does not present supporting contextual analysis to help explain structural changes in earnings over time that reflect changes in society, such as an ageing population, the growth in the number of self-employed workers (see para. 3.14) and the growing use of zero hours contracts<sup>6</sup>.
- 3.8 These factors mean that a focus on average measures can be misleading, because they mask significantly different experiences for different cohorts within society. Simple averages (the mean) can disguise significant shifts for low or high earners. And focusing on the middle of the distribution (the median), while usually more meaningful, can disguise important changes, particularly where the population is growing. To capture this diversity of experience, statistics need to reflect how income and earnings are evolving over time for specific individuals and groups.

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<sup>5</sup> <http://www.ons.gov.uk/ons/rel/ashe/annual-survey-of-hours-and-earnings/2014-provisional-results/stb-ashe-statistical-bulletin-2014.html>

<sup>6</sup> Although ONS has previously done some work to quantify the impact of zero hours contracts in the past: see <http://www.ons.gov.uk/ons/rel/lmac/contracts-with-no-guaranteed-hours/zero-hours-contracts/index.html>



- 3.9 Secondly, the *system of benefits is changing*. In particular, the introduction of Universal Credit<sup>7</sup> by DWP represents a significant prospective change in this system. Universal Credit will be payable at a household level, so income-related data at a household level will change, but it is not yet clear how the statistics will be presented, nor how any wider impacts of Universal Credit – such as on the incentives for people to seek work or increase their working hours – will impact on the participation and structure of the labour market. The impact of pension reform on both state and private pensions will also have an impact.
- 3.10 Thirdly, users are interested in the performance of the *economy* and the different factors that contribute to economic growth. In particular, users want to answer questions such as ‘what is the typical gross (median) income of a household in the UK?’ and ‘what proportion of households (of particular types) are reliant on means-tested benefits?’<sup>8</sup> and to understand the factors that explain why these figures change over time. Moreover, many questions relating to changes in the population, such as the impact of an ageing population or of the migrant work-force, cannot be answered by solely considering mean or median summary statistics. There is therefore a greater demand for government statisticians to critically question patterns in the data and to present answers to these questions.
- 3.11 We conclude that Government Statisticians need to cultivate a spirit of curiosity when analysing their datasets. The National Statistician has been very clear in his desire for the GSS to demonstrate this spirit. The ‘*Better Statistics, Better Decisions: Strategy for UK Statistics*’<sup>9</sup> also sets out the need for statistics to “keep pace with a fast changing world... and to respond rapidly when new issues arise where the evidence base is absent or contested”. Statisticians should demonstrate a drive to ensure their statistics help to ‘tell the story’, by analysing the composition of headline statistics on income and earnings that allows users to understand the drivers. **Statisticians should consider whether the statistical outputs they are producing are keeping pace with a changing society and help to tell the story, engaging with users to inform their reflections. They also need to consider how to supplement average measures with other indicators of income and earnings.**

### ***Meeting growing demand for statistics about the self-employed***

- 3.12 The lack of both timely and complete statistics about the self-employed was consistently cited by users as a significant gap in official data on income and earnings in the UK. The measures of employee earnings presented in ASHE, AWE and the LFS do not include earnings of the self-employed. This is because data used for both ASHE and AWE are based on surveys of employers, and the self-employed are not classed as employees. In addition, the LFS does not include questions about self-employed income within a household. There are also conceptual complexities associated with defining income from self-employment, since this income cannot always be classed as earnings; some components of income may be classed as other sources of mixed income. In many cases,

<sup>7</sup> <https://www.gov.uk/universal-credit>

<sup>8</sup> Some analysis of this question is presented in ETB

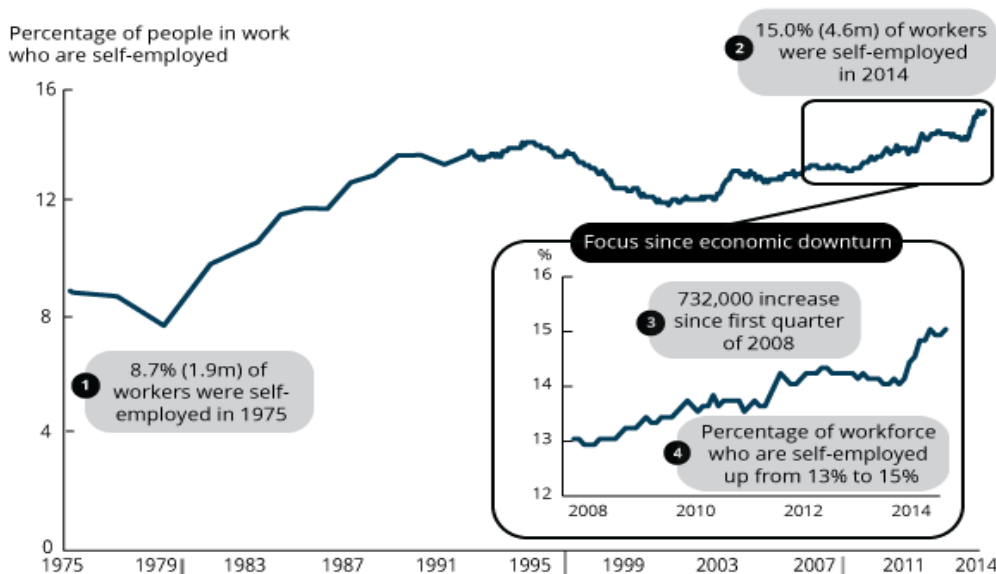
<sup>9</sup> <http://www.statisticsauthority.gov.uk/news/uk-statistics-authority-statement-of-strategy-2015-2020-better-statistics-better-decisions.pdf>



the self-employed will not know their income until the end of the tax year, after calculating the profit or loss for the accounting period ending in the tax year. There is also an overlap in the population of individual taxpayers who receive income from both employment and self-employment.

- 3.13 As a result, none of these official statistics on earnings present a complete picture of earnings levels and trends of all workers in the UK. Statistics from HMRC’s Survey of Personal Incomes (SPI) presents total income of individual taxpayers and how much of it is from employment or from self-employment, although there is a time lag associated with the availability of these statistics (see para. 4.12). Estimates of income from self-employment are also presented in the Family Resources Survey (FRS), but there is also a time lag associated with the availability of these statistics (see para. 4.9).
- 3.14 Statistics from the LFS indicate that the numbers of people who are self-employed in the UK accounted for approximately one seventh (15 per cent) of the total workforce in 2014. There has been a steady growth in the proportion of people in work who are self-employed since around 1999, and throughout the downturn and subsequent recovery (this is illustrated in **Figure 2**).

**Figure 2:** Percentage of people in work who are self-employed in the UK, 1975-2014



**Source:** *Self-employed workers in the UK - 2014*, ONS

- 3.15 In August 2014, ONS published *Self-employed workers in the UK - 2014*<sup>10</sup> which presents analysis on the trends in the numbers of people who are classed as self-employed in the UK since 1975. The analysis highlights that the rise in total employment since 2008 is predominantly among the self-employed and that self-employed workers tend to be older than employees and are more likely to work more (over 45) or less (8 or less) hours. There has been some published research<sup>11</sup> that explores possible reasons for the changing

<sup>10</sup> <http://www.ons.gov.uk/ons/rellmac/self-employed-workers-in-the-uk/2014/rep-self-employed-workers-in-the-uk-2014.html>

<sup>11</sup> <http://www.resolutionfoundation.org/wp-content/uploads/2014/05/Just-the-job-or-a-working-compromise-FINAL.pdf>

composition of this population. ONS's analysis also presents the trend in average median income from self-employment, based on DWP's analysis of data from the FRS. In 2012/13<sup>12</sup>, average (median) income from self-employment was 22 per cent lower than in 2008/09 after taking into account inflation. Analysis of median incomes however tells users only part of the story and provides limited insight about the range of income experiences of the self-employed. Further analysis of the range and different types of income is available from the SPI, which will go some way towards explaining.

- 3.16 The existing research on the level and patterns of income of the self-employed suggests that the distribution of income from self-employment is more unequal than the earnings of employees. For example, income from self-employment includes hedge funds managers at one end of the scale and sole traders at the other. Furthermore, there may be a rise in the number of people who hold a 'portfolio' of jobs (with multiple sources of income). Many users have therefore expressed concern about the lack of a robust measure of 'earnings'<sup>13</sup> for all workers in official statistics.
- 3.17 In July 2014, the Resolution Foundation published a briefing, '*All accounted for: The case for an 'all worker' earnings measure*'<sup>14</sup>, which presents indicative analysis of the impact of including estimated income from self-employment on the picture of earnings in the UK since 2008. Its analysis integrates reported employee earnings (from AWE) with a forecast of self-employment income, to provide an estimate of an 'all worker' average weekly 'earnings' measure, benchmarking these to data from the FRS for 2011-12. The briefing also presents assumed projections of self-employed 'earnings' since 2011-12, using three alternative approaches<sup>15</sup>. This analysis shows that the trends and levels of average earnings over recent years could be understated by not including information about 'earnings' of the self-employed. The estimate of the average weekly earnings for 'all workers', including the estimates (up until 2011-12) and projected estimates to 2014 of average weekly earnings for the self-employed, are presented in **Figure 3**.

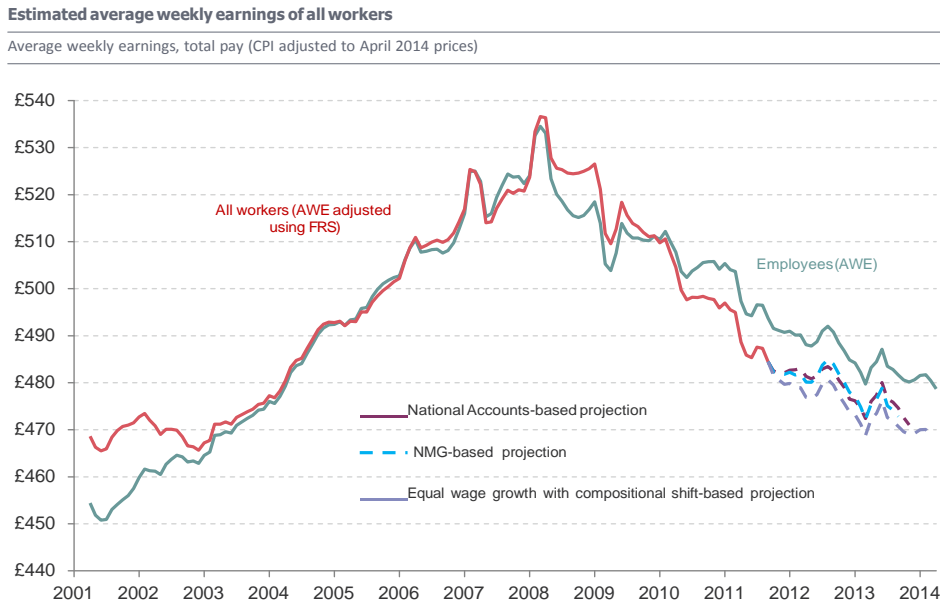
<sup>12</sup> The latest statistics available in the FRS

<sup>13</sup> Note that the income from self-employment is not always classed as 'earnings'

<sup>14</sup> <http://www.resolutionfoundation.org/wp-content/uploads/2014/08/All-accounted-for-the-case-for-an-all-worker-earnings-measure.pdf>

<sup>15</sup> (i) based assumptions taken from the LFS; (ii) data from the Bank of England's NMG survey, and (iii) assumptions based on quarterly Mixed Income estimates from the National Accounts.

**Figure 3: Estimates of average weekly earnings of ‘all workers’, from 2001 to 2014**



**Source:** *All accounted for: The case for an ‘all worker’ earnings measure*, Resolution Foundation

- 3.18 ONS has responded thoughtfully to the challenges of measuring income from self-employment. It presented potential options to develop a measure of self-employed income at a Resolution Foundation event. Options included adding questions about income from self-employment to the LFS and developing a new survey, although they cautioned that attempts to do this in the past had been unsuccessful. ONS also emphasised the difficulties associated with collecting self-employment income information from the LFS, as in many cases, the self-employed do not know their income until the end of the tax year. It is possible that HMRC’s data could be used for this purpose, but the time lag associated with submission of self-assessment tax returns acts as a limiting factor.
- 3.19 ONS also told us that estimates of household disposable income (HHDI) compiled and produced in the National Accounts (produced by ONS) include estimates of income from self-employment. These estimates are available with a significantly shorter time lag than other official statistics that present measures of income from self-employment (SPI and FRS). These are total measures, however, and therefore will not include information about distribution or household type available in other measures.
- 3.20 The Authority is clear that the lack of robust and timely statistics on income relating to self-employment is a serious shortcoming in official statistics. Without this, the picture of the labour market is only partial, and does not reflect the extent of the changing composition of the employment in the UK. We recognise the challenges associated with addressing this gap, and that the solution is not straightforward. **We recommend that the GSS, under the leadership of the National Statistician, continues to engage with this debate and works to develop a swift solution to address this gap in official statistics. Users are keen to contribute to these discussions that could be convened in the form of an expert group.**

### ***Examining distributions and the extremes of income and earnings***

- 3.21 Official statistics publications presenting measures of **earnings** primarily focus on the presentation of average measures such as the median or mean. However many users are interested in the position of particular sections of the population within the overall distribution of earnings, in a similar way that is done for measures of income. Users are also interested in the presentation of deciles or percentile measures of household income to examine income inequality between different income groups.
- 3.22 Some official sources facilitate this type of analysis more than others. For example, the Wealth and Assets Survey (WAS) provides a good example of this type of analysis, as the published survey reports present household wealth estimates broken by deciles back to 2006/08. Both ONS's Effects of Taxes and Benefits (ETB) publication and DWP's Households Below Average Income (HBAI) publication also present statistics on distributions. But in general, we found a demand for better information at both the upper and lower end of the income distribution. At the **upper end**, a number of users expressed a need for more-detailed official data to be published on the incomes of the top 1 per cent of the population, and moreover for the top 0.1 per cent, or even top 0.01 per cent. Survey-based sources are not optimal for examining the extremes of distributions. In the perceived absence of robust data at the upper extreme, a number of users are instead using alternative administrative or academic sources such as 'World Top Incomes Database'<sup>16</sup>, the published records of salaries for FTSE 100 CEOs, or the European Banking Authority's published numbers of bankers paid over one million Euros per year<sup>17</sup>, to obtain relatively crude proxy measures of income inequality.
- 3.23 Measuring incomes at the **upper end** of the distribution is challenging. Tax-based records held by HMRC offer more potential than household surveys. However direct access to HMRC data is limited for obvious reasons of taxpayer confidentiality and there are time lags associated with the availability of statistics on personal incomes. HMRC told us that it already publishes composite data for the top 0.1 per cent and suggested that it already provides access to more data on the upper end of the income distribution than many users currently realised, and that de-identified case level information from the SPI file can be made available in HMRC Datalab after the annual publication of SPI where appropriate. HMRC also told us that while regular users of SPI will be aware how little of the population has annual income in excess of a million pounds, irregular users of SPI may be quite surprised that this level of detail is published.
- 3.24 It is also difficult to carry out analysis at the **lower end** of the income distribution. For example, there are inconsistencies in the benefits estimates obtained from the FRS and those derived from administrative sources. Users also reported difficulty in obtaining an official statistic on 'total benefits'. This makes it difficult for users to easily find an answer to questions such as 'what proportion of households are reliant on means-tested benefits?' although DWP told us that it is possible to derive this type of information from its tabulation tools, but it was not as accessible as it could be. DWP has previously produced an ad hoc

<sup>16</sup> <http://topincomes.g-mond.parisschoolofeconomics.eu/>

<sup>17</sup> <http://www.eba.europa.eu/-/eba-presents-data-on-high-earners-in-eu-banks-for-2012>

report examining benefit units receiving at least one income related benefit<sup>18</sup>, but this type of analysis is not presented in the annual FRS publication. While statistics relating to distributions are presented in HBAI and ETB, there is a user need for statistical publications to present more information on distributions. This analysis could benefit from drawing on research on distributions from organisations outside government.

### Recognising coherence between different sources and explaining differences

- 3.25 There are a number of official statistics that present measures of earnings, both on a monthly and annual basis. We considered how far similar statistics cohere with each other and explain differences in patterns and trends. We found a mixed picture, and in general there is only very limited explanation of differences between different statistics.
- 3.26 The most striking example of different patterns and trends lies in the ONS's two main sources of data on earnings: ASHE, and AWE. ASHE is the main source of structural earnings data in the UK and is regarded by ONS as the best source of earnings information for cross-sectional analysis. The results of the survey are published annually, both in provisional and final form, and are supplemented by more in-depth analysis articles about the trends in earnings. ONS also publishes AWE on a monthly basis, a short-term measure of the level of average weekly earnings per job in Great Britain. The AWE measure is calculated as the ratio of estimated total pay for the whole economy divided by the total number of employees and is primarily used as an indicator of earnings growth.
- 3.27 **Figure 4** shows the mean and median gross weekly earnings for full-time employees from the period 1997 to 2013 within ASHE. **Figure 5** presents historic mean weekly earnings for Great Britain, for all employees (regular pay, excluding bonuses) based on data from ASHE (annual) and AWE (monthly).

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<sup>18</sup> <https://www.gov.uk/government/statistics/families-receiving-benefit-or-tax-credit-in-great-britain>

Figure 4: Mean and Median Gross Weekly earnings, since 1997, ASHE<sup>19</sup>

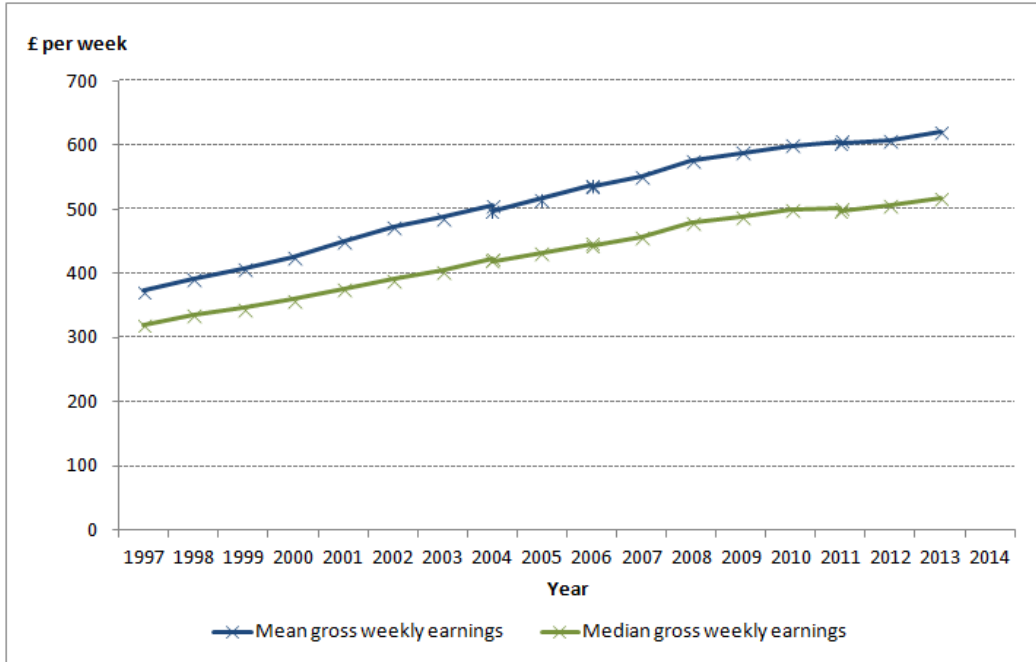
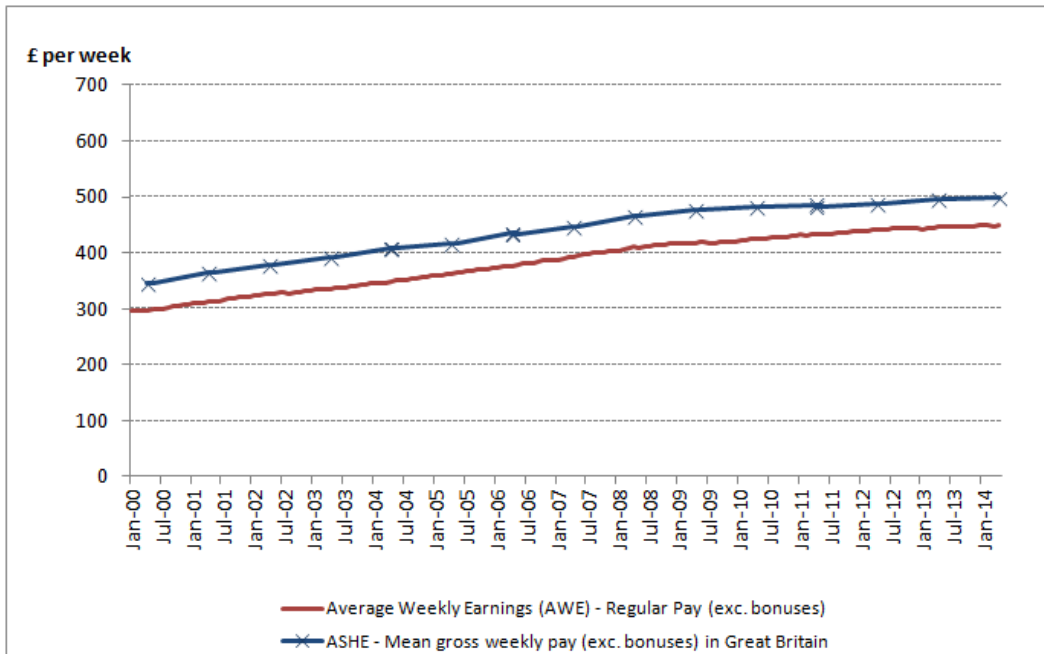


Figure 5: Comparison of weekly earnings in ASHE<sup>20</sup> and AWE, since 2000, for Great Britain



3.28 There are known reasons about why the headline measures in ASHE and AWE differ, since they are based on different surveys; AWE relates to earnings in Great Britain only while ASHE covers the UK as a whole; the headline AWE statistic includes seasonal adjustment, and it presents the annual change in mean weekly earnings based on a 3-month smoothed estimate, comparing earnings from the latest three months with the same three months in

<sup>19</sup> Note that there have been a number of changes to the ASHE methodology over the years, which has resulted in three breaks in series: in 2004, 2006 and 2011. For these years figures are provided on both the old and new basis.

<sup>20</sup> ONS does not publish mean weekly earnings for Great Britain, but is available on request from ONS



the previous year<sup>21</sup>. AWE also uses current industry weights that are updated each month to take account of the distribution of jobs across sectors.

- 3.29 The differences between ASHE and AWE are not regularly explained in the official statistics publications for each series and it is unclear how the different factors contribute to the overall difference. In particular, there has been a growing focus by users and commentators on the disparity between employee earnings statistics presented in ASHE and AWE. In November 2014, the publication of the 2014 ASHE results received media attention, and several commentators were critical of the presentation of the statistics, whose headline measures seemed to be diverging from the statistic presented in AWE. In a recent article for the Independent<sup>22</sup>, David Blanchflower observed that the ASHE estimate of mean gross weekly pay (excluding bonuses) for all employees was up 0.1 per cent in the year to April 2014 compared to the previous year. The comparable estimate from the AWE is a rise of 0.5 per cent. The article also highlighted the lack of contextual information presented in ASHE or AWE to explain trends in earnings, relating to differences in earnings growth for those employed by small firms compared to larger employers. After accessing additional analysis following a data request to ONS, the analysis showed that median gross weekly earnings for employees of small firms fell by 2.8 per cent (compared to the previous 12 months), contrasting with the same measure for all employees captured in ASHE, which grew by 0.6 per cent. This information is not present in the ASHE statistical report.
- 3.30 While many users value the statistics presented in AWE due to their timeliness, many find it difficult to understand the drivers for changes to the monthly statistic. In the short term, we do not propose that AWE be redesigned to address the range of technical points that users raised with us (such as the different trends for ‘newer’ and ‘older’ employees). Instead we propose that the user comments provide a further indication that the differences between ASHE and AWE should be more clearly explained in the official statistics publications for each series. ONS does not currently publish supporting analysis other than the general guidance included in the Labour Market Statistics bulletin; the commentary presented in AWE does not provide sufficient explanation of possible reasons for monthly movements in the statistic.
- 3.31 The Authority considers that the lack of clear information about the comparability of ASHE and AWE, and the confusing picture illustrated by the presentation of these statistics, is a serious shortcoming. The statistics in ASHE and AWE are presented in isolation, and lack a more coherent picture supported by intelligent analysis that could answer some of the immediate questions that users ask about earnings growth in the UK. This raises the issue of inconsistency in how related statistics are presented.
- 3.32 ONS develops and publishes separate analyses of the Labour Market, but a forward looking analysis plan is not published. **We recommend that ONS develops and publishes its analysis plan as a matter of priority, setting out its intention in 2015 and beyond to answer key questions posed by users in relation to ASHE and AWE.** ONS should also seek out appropriate channels to communicate this plan, to ensure that key

<sup>21</sup> ONS also publishes unadjusted and single month AWE measures as well as the headline measures.

<sup>22</sup> <http://www.independent.co.uk/news/business/comment/david-blanchflower/david-blanchflower-yet-more-evidence-that-pay-is-going-nowhere-fast-9878790.html>

users outside government are sufficiently engaged and have an opportunity to shape this development in the future.

- 3.33 Statistical producers should also highlight the key differences between statistics from different sources which aim to measure the same thing. For example, two separate National Statistics present similar measures of the Gini coefficient, the most widely used summary measure of inequality in the distribution of household income. Both the ETB and HBAI present a Gini coefficient measure, calculated using data from different survey sources (the LCF and FRS respectively). There are differences between the measures – for example between 2009/10 and 2010/11, the Gini coefficient in ETB stayed relatively flat, increasing only marginally from 33.2 per cent to 33.7 per cent, while it decreased from 35.7 per cent to 33.8 per cent in HBAI for the same period. These differences can be explained by several factors, including the different survey sources, as well as differences in adjustments applied. Although supporting guidance for the ETB publication includes a comparison of Gini coefficients from both ETB and HBAI over time, with some explanation of the methodological differences, it is not immediately clear why two similar (but sometimes conflicting) measures are published, and whether they are produced to meet different user needs.
- 3.34 There is a lack of guidance from ONS or DWP (either in the individual publications, or elsewhere) on whether the use of one measure is preferable in different circumstances, whether either of the statistics present a more robust measure, and the impact of adjustments on the measures. We judge that there is potential for user confusion in the absence of this guidance. More broadly, where different statistical outputs attempt to measure similar aspects of income and earnings, **we recommend that statistical producers do more to explain and quantify how methodological differences between related statistics contribute to the different results; and present advice on whether one measure is preferable to another for a particular use.**

### ***Presenting better and more relevant income and earnings statistics for households and individuals***

- 3.35 Some of the statistics on income and earnings focus on individuals. Others focus on households. This difference creates challenges in terms of coherence:
- Individual-based earnings sources often do not include demographic classificatory variables such as age, marital status and number of dependent children. For example, one user told us they had resorted to using ASHE part-time earnings levels for women as a proxy indicator for the earnings levels of single-parents.
  - Many of DWP’s welfare-related statistics are published at benefit unit level (the basic family unit for the purposes of administering benefits) rather than the household. As benefit units are made up of a single adult or a couple, plus any dependent children, one household can potentially contain multiple benefit units.



- 3.36 On the other hand, some users have a strong interest in being able to obtain individual-level estimates of income to help contextualise the dynamics of income (and expenditure) within households. These users appreciate the difficulties that might be associated with allocating shared household benefits to individuals, but have identified that this type of analysis would be of considerable value, even if only in the form of a one-off study.
- 3.37 Users are appreciative when statistical producers are able to make this type of ad-hoc analysis available. One example of this was a well-received ONS article on the link between household wealth and total income<sup>23</sup>. In general terms, users wanted producers to integrate more previously published ad-hoc analysis into headline reports wherever possible, particularly where this analysis presented new ways of analysing the established source in order to address pertinent research and policy related questions.

### ***Communication of detailed assumptions and methodology***

- 3.38 Statistical producers publish a range of supporting documentation that details the methodology underpinning the statistics. **Annex 2** includes a summary of the guidance available to users for each statistic, which indicates that there is some inconsistency in how methodological information is presented, and the level of detail presented. There are several examples where the derivation of statistics could be explained more fully to allow expert users to fully understand the assumptions underpinning the statistics, and their impact on their robustness:
- **AWE:** Only limited information is presented describing how the AWE statistics are derived. ONS publishes an information paper<sup>24</sup> which states that its primary data source (the MWSS) does not sample businesses with fewer than 20 employees. The information note also states that ‘employment at these businesses is taken from the IDBR, and pay is estimated using a factor derived from ASHE, which does cover small businesses’. However, the note does not include further information about how this factor is derived nor how it is combined with the MWSS data. ONS does not publish easily accessible guidance about the assumptions involved in deriving and applying this factor. The guidance also does not describe how the weightings applied in AWE are derived.
  - **Deflators:** There is also a need for greater clarity about how deflators can affect statistical series. For example, HBAI uses the Retail Prices Index<sup>25</sup> (and variants) as a deflator. By contrast, the ASHE publication uses the Consumer Prices Index as the deflator when presenting real-terms median incomes. These two sources use two different deflators to get to real estimates of income and earnings. The Authority is due to publish a Monitoring Review on Deflators, which focuses on considering the barriers to taking account of price changes over time (i.e. adjusting for inflation) and what can be done to improve the tools on offer to help users. The Johnson *Review of UK Consumer*

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<sup>23</sup> <http://www.ons.gov.uk/ons/rel/was/wealth-in-great-britain-wave-3/wealth-and-income--2010-12/stb--wealth-and-income--2010-12.html>

<sup>24</sup> <http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/business-statistics/quality-and-methodology-information-for-average-weekly-earnings.pdf>

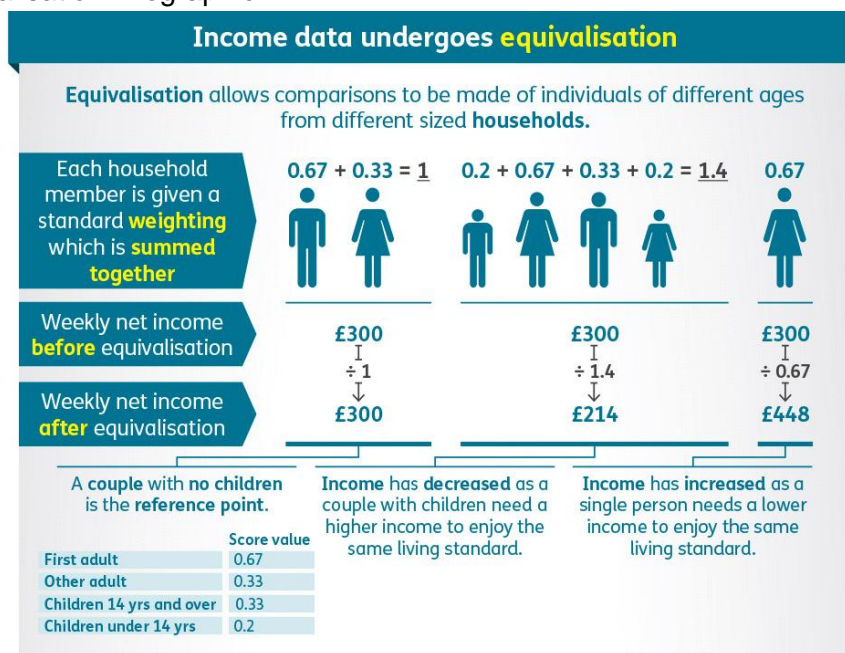
<sup>25</sup> The Retail Prices Index was de-designated as a National Statistic in March 2013.

*Price Statistics* also considers what changes are needed to the range of consumer price statistics produced for the UK to best meet current and future user needs.

- **National Accounts:** ONS has published a range of papers on the calculation of income in the National Accounts over the years, including more recently papers outlining developments to pensions data and the impact on compensation of employees. However, ONS does not publish details of measures of earnings in the National Accounts, as it does not regard this as a key metric within those accounts. Details of the methods behind forms of income other than compensation of employees are not available, for example mixed income, and household gross operating surplus. Users reported that this makes it difficult for them to analyse and compare these measures against other sources.

3.39 There are some examples of good practice where complex methods are explained in a helpful manner for a lay audience. For example, as well as providing detailed methodology of equivalisation for the expert user, DWP provides a useful graphic setting out the theory in non-technical terms in its publication *Households below average income statistics*<sup>26</sup>.

**Figure 6:** Equivalisation infographic



**Source:** *Households below average income statistics: 1994/95 to 2012/13*

3.40 **Statistical producers should ensure that any supporting guidance on the assumptions and methodology underpinning their statistics goes beyond simply listing the processes involved in deriving the statistics.** The guidance should also describe and explain assumptions fully, and provide an indication of the impact of the assumptions used in the context of what they are trying to measure. The detail presented in the guidance should be sufficient to allow an external expert, who has access to the

<sup>26</sup>[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/325416/households-below-average-income-1994-1995-2012-2013.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/325416/households-below-average-income-1994-1995-2012-2013.pdf)

underlying data, to replicate the calculations. **We recommend that statistical producers review guidance to ensure that it:**

- a. presents the relative strengths and limitations of the different official income and earnings statistics, particularly in relation to their use**
- b. presents sufficient detail of the assumptions that underpin the statistics, suitable for expert users, and on the underlying data sources**
- c. summarises the key assumptions, to aid accessibility to less-expert users**

### **Adding value by bringing official statistics together**

3.41 This Review has identified a need for government statisticians to add value by bringing official statistics on income and earnings together to present a more-coherent picture of income and earnings trends in the UK. There is a strong user need for access to more thematic publications that include analysis of areas of emerging interest, such as earnings trends, that draw together information from a range of official data sources. Some users cited ONS's Pension Trends<sup>27</sup> as a good model of a publication that draws related statistics together, which is enhanced by supporting narrative. Other users referred to the now-discontinued Social Trends<sup>28</sup> publication, which included a chapter on Income and Wealth<sup>29</sup>.

### **Identifying the overall picture**

3.42 Users acknowledged that there is a wide range of official statistics on income and earnings. But given the number of statistics available, and differences in the measures they present, there is a lack of information that illustrates the overall picture in trends in income and earnings. It is also not clear to all potential users what official statistics are available, when they are published, and if they complement one another (and if so, how).

3.43 On 23 December 2014, ONS published its first release of *Economic Well-being*<sup>30</sup>, a quarterly statistical output published alongside the quarterly National Accounts. This publication presents a dashboard of indicators based on measures taken from published statistics, alongside supporting commentary. The indicators (which include household income and income distribution) are intended to assess changes in economic well-being over time. Whilst *Economic Well-being* is not intended to provide a full analysis of all measures of income and earnings, it does provide an example of a compendium-type publication that draws statistics from a range of sources to present a coherent picture on a particular topic.

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<sup>27</sup> <http://www.ons.gov.uk/ons/rel/pensions/pension-trends/index.html>

<sup>28</sup> <http://www.ons.gov.uk/ons/rel/social-trends-rd/social-trends/index.html>

<sup>29</sup> ONS drew our attention to a recent example of analysis on the Intergenerational Transmission of Poverty <http://www.ons.gov.uk/ons/rel/household-income/intergenerational-transmission-of-poverty-in-the-uk---eu/2014/blank.html>.

<sup>30</sup> <http://www.ons.gov.uk/ons/rel/naa1-rd/economic-well-being/q3-2014/index.html>

- 3.44 ONS is currently working with DWP, BIS and HM Treasury to develop supporting analysis of their published statistics on income and earnings that considers how different variables such as wages, household income and household expenditure interact in theory. The analysis will also explore the drivers of aggregate-level trends in income and earnings between 2006 and 2013, and how the different distributions relate to each other. This analysis is intended as a one-off publication, unless user response to this analysis establishes a clear user need for a more regular publication of this type of analysis. Despite initial plans to publish this analysis in early 2015, ONS told us that this work has been impacted by a lack of resources in several departments and it hopes to re-energise this work, possibly taking a leadership role. It is therefore unclear what the output of this collaborative work will look like, and when it will be published.
- 3.45 ONS also told us that it is keen to explore the value of estimates of household disposable income (HHDI), produced as part of the National Accounts, to develop more-timely estimates of income at an economy-wide level. This will include improving the explanation of how these measures are derived. **We recommend that ONS explores the value of developing existing estimates of household disposable income in providing more timely estimates of income.**
- 3.46 A review of UK Consumer Price Statistics<sup>31</sup>, led by Paul Johnson, director of the Institute for Fiscal Studies was published on 8 January 2015. Chapter 6 of the report recognises that individuals and different groups experience different rates of inflation depending on what they buy, and discusses the merits of measuring this to help to understand living standards for different groups. The review recommends that ‘ONS should develop an annual analytical publication that produces inflation indices as experienced by a range of different household types, along with appropriate advice on what income measures these analytical indices can be compared to.’ Addressing the second part of the recommendation could be facilitated by an annual analytical publication or compendium that includes comparable income and earnings statistics. ONS should consider developing regular analysis on income and earnings in a way that will complement the proposed annual ‘cost of living’ publication. This will go some way in addressing the wider call from users for improved measures of living standards based on existing statistical frameworks.
- 3.47 Whilst we welcome the recent steps taken by ONS and other statistical producers to develop a collaborative analysis of income and earnings, the Authority concludes that there is a need for the GSS to be more proactive and continue to work in collaboration to publish more regular analysis on income and earnings trends, to help users to understand the different drivers of these trends. This is more user-friendly than requiring users to navigate through the different sources of information one at a time and to try to make them cohere with one another. **We recommend that statistical producers consider how best to provide users with more themed analyses in a way that remains current and sustainable; we suggest that this could be addressed by the publication of an annual compendium, supplemented by a regular series of analysis and articles. We consider**

<sup>31</sup> <http://www.statisticsauthority.gov.uk/reports---correspondence/current-reviews/uk-consumer-price-statistics---a-review.pdf>

**that these analyses should present statistics for different groups and levels and help users to answer key policy questions** (such as those identified in see para. 3.10).

### ***Identifying which statistics best meet different needs***

- 3.48 Producers of official statistics should also help users identify which statistics best meet their needs. There are two main aspects to meeting this expectation:
- communicating the strengths and limitations of each individual statistic
  - highlighting the range of statistics available
- 3.49 Users identified a clear need for better information about the relative *strengths and limitations* of the different official statistics on income and earnings, and in particular, guidance about what statistics would best serve different user needs, and the relationships between statistics. By investing in such guidance, statistical producers can help users to make better use of existing statistics and so reduce the number of demands for more or new statistics.
- 3.50 Statistical producers should present within each set of statistics an awareness of related statistics; and should provide a comprehensive overview of the *range of complementary statistics*. There is no one data source that meets all needs. For example, researchers seeking to understand issues relating to the minimum wage would need information on taxes and benefits as well as wages to support their analysis. The lack of information about personal characteristics in ASHE means that users have to supplement this with other data sources such as the LFS where the coverage is less complete but offers a proxy for this information. Statistical producers should present illustrative guidance that goes beyond explaining each source's strengths and limitations and includes guidance on optimising the use of different data sources. There is also scope for producers to review the structure of data sources and statistics as part of their longer term plans. **Chapter 5** presents some examples of how statistical producers could consider the future of statistics on income and earnings.
- 3.51 During the course of this Review, ONS has been working in collaboration with other statistical producers including DWP and HMRC to produce a guide to official income and earnings statistics. This represents a positive step forward. This guide was published on ONS's website on 30 January 2015<sup>32</sup> and it includes a description of each official statistic on income and earnings including their key limitations and some explanation of why similar statistics measures differ. ONS told us that this guide will be updated at 6 monthly intervals. **We recommend that future versions of this guide should: include guidance on which source(s) are most appropriate for different uses, including a contrast of sources that attempt to measure the same things, in order to optimise their appropriate use by different users. This guide should also remain current and should be publicised through a range of fora.**

<sup>32</sup> <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/labour-market/articles-and-reports/a-guide-to-sources-of-data-on-earnings-and-income.pdf>

3.52 Producers of official statistics on income and earnings should continue working together in order to add value to and enhance the utility of their income and earnings statistics, for users within and outside government. In particular, there is a need for further cross government collaboration to support longer-term strategic change and to ensure that collaborative analysis remains a priority for all departments. Previous reviews (such as a review titled *Issues in Measuring Household Income and the Redistribution of Income*<sup>33</sup> conducted by ONS as part of its National Statistics Quality Review Series) have identified a lot of these issues in the past, but an ongoing commitment to address the issues has not been established in a way that is sustainable. **We recommend that the National Statistician takes a leadership role in establishing and supporting a network of statistical producers and users to develop momentum for this cross-working; and to develop a continuous engagement strategy that involves a range of statistical producers and users.**

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<sup>33</sup> <http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-reviews/theme/social-and-welfare/nsqr-31/nsqr-series-report-no--31--review-of-issues-in-measuring-household-income-and-the-redistribution-of-income-.doc>



## Chapter 4 Accessibility

### Accessibility Issues from a User Perspective

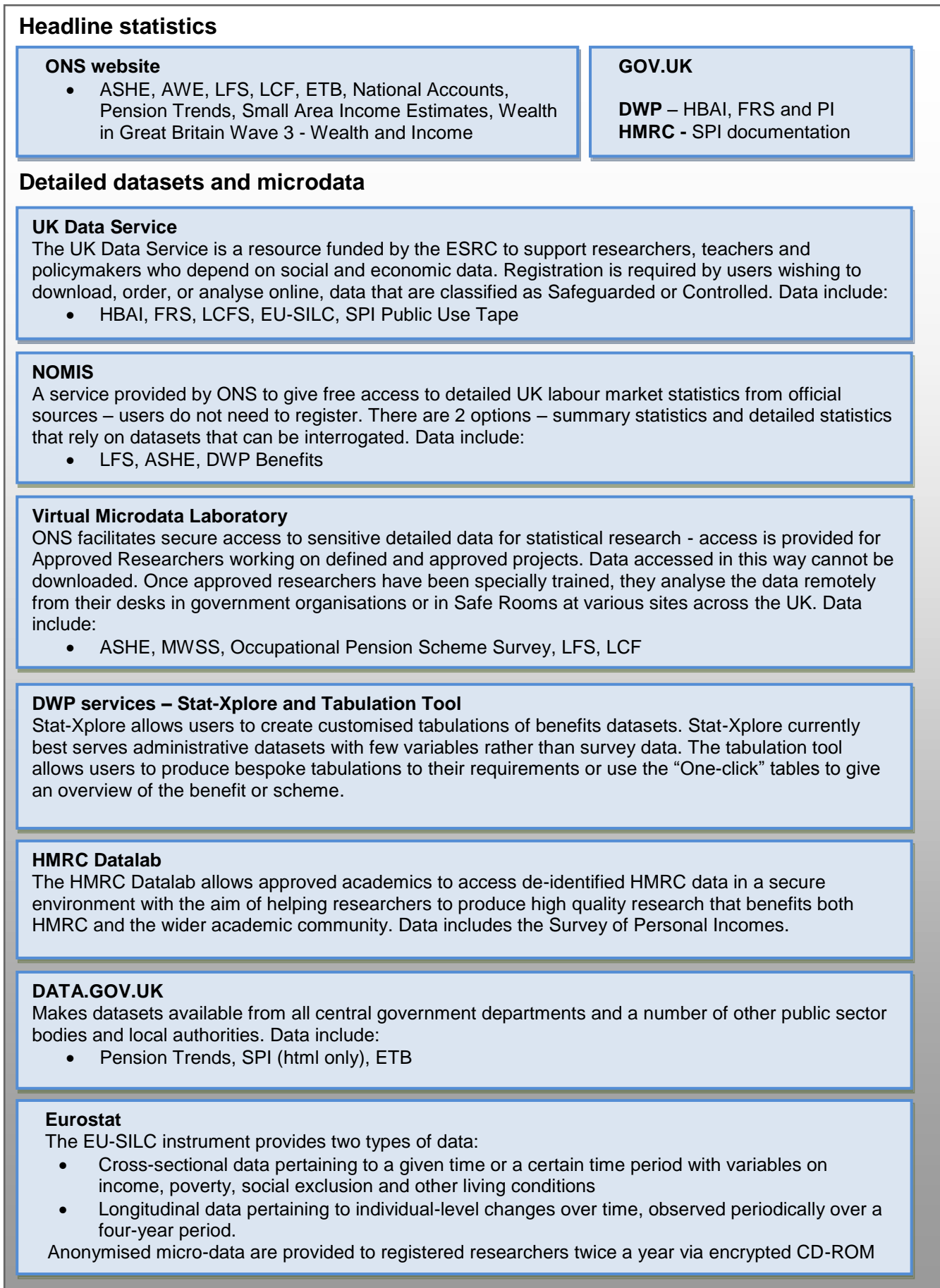
- 4.1. The difficulties in negotiating the disparate range of official statistics about income and earnings to gain a complete and coherent picture have already been touched on in **Chapter 3** but users' concerns go further. This chapter considers the accessibility of income and earnings statistics. Users identified some common issues, for example: difficulties navigating the range of website and portals; release schedules that do not support timely decision making; poor access to consistent time series; inflexibilities in data access that limit the potential for re-use; and a need for more constructive user engagement. The Review also identified issues that affect some groups of users more than others, in particular around the equality of access to datasets, and access to regional and local statistics. These themes are explored in this chapter.
- 4.2. Users' frustrations about the accessibility of the statistics were not evenly distributed – they identified a number of examples of good practice – but users' experiences might best be characterised as mixed and no one set of statistics fared well against all aspects of accessibility. Users identified some improvements (and also examples of perceived falling standards) but were generally keen to point out that they value these statistics and the frustrations are grounded in the importance that they place on them.

### Navigating the range of official statistics

- 4.3. There is no single portal for all official statistics. The National Statistician, reporting to the Public Administration Select Committee (PASC) in October 2014<sup>34</sup>, recognised that a user is not primarily interested in who produces the statistics and on which website they feature – they want to search for the statistics they want, and to find them easily. He explained that meeting this need is not necessarily best served by one statistical portal (as there are important interdependencies with making all of government more open) but said that the intersections between different portals needs to be better managed. **Figure 7** describes the range of websites that host official income and earnings statistics and associated datasets. It illustrates why the need to manage the intersections and to provide effective signposting for users is so important. The recommendation in **Chapter 3** for regular income and earnings compendia can also bridge the gap for users left by the absence of a single point-of-entry.

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<sup>34</sup> <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/public-administration-committee/work-of-the-chief-executive-of-the-uksa-and-national-statistician/oral/14691.html>

**Figure 7: Different ways to access official statistics about income and earnings**




- 4.4. Dissatisfaction with the functionality of the ONS website was a recurring theme. Some recent improvements were noted, and users were particularly positive about ONS's Twitter feed<sup>35</sup> and email alert systems<sup>36</sup>, but users noted a range of issues, including that the search facility does not work well if the user has a precise idea of what they are looking for and simply wants to retrieve it; users should be able to navigate quickly to complete time series of the statistics that they are interested in; and links to information about methods and quality should be prominent.
- 4.5. ONS has taken the decision to 'start again' rather than continue its attempts to improve the current website. In September 2014, it started actively working with the Government Digital Service and with a private sector partner to develop an 'Alpha' site for testing. It has been building a testing community to ensure that the new website will be useful. Those involved in early testing have included Full Fact, Bloomberg, the Royal Statistical Society, the House of Commons Library, Ammp3d, and charities. A version was made publicly available for user feedback from 8 December 2014 until 5 January 2015. We are encouraged by the way that ONS is systematically engaging users in the development programme.
- 4.6. Departments including DWP and HMRC now disseminate their official statistics through GOV.UK and users told us that this has made it harder to find statistics. GOV.UK is designed as a central place to find government services and information and won the Design of the Year Award<sup>37</sup> for 'providing vital services and information in the simplest, most logical way'. However, hosting departments' official statistics is only a very minor part of what GOV.UK offers and so does not drive that design, but rather needs to operate within it. The GSS Presentation and Dissemination Strategy published in March 2014<sup>38</sup> recognised the challenges in helping users to locate statistics easily and committed to 'redeveloping the Publication Hub by the end of 2014 with improved search functionality and tagging of statistical releases'. A new Statistics Release Calendar<sup>39</sup> is now available on GOV.UK in place of the Publication Hub and is the one place that lists official statistics published through GOV.UK, the ONS website and other sites such as those of the Scottish and Welsh Governments. However, while the Calendar has the potential, in lieu of a single portal for official statistics, to operate as a 'front end' to really help users navigate their way, it could perform this function much more effectively – for example, simple searches for 'HBAI' or 'FRS', shorthand widely used, illicit zero responses. The problems experienced with locating official statistics, knowing when the latest releases are available, and navigating GOV.UK are not unique to users of income and earnings statistics. **We recommend that the National Statistician facilitates solutions to the problems with the GOV.UK Statistics Release Calendar, and considers commissioning his Good Practice Team to issue guidance on how to communicate statistics through GOV.UK to best effect.**

<sup>35</sup> <http://www.twitter.com/ONS>

<sup>36</sup> <http://www.ons.gov.uk/ons/about-ons/who-ons-are/newsletter/index.html>

<sup>37</sup> <http://designmuseum.org/design/designs-of-the-year>

<sup>38</sup> <https://gss.civilservice.gov.uk/blog/2014/03/gss-presentation-dissemination-strategy/>

<sup>39</sup> <https://www.gov.uk/government/statistics/announcements>

## Facilitating timely access to official statistics

- 4.7. Timely access to statistics about income and earnings was a strong theme of our discussions with users and centred around four key points: statistics becoming available too late to be relevant to decision making; slippages in timetables in recent years; the lag between headline statistics and detailed datasets/microdata being made available (and the unpredictability of this time lag); and similarly, the lag in the availability of regional statistics.
- 4.8. Users told us that a 15-month lag in publishing key income and earnings statistics means that the relevance to decision making is diminished almost before the statistics are released - a rule of thumb seems to be that the annual statistics remain at least broadly relevant if published within 12 months of the end of reference period. HBAI, FRS and ETB are all published some way beyond that benchmark. Responding to user feedback, ONS had hoped to produce estimates of median household income and inequality for 2013/14 on a quicker timetable than the annual ETB publication, which is normally published in the early summer, and provisionally announced a date for March 2015. However, ONS told us that the need to resolve issues with the source data mean that this cannot now be achieved. Instead the data will appear as usual in ETB, which has been preannounced with a provisional date of June 2015. ONS is also exploring the feasibility of producing nowcasts of key ETB figures, with the possibility of publishing what would amount to provisional estimates within a few months of the end of the income reference period. The results of the methodological work will be published in mid 2015.
- 4.9. In 2007, DWP published Households Below Average Income 2005/06 on 27 March (12-month lag). Users told us fairly consistently that they would welcome a return to this timetable. On 23 April 2007, DWP announced that an error had occurred when producing the statistics. After re-issuing the statistics, DWP reviewed its processes and built in more time for quality assurance and independent checking for HBAI and FRS, deciding that a more cautious annual publication timetable of May/June would be appropriate<sup>40</sup>. While DWP continues to have this published aim, **Figure 8** illustrates that it has been some years since a May release date has been achieved and in 2014 the timetable was moved to July, explained in part by a re-grossing exercise using data from the 2011 Census. DWP told us that the release schedule for HBAI and FRS is driven by two key factors: the coherent release of all statistics based on the FRS together; and allowing sufficient time for quality assurance of all these products<sup>41</sup>. DWP told us that quality is more important to their users than timeliness given the use of the data for policy development and costings. DWP highlight that trends in key statistics evolve slowly over time and so timeliness is not the critical factor. In this context quality is the priority over timeliness in relation to the FRS and HBAI being used to effectively inform decisions. We acknowledge that DWP is operating a process where it has rigorous quality checks. These checks, as well as several other developments and data dependencies, have resulted in the current production timetable.

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<sup>40</sup> DWP now works with IFS to provide an independent quality check on the data, which DWP told us is an intensive case by case check of the analysis.

<sup>41</sup> DWP illustrative guide to the stages of production for statistics based on the FRS:

<https://www.gov.uk/government/statistics/family-resources-survey-stages-of-producing-the-200910-surveys-publications>

**Figure 8: Release schedule for structural income and earnings statistics**

Statistical Report	2011	2012	2013	2014	2015 (plan)
<b>HBAI</b>					
Reference period	2009/10	2010/11	2011/12	2012/13	2013/14
Date Published	12 May	11 June	13 June	1 July	May/June 15
Lag to data being made available	2 months - UKDS (July)	1 month - UKDS (July)	3 months - UKDS (September)	3 months - UKDS(1 October) <sup>42</sup>	
<b>FRS</b>					
Reference period	2009/10	2010/11	2011/12	2012/13	2013/14
Date Published	12 May	11 June	13 June	1 July	May/June 15
Lag to data being made available	2 months - UKDS (July)	1 month - UKDS (July)	3 months - UKDS (September)	21 weeks – UKDS (26 November)	
<b>ETB</b>					
Reference period	2009/10	2010/11	2011/12	2012/13	2013/14
Date Published	19 May	26 June	10 July	26 June	Jun/Jul
Lag to data being made available			LCF for 2012 - UKDS on 24 March 2014	ETB for 2012/13 – 17 August 2014	
<b>ASHE</b>					
Reference period	2011 (pay period incl 13 April)	2012 (pay period incl 18 April)	2013 (pay period incl 17 April)	2014 (pay period incl 9 April)	2015
Date Published	23 Nov	22 Nov	12 Dec	19 Nov	Not announced
Lag to data being made available	9 days – NOMIS 1 year after reference date - VML/UKDS	Not known – NOMIS 1 year after reference date - VML/UKDS	6 days – NOMIS 1 year after reference date - VML/UKDS	1 day – NOMIS 1 year after reference date – VML/UKDS	n/a
<b>SPI</b>					
Reference period		Tax year 2009-10	Tax year 2010-11	Tax year 2011-12	Tax year 2012-13
Date Published		29 February	28 Dec 2012	31 Jan	30 Jan
Lag to data being made available		SPI data made available in HMRC Datalab soon after annual publication. No fixed timetable for the SPI Public Use Tape – timetable dependent on available resources and business priorities			

<sup>42</sup> Lag between data being available on UKDS in 2014 was explained by DWP's re-grossing exercise using data from the 2011 Census, which included updating ten years of historic data. As a result, the time taken for UKDS to process these data was extended.

- 4.10. DWP told us that it is currently reviewing whether FRS can be processed in a more-timely way. This review is being driven by a Eurostat project to improve the timeliness of EU-SILC<sup>43</sup>, and DWP will report to Eurostat on the findings in September 2015. The UK currently transmits a six-monthly dataset to Eurostat in November of the year following data collection. Eurostat publishes these data<sup>44</sup> but DWP does not share with UK users any information about these statistics, nor how well (or poorly) they might serve as early indicators, due to different definitions of income, net income and material deprivation.
- 4.11. It is now seven years since the HBAI error occurred. Although it is understandable why DWP publishes the statistics when it does, it still leaves users waiting for information. **We see DWP's current process review as an opportunity to explore the balance of timeliness and quality to ensure that it is best meeting user needs and recommend that DWP publishes the outcomes of its review. We also consider that DWP should provide better information for users about the cross-sectional EU-SILC data that Eurostat publishes for the UK and its strengths, limitations and possible applications.**
- 4.12. Users also expressed concerns about the timeliness of HMRC's SPI statistics. HMRC told us that the constraint on timeliness is the self-assessment window – for example, it said that for tax year 2012/13 the earliest it could take a reliable extract of data was April 2014. If the analytical extract for SPI is taken before the self-assessment filing due date (which is end of January), the response rate relative to those expected by the end of that month will be low because a high proportion file very close to the deadline. HMRC also told us that for analytical purposes, the data extract used for the SPI needs to be synchronised with the annual PAYE extract which is taken after the end-of-year tax process in early April. HMRC said that the most likely advancements to timeliness will come as a result of Real-Time Information<sup>45</sup> (RTI), which was fully operational for the 2013/14 tax year. It also said that with the billions of records that this brings, it will take some time for it to reach a level of maturity to deliver improvements for users, but that it will be a source of continuous improvement. RTI will only cover income within the scope of PAYE (typically employment income and occupational pensions) and not sources such as self-employment, property income, interest or dividends. HMRC anticipates being able to publish some early indicators. **The Authority considers that it will be important for HMRC to keep users of its Survey of Personal Income statistics regularly apprised of its strategic plans for exploiting Real-Time Information to improve official statistics, including their timeliness.**
- 4.13. ONS generally publishes ASHE during November and while users broadly found this acceptable, users including the Low Pay Commission (LPC), Office of Manpower Economics (OME) and the Bank of England said that September publication would increase their relevance – for example, OME said that review bodies start to discuss earnings growth

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<sup>43</sup> REGULATION (EC) No 1177/2003 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL requires that countries transmit cross-sectional datasets within 11 months of the end of the reference period and longitudinal datasets within 15 months:

[http://epp.eurostat.ec.europa.eu/portal/page/portal/income\\_social\\_inclusion\\_living\\_conditions/legislation](http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/legislation)

<sup>44</sup> [http://ec.europa.eu/eurostat/statistics-explained/index.php/Living\\_conditions](http://ec.europa.eu/eurostat/statistics-explained/index.php/Living_conditions)

<sup>45</sup> <http://www.hmrc.gov.uk/news/annual-schemes.htm>

trends from October. LPC provides analyses to government in December each year ahead of publishing *National Minimum Wage: Low Pay Commission report*<sup>46</sup> in February. This was compromised in 2013 with the delayed publication of ASHE. ONS told us that there is a balance to be struck between quality and timeliness, with AWE serving the purpose of providing a timely headline measure. ONS also told us that as ASHE is a very detailed survey, significant resource and time is devoted to data collection and validation. Results processing is also time consuming. **We consider that ONS might consider its scope for prioritising investment in ASHE systems within the resource it has available to it.**

- 4.14. In addition to wanting more-timely statistics, users want to minimise the lag between the publication of official statistics and of the underlying microdata. In 2014, there was nearly a 5 month lag between when the microdata relating to the FRS were available on the UKDS and when the statistics were published. DWP told us that the delay in publishing was partly driven by a DWP re-grossing exercise, using data from the 2011 Census. This resulted in an uncommonly large number of datasets to be uploaded (10 years). DWP also told us that once it supplies the data to UKDS the responsibility for maintaining timetables and communicating with users lies with the UKDS and so, with limited capacity, DWP does not tend to oversee or communicate progress.
- 4.15. We recognise the special circumstances during 2014, with additional datasets covering a ten-year period of historic data to process, and we know that users appreciate DWP's efforts to make consistent historical data available, but we consider that DWP should work more closely with UKDS to help keep users informed of what will be available and when. **We also recommend that DWP reviews its arrangements for releasing data to UKDS with a view to reducing the lead time from publication of the statistics to making the datasets available.**
- 4.16. Users also want to know how they should consider the relationships between the statistics published by different statistical producers – for example, When 'X' is published, does this become the primary source, and 'Y' less relevant, do the two serve a different purpose, or is there a balance to be struck in considering both? Users told us that confusion is further exacerbated by flexibility in annual timetables meaning that the order of publication switches from year to year – **Figure 8** illustrates that in 2013 HBAI was released some time before ETB and in 2014 was released later. We understand that there are sometimes valid reasons for changes in publication schedules but we consider that DWP and ONS could do more to account for the impact of this flexibility.
- 4.17. Official statistics about income and earnings that offer a regional or local perspective tend only to be published annually. Whereas statistics about other aspects of the labour market such as employment and unemployment are available every month, the evidence base does not exist to make real-time decisions around regional wage and earnings inflation – for example, for London. For HBAI, there is effectively a longer time lag for the regional statistics – FRS sample sizes are not sufficient to support reliable annual estimates and so three-year rolling averages are taken, reducing the relevance of the regional statistics, especially for analysing trends.

<sup>46</sup> <https://www.gov.uk/government/publications?departments%5B%5D=low-pay-commission>

- 4.18. ONS's Small Area Income Estimates are produced at the middle layer super output area (MSOA) and provide the average household income for small areas within England and Wales. However, there is a very long time lag associated with the availability of these statistics – the most recent statistics available are for the 2007/08 reference period although the next publication scheduled in 2015 will refer to 2011/12.
- 4.19. Users told us that they place a lot of value on the Wealth and Assets Survey and a number expressed a wish for the survey to be run more frequently than every two years. ONS told us that it recognises the need for more timely statistics and in 2015 it aims to publish early indicators from the survey within six months of the end of data collection.

### **Promoting flexibility of access and supporting re-use**

- 4.20. Users value flexible access to detailed datasets. They value datasets being made available in a form that can be easily interrogated, particularly when they are supported by the tools and metadata to facilitate this. ONS's NOMIS service was one example cited as good practice, as were DWP's StatXplore and Tabulation tools. Simpler developments such as DWP replacing HBAI pdf tables with Excel tables were also warmly welcomed. However, some users told us that they do not use some data as the extracts presented in standard tables are not those of interest – a good example of this is HMRC's SPI statistics. Users recognised that the amount of standard data tables made available has improved, but were frustrated that a potentially very rich data source does not have better options for data interrogation.
- 4.21. The availability of consistent time series was also a key user requirement – researchers said that a comprehensive historical perspective is vital and in spite of any comparability issues, statistical producers should make clear to users the extent of the data that is available so that they can direct their research accordingly. DWP's maintenance of consistent historical time series for HBAI was much appreciated, as is the long time series for the ETB, which is available back to 1971. However, users cited concerns with the availability of time series in other areas, such as the FRS headline survey. DWP told us that it has included time series data into its 2010/11 FRS publication.
- 4.22. ASHE was commonly cited by users as a statistic where there is a need for the presentation of updated consistent historical time series in a way that does not require the time-consuming navigation of multiple tables. ONS introduced some limited ASHE time series for the first time with its November 2014 publication, which was a welcome step forward. ONS told us that it does make ASHE and AWE datasets available through its Virtual Microdata Laboratory (VML) with approximately a one-year lag from the reference period of the statistics. ONS acknowledged though that it does not advertise this sufficiently well. ASHE data are also made available through the UKDS's Secure Lab Study with 115 projects having accessed the service since its inception. ONS has also published an experimental time series for AWE back to 1963.



- 4.23. A general complaint by users was that they do not know exactly what data are available and where. Statistical producers are not consistent in outlining what is available, where it is available and how (and by whom) it might be accessed. Statistical reports rarely include anything on this subject and users are often presented with long lists of data tables and a brief statement saying something to the effect of ‘data are also available from the UK Data Service’. The Authority considers that good signposting and explanation of data availability should be a minimum standard and that such improvements should represent a quick win for statistical producers to implement. **We recommend that ONS, DWP and HMRC better communicate what data are available, and where, including time series; and that ONS work with users to make its ASHE datasets available in a more helpful form.**
- 4.24. The responsiveness of statistical producers to ad-hoc requests for data was raised as an issue by users. DWP and ONS received a mix of both positive and negative feedback, with the most positive feedback relating to where the producer and user have established an ongoing constructive working relationship. In particular, users drew our attention to delays in response of ONS’s ASHE team to more specialist queries. ONS told us that this is driven by the high volume of user requests which reflects the value users place on this statistic. ONS also told us that it is prioritising a solution, which is likely to involve enhancements to its IT interrogation tools and drawing on some external analytical expertise.

### Facilitating equality and ease of access

- 4.25. When users know what datasets are available, and where to access them from, those who can obtain licences for accessing detailed datasets are able to realise substantial benefits for their research. However, many users experience difficulties accessing those datasets, to the point where some have been discouraged from applying altogether. Users expressed concerns about difficulties relating to: the processes of applying for licences for data access; perceived inequalities of access for different bodies; and a lack of clarity on how to apply for a licence and clarity on the associated lead-times to grant a licence when an application is successful.
- 4.26. We welcome any expansion to the datasets available for interrogation through open services such as NOMIS and StatXplore and in this respect, DWP in particular is starting to better embrace a pro-data ethos, especially in relation to administrative data. Looking to the future, ONS, DWP and HMRC are all partners in the Administrative Data Research Network<sup>47</sup> (ADRN), funded by the Economic and Social Research Council and established to facilitate accredited researchers in accessing de-identified administrative data for the purposes of social and economic research. The ADRN Board ‘will provide assurance to the legislatures in Belfast, Cardiff, Edinburgh and Westminster, and the public, through the Board of the UK Statistics Authority, about achievement of the Network’s core aim: to facilitate linkage of routinely collected administrative data, thereby stimulating opportunities for innovative research and policy making’<sup>48</sup>. There is some optimism for the future and DWP told us that it sees opportunities to deposit data through ADRN facilities, a key

<sup>47</sup> <http://www.statisticsauthority.gov.uk/national-statistician/administrative-data-research-network/index.html>

<sup>48</sup> <http://www.statisticsauthority.gov.uk/national-statistician/administrative-data-research-network/adrm-terms-of-reference.pdf>

enabler for which could potentially be proposals for data sharing legislation being developed by ONS and others for Cabinet Office consideration<sup>49</sup>.

- 4.27. However, counterbalancing this more positive outlook for administrative data sources, access appears to be becoming more limited to the more-detailed and potentially disclosive datasets from statistical surveys made available on a restricted basis under licence from the UKDS, the VML and HMRC's Datalab. The licensing arrangements for these services are summarised in **Figure 9**.
- 4.28. Researchers associated with third sector organisations such as charities and think tanks, as well as local government and other public sector organisations outside the Civil Service do not benefit from the same access to survey data as those linked to academic institutions. These organisations often find themselves having to commission a university to conduct analysis that they consider they already have the reputation, skills and integrity to conduct themselves.
- 4.29. It is clear that users are concerned about the application process as well as the lead times involved for approving research projects, with some being actively discouraged from applying for access at all. User communities appeared to be influenced by the negative experiences of peers in part because of a vacuum in official guidance about how the licensing process works, including an estimate of the lead time, which can vary from weeks to months. **We recommend that statistical producers publish clearer guidance about the application process including details of the lead times that can be expected in gaining approval for particular research projects.**
- 4.30. It is also apparent that over time, some users have seen a reduction in the level of access they have been granted. For example, one user told us that that they previously had access to HBAI unrounded data for Inner and Outer London through UKDS under special licence but that, following the advice of DWP legal experts, UKDS had removed this special licence arrangement for all users. The user had been engaging with DWP to explore different data access arrangements. While DWP was receptive to this in principle, the process has been long and frustrating. When we discussed this with DWP statisticians, they told us that they had now been able to resolve this issue by developing a new contractual arrangement to supply data to the user under a formal data access agreement on a pilot basis. DWP acknowledged that this had been a long and resource intensive process. DWP statisticians told us that they understand the users' frustrations about the removal of special licence arrangements but that they take their legal responsibilities in this area extremely seriously (see para. 4.32 below for more detail).
- 4.31. The Authority recognises the need for rigorous data access arrangements but is concerned by users' experiences of inequalities and inefficiencies in access. We consider that there could be some quick wins to be made by statistical producers. **We recommend that the statisticians in ONS, DWP and HMRC work with the UKDS, VML and the HMRC Datalab to provide plain language guidance tailored to researchers outside academic organisations that clearly explains the criteria, process and timings for granting**

<sup>49</sup> <http://datasharing.org.uk/2014/08/11/research-statistics-draft-proposals-for-comment/#comment-3>



**licences, including dispelling any myths, and that they make this guidance available alongside the statistics.**

- 4.32. We recognise that different government departments face different legal challenges in making their data available when it would constitute personal information. These arise from the differing legal contexts within which departments operate. The first Data Principle under the Data Protection Act<sup>50</sup> requires data controllers to process personal data fairly and lawfully. DWP told us that it therefore makes its own judgment as to the risks which may be presented by disclosure in any particular context, having regard to the advice of its data security and legal advisers. DWP also told us that the weight of these responsibilities is reinforced by section 123 of the Social Security Administration Act 1992<sup>51</sup>, which, broadly, makes it a criminal offence punishable by imprisonment for individuals who are/have been employed in social security administration to disclose without legal authority information relating to a particular person.
- 4.33. HMRC is a non-Ministerial department governed by Commissioners for Revenue and Customs Act (CRCA) 2005<sup>52</sup>. HMRC does not have any common law powers, in relation to sharing data or otherwise. This means that as well as observing its express statutory restrictions placed upon its use of data under CRCA 2005, HMRC does not have a wider suite of powers outside of its legislative framework. Consequently, HMRC may agree to data linkage for studies that fall within its statutory remit, but proposals for linkage to HMRC data for studies which do not fall squarely into this remit will require a specific legal gateway or, where feasible, the informed consent of subjects of research.
- 4.34. The National Statistician has recently commissioned a full review of the Approved Researcher criteria and process used to grant lawful access. This review is being led by an expert Steering Group, chaired by ONS, and will be informed by a full, public, consultation exercise which will be launched in February 2015. This review is expected to conclude with the National Statistician agreeing updated criteria and processes in June 2015, which will clarify who may access ONS microdata, for what purposes, and remove any unjustified inequality of access. These updated criteria and processes are then likely to be adopted by all safe-settings used to disseminate Government microdata. **We recommend that HMRC and DWP reflect on the findings of this review, and how far its findings could be implemented within their different legal contexts.**

### Engaging users to improve official income and earnings statistics

- 4.35. The Authority considers that good user engagement represents a key element of supporting the interpretation and re-use of the statistics. Users who were members of existing user groups and fora such as the Labour Market Statistics Theme Group reported positively. These users tended to be government departments and those users we might anticipate having better access to the statisticians such as the Bank of England. Users outside government said that some recent activities by ONS such as Labour Market Seminars have

<sup>50</sup> <http://www.legislation.gov.uk/UKPGA/1998/29/contents>

<sup>51</sup> <http://www.legislation.gov.uk/ukpga/1992/5/contents/enacted>

<sup>52</sup> <http://www.legislation.gov.uk/ukpga/2005/11/section/18>

been greatly appreciated but generally they told us that they felt much less engaged than they would like to be.

- 4.36. **The Authority considers that statistical producers could approach engagement more creatively, and to better effect. The users we spoke with had an appetite to work constructively with statisticians to improve official statistics.** Users identified a range of mechanisms that statistical producers could employ to draw in researchers, charities, academics and think tanks including newsletters, user networks, information-sharing seminars, and user-producer expert working groups addressing specific topics, where users and producers can work together to discuss limitations of the statistics, and develop options to overcome them (such as that recommended in para 3.20 for self-employment). There were three key messages: however statistical producers engage, it should be regular, consistent and adequately resourced; it is important for statistical producers to work together to engage users around income and earnings; and users outside of government, with specific needs, should be able to have a dialogue with producers and share ideas about the development of the statistics.

### Supporting the regional and local perspective

- 4.37. Users told us that a lack of reliable and timely statistics at a local level, such as by local authority, is a limitation of statistics on income and earnings. There is also a growing need for information around distributions of income particularly at these local area levels. Recent attempts<sup>53</sup> to rationalise the burden associated with some statistics, for example those published by the Department for Communities and Local Government (DCLG), have resulted in a reduction in the collection of regional statistics which has been damaging for those wishing to analyse income at more local area levels. The sample sizes for some of these local areas are now felt to be subject to high volatility and render any estimates unreliable. Even where user views were sought before making these changes, coherence at the national level has not always translated to the regional level. ASHE is one of the primary sources for those interested in sub-regional analysis of income. However, users told us that the variation in the ASHE time series following several changes in methodology has meant that the results for some boroughs are effectively unusable. Moreover, most sources of income and earnings that are available at regional level, such as ASHE, are only published annually making it difficult to explore key issues like current wage inflation at a more local level.
- 4.38. Users who are interested in analysing specific cohorts, such as for older age groups, also have difficulty in accessing robust estimates for earnings for these cohorts at regional and sub-regional level. This presents difficulty in exploring the impact of an ageing population on the structural composition of employment, for example, and in considering the impact for different age groups at a local level.
- 4.39. HBAI is not only available at a considerable time lag, but regional estimates are based on three-year averages due to the relatively small sample sizes, which attenuates the use of these estimates for some users who wish to analyse at the sub-national level. However for

<sup>53</sup> <https://www.gov.uk/government/consultations/rationalising-statistics-land-use-change-and-housing-and-regional-data>

some purposes such as examining particular household compositions like single parents with three children, the data become practically unusable. Other users drew attention to the poorer quality of the FRS sample for Wales. Scotland and Northern Ireland both pay for boosts to the sample for their areas but Wales does not and this, combined with the cluster sample design, means that estimates for Wales are subject to a higher degree of variability than other countries.

- 4.40. There are however some good examples of income and earnings statistics being published at a local level. HMRC publishes its annual SPI statistics for a range of sub-UK geographies (by borough and district or unitary authority, and by Parliamentary constituency), along with measures of precision of the estimates. ONS's Small Area Estimates presents average household income for small areas within England and Wales, with the latest published statistic available for the 2007/08 reference period. **We consider that addressing the demand for regional and local analysis need not necessarily require new data collections. Instead, producers could go a long way towards addressing the demand by making users more aware of what is already available, especially the rich resource of the Survey of Personal Incomes.** In the longer term, **Chapter 5** sets out some potential opportunities that statistical producers should explore to better meet the needs of users of local and regional official statistics on income and earnings.

**Figure 9: UK Data Service, Virtual Microdata Laboratory and HMRC Datalab Licences**

### UK Data Service (UKDS)

The UK Data Service implements a generic, three tier access policy. The three tiers are Open, Safeguarded and Controlled. **Open data** are data licenced for use with an 'open licence' and which are not personal and have relatively few restrictions to use. Registration is not required.

**Safeguarded data** is ONS's preferred term for data which UKDS provide under the **UK Data Service's End User Licence (EUL)**. The safeguards include knowing who is using the data and for what purpose. The EUL outlines the restrictions on use for a particular data collection. Safeguarded data may have additional conditions attached such as special agreements; depositor permission; **limited to non-commercial or academic users**; data destruction clauses; and specific forms of citation.

**Controlled data** are data from which individuals may be identified and which thus are potentially disclosive. These data are only **available to users who have been accredited** and their data usage has been approved by the relevant Data Access Committee. For data where access is provided, a depositor's licence is required as is a secure access agreement. Where access is granted to controlled data, this will usually be through a physical or virtual secure environment, depending on the specific requirements of the data depositor. The user may also be required to undertake specific training as part of such access arrangements. For example, users can only log in to the **Secure Lab** if they are approved and trained researchers with a current research project.

Researchers, students and teachers from any discipline, organisation or country may register with the UK Data Service and obtain data. However, some datasets have restrictions on access due to the data redistribution licence agreements with the data providers. For the **Secure Lab**, UKDS welcomes applications from any researcher based at a UK academic institution or an ESRC-funded research centre. PhD and research students are also welcome to join. Civil servants use ONS's Virtual Microdata Laboratory (VML).

### Virtual Microdata Laboratory (VML)

The VML is ONS's facility for providing secure access to sensitive detailed data for statistical research purposes that serve the public good. Access is provided for Approved Researchers working on defined and approved projects. **Approved Researchers** are deemed 'Fit and Proper' when the researcher is able to demonstrate, to the satisfaction of the National Statistician, that he/she has the appropriate knowledge and experience necessary for handling potentially disclosive personal information; has provided satisfactory evidence supporting their application that illustrates their professionalism and technical competence to carry out the research proposal; and demonstrates a commitment to protecting and maintaining the confidentiality of the data during the creation of outputs and publications that arise during the proposal. Data accessed in this way cannot be downloaded and access is time limited. Once approved researchers have been specially trained, they analyse the data remotely from their desks in government organisations or in ONS Safe Rooms at various sites across the UK. Projects must be non-commercial.

### HMRC Datalab

The Datalab follows HMRC's strict data protection policies. There are restrictions on working practices to safeguard taxpayer confidentiality. To become an 'approved academic researcher', institutions have to submit a proposal and complete a short training course. The Datalab is governed by the Commissioners for Revenue and Customs Act (CRCA) 2005, which dictates who HMRC can allow to access their data and for what reasons. Research proposals for the Datalab must serve one of HMRC's functions under the CRCA 2005.

## Chapter 5 Setting the Future Path: Re-thinking Income and Earnings statistics

- 5.1 The preceding chapters of this Review have set out recommendations for immediate implementation that will improve the coherence and accessibility of income and earnings statistics. But looking to the longer term development of income and earnings statistics, there is a dilemma. On the one hand, the current system seems less than ideal. Put simply, if you were going to start afresh and design a system with the sole aim of providing statistics on income and earnings, you would not recreate the current system, with its multiple measures from different statistical producers on different bases with different levels of accessibility. On the other hand, there would be enormous costs to abandoning the current system and starting again: such as the loss of time series data; loss of data collection pathways; and loss of particular aspects of current statistics that provide value for users.
- 5.2 We do not, therefore, recommend a wholesale upheaval of the current system, beyond the implementation of our recommendations. To achieve a transformation in coherence and accessibility, the statistical system needs instead to rethink the way the current system operates from within – to seize opportunities for improvement and to generate innovative ways of evolving the current system. In this chapter, we set out four principles that should underpin this rethinking. The four principles, explained in the following sections, are:
- serving the public
  - involving users as a resource
  - utilising new sources of data
  - cultivating a spirit of curiosity

### Serving the public

- 5.3 As described in **Chapter 3**, the types of users of these statistics will range from expert users, such as in academia, research organisations, think tanks, and policy makers, to more casual users such as members of the public who wish to understand the trends in income and earnings, and the impact of government policies relating to the labour market and the economy more generally.
- 5.4 Interest in data on income and earnings is high and understanding trends in living standards is an important issue in political debate. In this context, it is important that producers of official statistics on income and earnings provide:
- statistics and data that are comprehensive and timely enough to meet users' needs
  - information about the statistics that is sufficient to properly understand them and to reconcile them with one another, resulting in a clear and coherent overall picture

- 5.5 Official statistics on income and earnings are for the benefit of our society as a whole. The general public, and those who advise the public, need the best quality statistics that are available. This means that every effort should be made to ensure that more data are available in real time, and knowledge gaps are filled. This will help ensure that the information base will be accepted and used with confidence, and that the quality of analysis and debate will be more relevant and focused.
- 5.6 As discussed in **Chapter 3**, data gaps should be filled as soon as practicable. Where data cannot be collected or compiled at the required frequency or timeliness, attempts to model or forecast/nowcast estimates should be considered<sup>54</sup>. For example, we know that estimates of income from self-employment, as discussed in **Chapter 3**, are hard to compile due to lack of timely information from self-assessment tax returns and some definitional issues. ONS, however, produces quarterly estimates of ‘mixed income’ for the quarterly National Accounts and the UK Economic Accounts publications based on a combination of data and modelling work. This could be used as a short-term estimate of total income from self-employment earnings.
- 5.7 In **Chapter 3** we recommended that statistical producers review their guidance about their outputs to ensure that it presents the relative strengths and limitations of the different official income and earnings statistics, particularly in relation to their use. More work should be done over time to address and explain any limitation that has an effect on its use. For example, if a chosen sampling frame is thought to create a bias in the derived estimates, every attempt should be made to evaluate and correct for that bias. Moreover, where estimates are derived from sample data, standard errors should be estimated where possible, and the central estimates should be published alongside their confidence intervals. By presenting similar estimates from a range of outputs, together with their appropriate confidence intervals, users will gain a better understanding of the strengths and limitations of the data available.

### Involving users as a resource

- 5.8 In **Chapter 4**, we concluded that good user engagement was effective in supporting the interpretation and re-use of statistics. We considered that statistical producers could approach user engagement more creatively, and to better effect. The three key messages identified were: (i) however statistical producers engage, it should be regular, consistent and adequately resourced; (ii) it is important for statistical producers to work together to engage users around income and earnings; and (iii) users outside of government, with specific needs, should be able to have a dialogue with producers and share ideas about the development of these statistics.
- 5.9 Users we spoke to expressed a real willingness and appetite to work constructively with statisticians to improve the quality of these official statistics. Users, working collaboratively with producers, may provide an additional resource, with little additional burden or cost, which might mutually benefit a wider range of users. We have seen in **Chapter 3**, an

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<sup>54</sup> As described in para. 4.8, ONS is exploring the feasibility of producing nowcasts for ETB.

example of analysis carried out by the Resolution Foundation who used a range of indicators to project forward less timely data on income from self-employment to be compared alongside more up to date statistics on employment earnings.

- 5.10 By pooling resources and ideas, more-sophisticated models can be developed over time. These, in turn, might be used to explore or explain changes in society more empirically.

### Utilising new sources of data

- 5.11 In addition to improving the quality and range of statistics on income and earnings in the UK by seeking to improve the existing surveys and data analysis, there are other sources that might be exploited effectively, albeit with current barriers to overcome. These include: wider use of existing administrative data; linking data from different sources to produce additional analyses; and establishing procedures to promote fuller user of available data.

#### *Using administrative data*

- 5.12 A general theme emerging from this Review is that fuller use should be made of already-existing administrative sources for the purpose of providing statistics on income and earnings in a timely way. These data often have the advantage of being available (to the relevant department or statistical agency) at high frequency and with a short lag, and may be used to forecast/nowcast less-timely but more-reliable estimates from other sources.
- 5.13 ONS is currently undertaking work examining the feasibility of using administration data for household income, at both aggregate and person-level data. ONS and DWP have also had discussions regarding the longer-term future of income statistics and, in particular, whether administrative data, web data collection and other innovations, will provide new opportunities to reform the outputs and statistics produced.
- 5.14 HMRC holds high quality data on the distribution of PAYE earnings (the single largest source of individual income). The recent introduction of Real-Time Information provides an opportunity to publish statistics about these quickly and at a frequency greater than the annual sample from April each year that underlies ASHE. This might lead to the production of timely quarterly estimates benchmarked to more reliable annual estimates that would be suitable, accepting their limitations, for the needs of some users.
- 5.15 DWP and HMRC hold high quality data on payments of benefits and tax credits (the next largest source of household income, after earnings). DWP provides information on the payment of individual benefits and characteristics of individual claimants or benefit units. DWP does not combine this information to determine whether a person is therefore receiving x benefits in total, because there are issues to consider on timings, reductions to benefits, interaction of different benefit rules and uncertainty over precise definitions. In the future, it may be worth exploring the potential of these data to provide statistics on the distribution of benefit income, though there are likely to be issues to consider: for example, whether people with the same address belong to the same household or family unit.



### *Linking data*

- 5.16 The value of these administrative sources would be enhanced by two further developments (which would also complement each other). First, linking the records on earnings, benefits and tax credits together so that they can be used to provide statistics on the distribution of total income from these sources (which together comprise a large majority of all household income). Second, linking the records of adults in the same household. This is a respect in which administrative data remains under-utilised. There could be scope to improve this situation: individuals' addresses are already recorded so the records of adults in the same household should be linkable. There are however some barriers and risks associated with sharing data and linking datasets, such as developing legal data sharing orders<sup>55</sup> and the security aspects of matching sensitive datasets.
- 5.17 The mixture of numerous individual, benefit unit and household-based income and earnings sources presents distinct challenges to government statisticians. However, an opportunity to overcome some of these issues may in future be facilitated by the potential to link apparently divergent sources together. For example, matching DWP household or benefits unit-level data with either individual-level HMRC income data or individual earnings-level data from ASHE, could offer a more robust way of analysing income and earnings levels at the benefit unit or household level than is currently the case. This would also provide a new source against which to quality assure the benefits and income estimates produced by existing household surveys.
- 5.18 There is also a possibility of linking aggregate information from different sources where standard classifications (such as geography and age bands) are used in published statistics. While this would not provide the richness and detailed cross classificational capability that matching records at an individual level would offer, it could help to address potential disclosure risks.
- 5.19 Linking data from a range of both surveys and administrative sources could provide more information and analyses of a longitudinal nature (such as the DWP's Work and Pensions Longitudinal Study<sup>56</sup>). Such analyses help to understand how living standards change over time for various cohorts of society, and whether policy change is making an impact where it should.
- 5.20 However there are significant barriers to linking data:
- **The legal context:** HMRC and DWP are both constrained by different legal contexts within which they operate –these are described further in paras 4.32 and 4.33.
  - **Consent:** There may be consent issues to consider, where an individual's consent may need to be granted to link data relating to them.
  - **Resources:** Exploring the potential of linking data could require a large amount of resource, both in investigating the potential and in considering the barriers in greater depth.

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<sup>55</sup> Such as an Information Sharing Order (ISO)

<sup>56</sup> <https://www.gov.uk/government/statistics/work-and-pensions-longitudinal-study>

Removing barriers to sharing or linking different datasets will help Government to design and implement evidence based policy, for example to tackle social mobility and assist economic growth. The Cabinet Office are currently applying an open policy approach to help inform any decision to introduce draft legislation on data sharing between public bodies in the next Parliament.

#### *Promoting fuller use of available data*

- 5.21 More generally, it is important to ensure that the UK can make the best use of the data it currently has. A powerful way of ensuring this is to be responsive to ideas from users. The research community is an obvious source of such ideas. Various researchers were consulted as part of this Review, and many of them were keen to emphasise that the range of data available has been improving (particularly with administrative data). Good examples are the release of the ASHE panel dataset via the UK Secure Data Service and data on tax credits and income tax via the HMRC Datalab. This is commendable progress.
- 5.22 In **Chapter 4** we discussed the widespread concern about the transparency of the processes to secure access to the microdata that underpin the official statistics on income and earnings. We recommended that more guidance to users be made available, and that statistical producers should explore equality of access more generally. When wanting to explore the possibility of using an unexploited data resource, and/or to establish what is feasible and what the constraints are, users are typically unsure who to approach and are left with the impression that no-one has sufficient incentives to make it happen. Whilst we recognise that the legal context must be a primary focus of government departments, it is important that users feel that their concerns are being listened to; this is as much about the tone of communication as the content.
- 5.23 The Administrative Data Research Network, which includes the Administrative Data Research Centres recently set up in England, Scotland, Wales and Northern Ireland, offers the prospect of achieving similar results. It aims to break down the barriers to access to the huge amount of information routinely collected by government departments and other agencies. It also aims to break down the barriers that prevent different sources of administrative data being linked with one another. We are encouraged that ONS is engaging with this work. It should continue to do so, and it should be proactive in helping to find solutions to the barriers identified.

#### **Cultivating a spirit of curiosity**

- 5.24 In **Chapter 3** we described how there is a wide range of statistics on income and earnings produced by statisticians in different departments and for different purposes. These statistics are not always coherent and users might draw misleading conclusions when trying to answer particular questions, for example on living standards or societal changes. We fully concur with the National Statistician's desire for the GSS to cultivate a "spirit of curiosity" when analysing its datasets, and challenging and understanding the key messages and trends observed.

- 5.25 Statisticians, working together with policy colleagues and other users, should not only demonstrate a drive to ensure their statistics help “tell the story”, but should also attempt to anticipate how society is changing, what is driving that change, and how it could be measured and analysed. This is not easy. But, to keep pace with a fast changing world and to respond rapidly when new issues arise, or to fill gaps where data do not exist, timely and relevant statistics are essential – and this can only be done collaboratively.

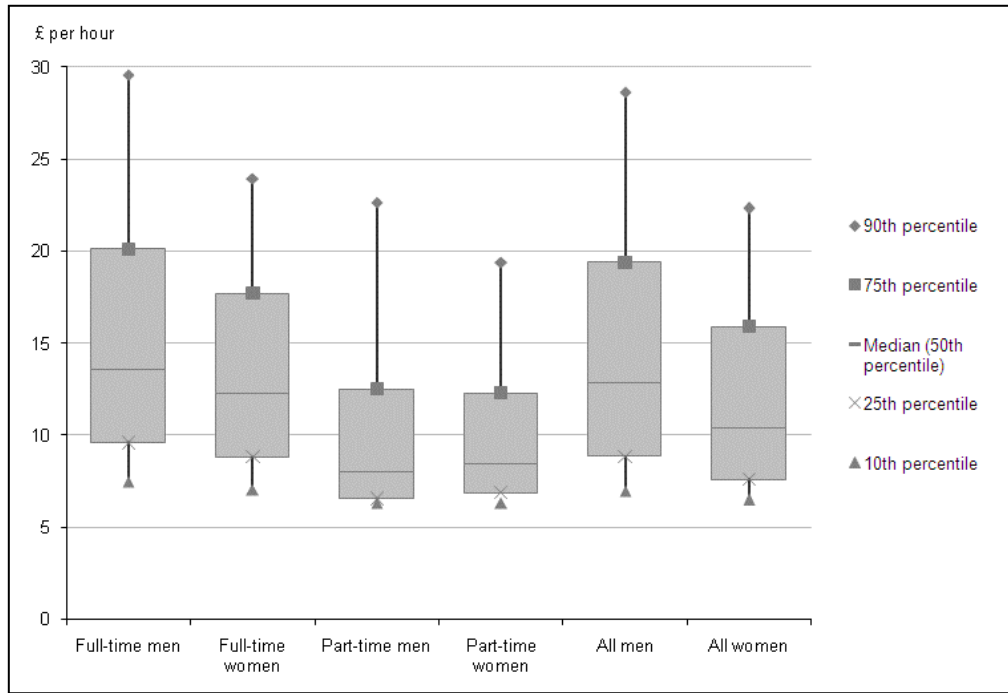
## Annex 1 List of users contributing to this Review

<b>Organisation/Person</b>
Age UK
Bank of England
Child Poverty Action Group
David Blanchflower
Department for Work and Pensions
Department for Social Development, Northern Ireland
Enfield Council
Full Fact
Gingerbread
Greater London Authority
Heriot-Watt University
High Pay Centre
HM Treasury
Homes and Communities Agency
House of Commons Library
Institute for Fiscal Studies
Joseph Rowntree Foundation
London School of Economics and Political Science
Low Pay Commission
Luxembourg Income Study
National Institute of Economic and Social Research
New Policy Institute
Office for Manpower Economics
Office of the First and Deputy First Minister in Northern Ireland
Resolution Foundation
Sagacity Research
Scottish Government
Tees Valley Unlimited
The Equality Trust
Thomson Reuters
Trade Union Congress
UK Data Service (and users)
University of Aberdeen
University of Glasgow
University of Stirling
Welsh Government

## Annex 2 Summary of official statistics on Income and Earnings

### A2.1 Annual Survey of Hours and Earnings (ASHE)

Figure 10: Distribution of gross hourly earnings (excluding overtime), UK, April 2014



Source: Annual Survey of Hours and Earnings, 2014 Provisional Results (Office for National Statistics)

#### Background

The Annual Survey of Hours and Earnings (ASHE)<sup>57</sup>, is conducted by ONS and provides comprehensive data on earnings in the UK. ASHE focuses on employees in employment. It provides rich information about the levels, distribution and makeup of earnings and hours paid for employees within industries, occupations and regions. The survey collects information on earnings and hours worked for a pay period in April each year. With a one per cent sample of all employees in employment, ASHE is generally regarded as the best source of information on individual employee earnings. It is republished by the Scottish<sup>58</sup> and Welsh<sup>59</sup> governments and the Northern Ireland Executive<sup>60</sup>. In 2004, ASHE replaced the New Earnings Survey (NES) as ONS's main source of information on earnings. The change brought improvements to the coverage of employees and introduced weighting and imputation for item non-response. The main ASHE publication focuses on full-time employees.

<sup>57</sup> [http://www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm %3A77-21502](http://www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-21502)

<sup>58</sup> <http://www.scotland.gov.uk/Topics/Statistics/Browse/Labour-Market/AnalyticalPapers/ASHESGAnalysis2014>

<sup>59</sup> <https://statswales.wales.gov.uk/Catalogue/Business-Economy-and-Labour-Market/People-and-Work/Earnings>

<sup>60</sup> <http://www.detini.gov.uk/deti-stats-index/stats-surveys/stats-hours-and-earnings.htm>

### Data availability

- Annual Statistical Bulletin<sup>61</sup>
- Annual Data Tables – ASHE reference tables (22 excel spreadsheets)<sup>62</sup>
- UK Data Service microdata<sup>63</sup>
- Microdata via the secure Virtual Microdata Laboratory (VML)<sup>64</sup>
- Lower Level – NOMIS<sup>65</sup>

### Coverage

ASHE is a widely used source and provides information about the levels, distribution and make-up of earnings and hours paid for employees by gender and full-time/part-time working. The published ASHE tables contain UK data on earnings for employees by sex and full-time/part-time workers. The mean and median are available for hourly and weekly earnings and annual median earnings are also given. Breakdowns by region, occupation, industry and age groups are provided for gross weekly pay, weekly pay excluding overtime, basic pay including other pay, overtime pay, gross hourly pay, hourly pay excluding overtime, gross annual pay, annual incentive pay, total paid hours, basic paid hours and paid overtime hours. The earnings information relates to gross pay before tax, National Insurance and other deductions. ASHE does not cover the self-employed nor does it cover employees not paid during the reference period. The survey reference date for ASHE is in April of each year and provisional results for ASHE and Low Pay, which contains estimates for the number of jobs paid below the national minimum wage, are published in November of the same year and revised results are published in November of the following year.

### Survey

ASHE collects data at the individual level and is based on a one per cent sample of employee jobs taken from HM Revenue & Customs (HMRC) Pay As You Earn (PAYE) records. Information on earnings and hours is obtained from employers. The sample is then supplemented by additional samples drawn from the Inland Revenue PAYE register in April, to cover employees that have either moved into the job market or changed jobs between the time of selection and the survey date. To cover businesses that don't have any employees above the PAYE threshold, a further sample is drawn from Inter Departmental Business Register (IDBR) for businesses registered for VAT but not for PAYE.

### Guidance/Advice

Many guidance publications relating to ASHE are available on the ONS website<sup>66</sup> although key information is spread across several publications. ASHE data are used by government to inform on labour market conditions, policy decisions, low pay analysis and pay comparability. Non-

<sup>61</sup> <http://www.ons.gov.uk/ons/rel/ashes/annual-survey-of-hours-and-earnings/2014-provisional-results/index.html>

<sup>62</sup> <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-337425>

<sup>63</sup> <http://ukdataservice.ac.uk>

<sup>64</sup> <http://www.ons.gov.uk/ons/about-ons/business-transparency/freedom-of-information/what-can-i-request/virtual-microdata-laboratory--vml-/index.html>

<sup>65</sup> <https://www.nomisweb.co.uk/articles/793.aspx>

<sup>66</sup> <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/labour-market/annual-survey-of-hours-and-earnings/index.html>

governmental uses include pay negotiations by trade unions, local government analysis, academic publications and media.

**Strengths:**

- contains information on approximately 180,000 jobs from around 50,000 responding businesses across all industries, occupations and regions, making it the most comprehensive source of UK earnings information
- data are available at the sub-UK level facilitating comparative analysis
- the potential for longitudinal analysis as the same individuals are sampled over time
- based on information from employers' administrative systems, which are known to be more reliable than household survey sources of earnings information such as the Labour Force Survey (LFS), which are based on individual self or proxy reported data
- ASHE (and its predecessor NES) has been collected every year since 1970
- available for analysis and re-use via the UK Data Service, VML and NOMIS

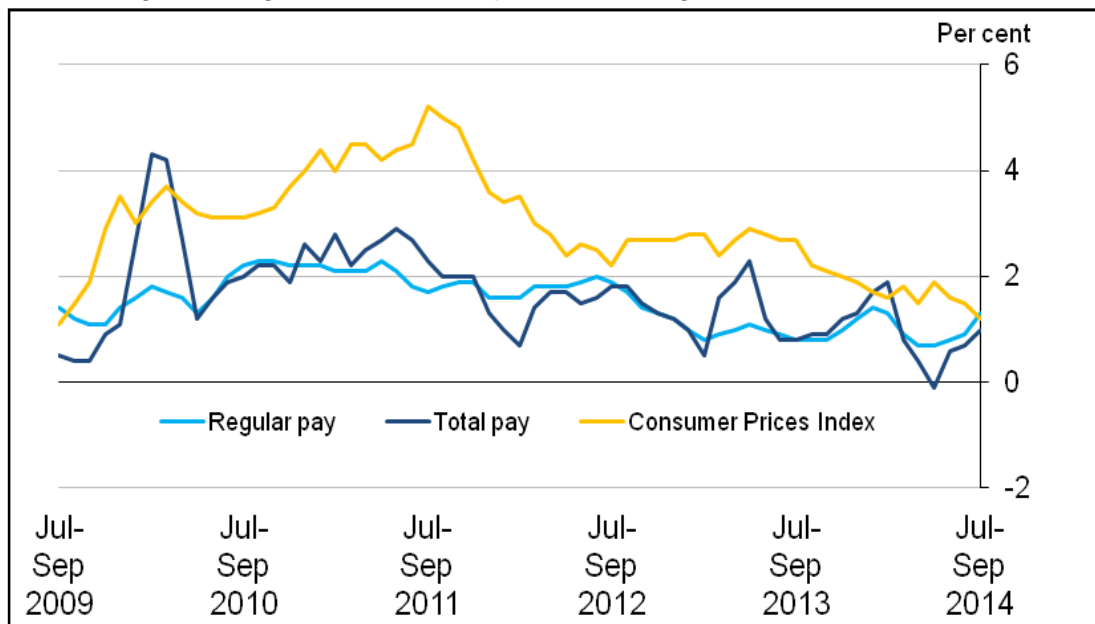
**Limitations:**

- no data are available for the self-employed
- hard to get a consistent time series due to historical methods changes
- known under-coverage of bonus and incentive payments
- lack of demographic information such as ethnicity, religion, education and disability
- some users would like more regular and timely (e.g. quarterly) results
- does not cover employees earning below the taxable threshold
- estimates at low levels of disaggregation may be volatile and require some adjustment for further analysis (e.g. for estimates of regional Gross Value Added (GVA))
- focus is on full-time earnings so less analysis is provided for part-time employees
- as non-VATable companies were only included in the ASHE survey from 2004 onwards, data for 2003 and earlier is considered to underestimate the prevalence of low pay



## A2.2 Average Weekly Earnings (AWE)

Figure 11: Average earnings and consumer prices annual growth rates



Source: UK Labour Market: November 2014, ONS

### Background

Average Weekly Earnings (AWE)<sup>67</sup> is published monthly by ONS and is the lead indicator of short-term changes in earnings, replacing the Average Earnings Index (AEI) as the lead short-term change in earnings indicator from January 2010. AWE is a measure of mean, rather than median pay, and is calculated as the ratio of estimated total pay for the whole economy, divided by the total number of employees. AWE is therefore affected by both changes in earnings within industries, and also by shifts in the composition of the workforce. AWE uses the number of employees on an employer's payroll as its denominator, so changes in the number of paid hours worked (assuming the pay rate per hour stays the same) will show as an increase or decrease in average earnings as appropriate. AWE is used to produce figures for the economy as a whole, and by sector and industry.

The headline AWE figures are published in the *Labour Market Statistics Bulletin*<sup>68</sup> and show changes in seasonally adjusted weekly earnings for the latest three months, compared with the same three months in the previous year. The bulletin also provides indications of any forthcoming changes to the AWE methodology.

AWE is a key economic indicator and is used by the Bank of England and HM Treasury to measure the inflationary pressure stemming from the labour market. More broadly, AWE is used as a measure of wages growth, sometimes in pay negotiations but more often in contract escalation clauses. Additionally, it is used to update some state benefits such as the Basic State Pension.

<sup>67</sup> <http://www.ons.gov.uk/ons/rel/awe/average-weekly-earnings/index.html>

<sup>68</sup> <http://www.ons.gov.uk/ons/publications/all-releases.html?definition=tcn:77-21589>

### Data availability

- Average Weekly Earnings – Bonus Payments in Great Britain Bulletin – Annual<sup>69</sup>
- Quarterly Data Tables (Labour Market Statistics Bulletin)
- Average Weekly Earnings Bonus Payments Tables
- VML microdata for Monthly Wages and Salaries Survey (MWSS)<sup>70</sup>

### Coverage

AWE covers Great Britain but the self-employed, HM Armed Forces and Government Supported Trainees are excluded from the statistics.

### Survey

The AWE is based on the Monthly Wages and Salary Survey (MWSS)<sup>71</sup>, which covers employees working in businesses with twenty or more employees in all industrial sectors in Great Britain. The MWSS is a monthly survey of around 9,000 businesses with 20 or more employees using a simple stratified design from a population of approximately 107,000 businesses. Adjustments are made for the excluded smaller businesses including using the IDBR for employment figures and ASHE to estimate earnings.

### Guidance/Advice

Guidance is published on the quality and methodology of AWE is available on the ONS website<sup>72</sup>. A detailed report<sup>73</sup> comparing AEI with AWE in terms of their separate methodologies is also available.

### **Strengths:**

- the best source for capturing short term changes in earnings
- published six or seven weeks after the end of the reference period
- good coverage of bonus and incentive payments so is used to supplement ASHE has known coverage issues in this area
- can differentiate between wage growth and employee movement between industries
- experimental whole economy historical time series available from 1963 and for the public and private sectors back to 1990

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<sup>69</sup> <http://www.ons.gov.uk/ons/rel/awe/average-weekly-earnings/bonus-payments-in-great-britain/art---bonus-payments-in-great-britain.html>

<sup>70</sup> <http://www.ons.gov.uk/ons/about-ons/business-transparency/freedom-of-information/what-can-i-request/virtual-microdata-laboratory--vml-/index.html>

<sup>71</sup> <http://www.ons.gov.uk/ons/about-ons/get-involved/taking-part-in-a-survey/information-for-businesses/a-to-z-of-business-surveys/monthly-wages-and-salaries-survey/index.html>

<sup>72</sup> <http://www.ons.gov.uk/ons/guide-method/method-quality/quality-information/business-statistics/quality-and-methodology-information-for-average-weekly-earnings.pdf>

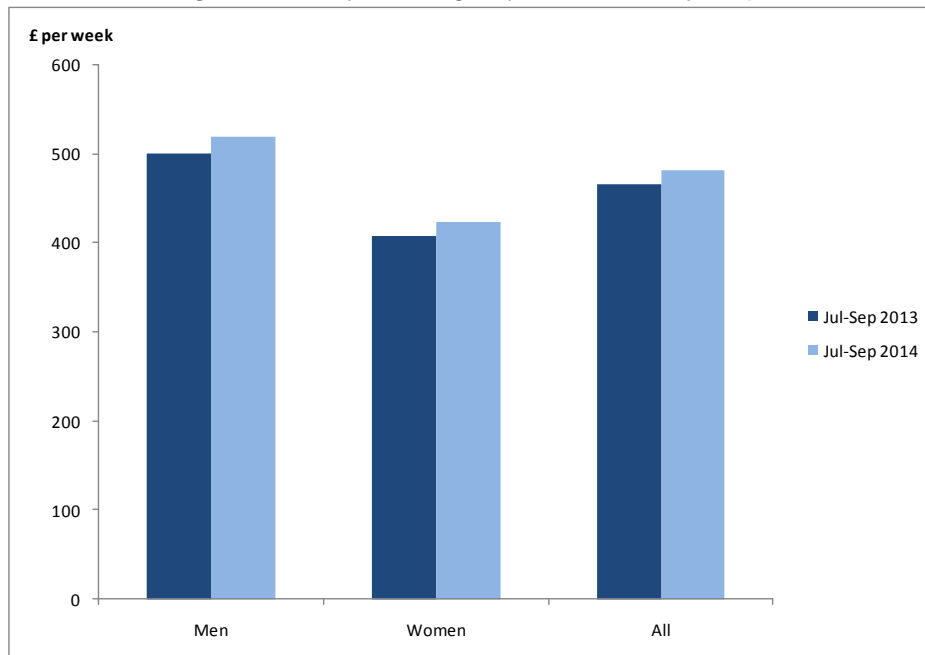
<sup>73</sup> <http://www.ons.gov.uk/ons/rel/awe/average-weekly-earnings/aei-and-awe--weale-report/index.html>

**Limitations:**

- data are not collected for the self-employed
- less accurate than ASHE in estimating gross mean earnings
- the MWSS does not sample workers employed in firms with fewer than 20 employees and is instead adjusted using ASHE data which reflects a different time period
- as a mean earnings measure it can be influenced by small number of very high earners
- MWSS microdata is only available through the VML secure data facility

### A2.3 Labour Force Survey (LFS)

**Figure 12:** Median full-time gross weekly earnings by sex, UK, July-September 2013 and 2014



**Source:** Data taken from Labour Force Survey Table EARN04: Gross weekly earnings of full-time employees (Date of publication: 12 November 2014)

#### Background

The Labour Force Survey (LFS) is a rolling survey of households living at private addresses in the UK. Results from the survey are published monthly by ONS as *The UK Labour Market Statistical Bulletin*<sup>74</sup> with associated excel tables. Its primary purpose is to collect information from individuals on issues related to employment and it is used to inform social, economic and employment policy. Some of the measures collected from LFS include economic activity and inactivity, all aspects of people’s work, job-search for the unemployed, education and training. The LFS also collects information on a wide range of individual characteristics including both gross earnings (hourly and weekly) and take home pay after deductions. Gross weekly and hourly earnings data are collected for each individual within the household and the statistics presented include both the mean and median gross weekly and hourly earnings. The LFS earnings estimates are available on a consistent basis back to 1995.

Users of LFS data often combine it with related data from other sources to provide an overall view of the state of the labour market. This provides rich data that are used by the Bank of England's Monetary Policy Committee, which sets interest rates designed to meet the Government's inflation target. Other Government users include the Department for Business, Innovation and Skills (BIS), the Home Office, the Health & Safety Executive and the Scottish and Welsh Governments.

<sup>74</sup> <http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/index.html>

### Data availability

- Statistical Bulletin – Monthly UK Labour Market<sup>75</sup>
- Reference Tables (5 tables from LFS) updated on a quarterly basis
- End User Licence<sup>76</sup> – Age bands and government office region only
- Special licence – Age (years) and local authority level
- UK Data Service microdata
- VML microdata<sup>77</sup>
- NOMIS contains sub-national estimates for the Annual Population Survey<sup>78</sup>

### Coverage

The LFS has the largest sample of any UK household survey. The sample is intended to be representative of the whole UK population, and all individuals aged 16 plus living in private, UK households are eligible for interview. The LFS covers a large range of employment and non-employment-related variables, allowing extensive cross-tabular analyses to be undertaken. However, as the survey is not stratified by industry, the sample design provides no guarantee of adequate coverage of specific industries. Households where all members are age 75 plus are not interviewed after wave one (see below), although they are represented in the LFS estimates as if they were, using an adjustment to the weighting. Earnings information is collected in the first and fifth waves of the survey. While LFS estimates of earnings are published at regional levels, ONS advises that these estimates should be used with caution, and recommends the Annual Population Survey (APS) is used to analyse labour market data at lower geographies. The APS is created by combining individuals in LFS waves one and five, from four consecutive LFS quarters with additional interviews obtained through separate English, Welsh and Scottish Labour Force Survey Boosts.

### Survey

The LFS uses a simple random sample panel design whereby households are selected to remain in the sample for 5 consecutive quarters (or waves), with a fifth of the sample replaced each quarter (thus there is an 80 per cent overlap in the samples for each successive survey). Respondents are interviewed five times at 13 week intervals as per the rotational design. Interviews are mostly carried out on a face-to-face basis for the first wave, and for the second to fifth waves, telephone interviews are the prime method used. The overall LFS response rate is around 50 per cent, and the survey's achieved sample is currently around 40,000 responding households per quarter. The LFS allows interviewers to accept answers to questions by proxy if a respondent is unavailable. This is usually from another related adult who is a member of the same household. About a third of the LFS responses are collected by proxy, with variation in this

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<sup>75</sup> <http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/january-2015/index.html>

<sup>76</sup> <http://ukdataservice.ac.uk>

<sup>77</sup> <http://www.ons.gov.uk/ons/about-ons/business-transparency/freedom-of-information/what-can-i-request/virtual-microdata-laboratory--vml-/index.html>

<sup>78</sup> <https://www.nomisweb.co.uk/>

proportion by age and sex. Due to this, the LFS is known to underestimate levels of gross weekly and hourly earnings.

### Guidance/Advice

ONS publishes extensive guidance on many aspects of LFS. High-level information on survey quality<sup>79</sup> can be useful as can the more extensive nine volume user guidance<sup>80</sup> and the section on earnings from *A Guide to Labour Market Statistics*<sup>81</sup>.

### **Strengths:**

- both weekly and hourly gross earnings are published
- earnings estimates are available quarterly and on a consistent basis back to 1995
- a rich selection of classificatory variables allowing detailed earnings analysis for population sub-groups
- a good level of detail is included for part-time workers and the low paid
- widely used and accessible for research via the UK Data Service
- potential for the longitudinal analysis of changes in earnings levels

### **Limitations:**

- although the overall sample size for LFS is large, data on earnings are only collected in waves one and five resulting in a smaller sample size for earnings analysis
- data are based on self-reporting so less accurate than that collected from employers
- respondents whose reported hourly pay is £100 or above are excluded
- known to underestimate earnings compared to ASHE and AWE
- does not collect earnings data for the self-employed but publishes several monthly and quarterly tables on other self-employed characteristics<sup>82</sup>
- subject to a falling response rate over time

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<sup>79</sup> <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/labour-market/labour-force-survey-quality-measures/index.html>

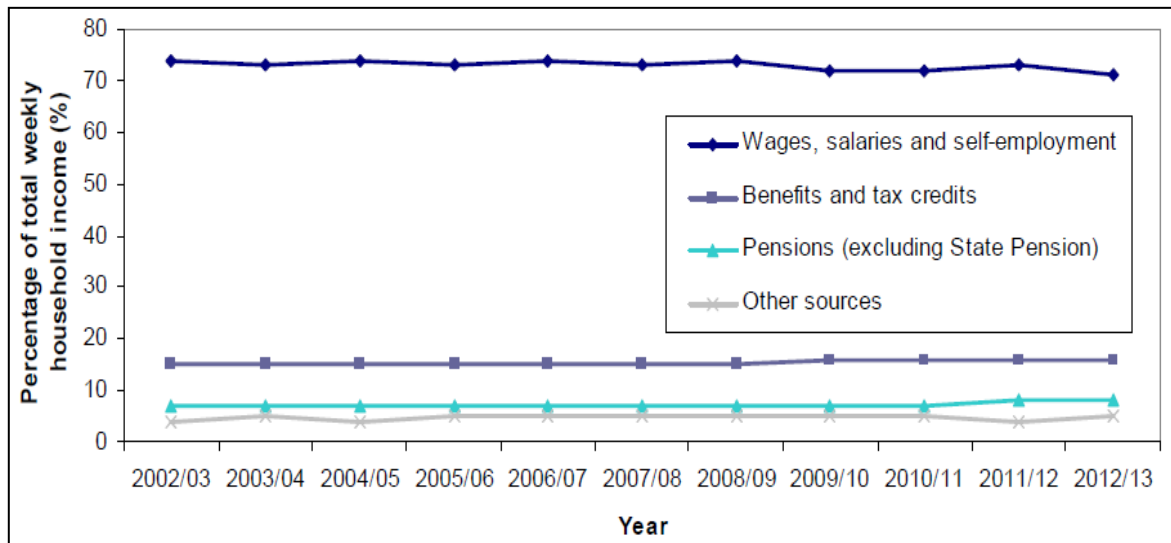
<sup>80</sup> <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/labour-market/labour-market-statistics/index.html>

<sup>81</sup> <http://www.ons.gov.uk/ons/rel/lms/labour-market-guidance/guide-to-labour-market-statistics/guide-to-lm-statistics.html#tab-Earnings>

<sup>82</sup> <http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Self-employment+Earnings>

## A2.4 Family Resources Survey (FRS)

Figure 13: Sources of total weekly household income



Source: Family Resources Survey (FRS) – Department for Work and Pensions

### Background

The Family Resources Survey (FRS) is an annual survey produced by the Department for Work and Pensions (DWP) which collects information on the incomes and circumstances of private households in the UK. Statistics derived from the FRS are used to monitor performance against key poverty related targets, for example those set out in the *Child Poverty Act, 2010*<sup>83</sup>. When the FRS began in 1992 it initially covered Great Britain only, but this was extended to cover the UK as a whole from 2002/03. The FRS is the survey source for DWP’s Households Below Average Income (HBAI)<sup>84</sup> series, the Pensioner Incomes series<sup>85</sup>, and Income related benefits estimates of take up<sup>86</sup>. DWP analysts also use the FRS to model and assess the impact and potential cost of proposed and potential government policy changes and monitor their effect once in place. Since April 2012, the FRS has been the survey vehicle used to collect the cross-sectional information required for Eurostat’s EU Statistics on Income and Living Conditions (EU-SILC). The FRS is also used for setting the level of the benefit cap introduced from April 2013 and HMRC uses the FRS to estimate the take up of Child Benefit and Tax Credits. The FRS is widely used in academia, and by other researchers and third sector organisations to help inform research into financial inclusion and other themes related to living standards and poverty.

<sup>83</sup> <http://www.legislation.gov.uk/ukpga/2010/9/contents>

<sup>84</sup> <https://www.gov.uk/government/collections/households-below-average-income-hbai--2>

<sup>85</sup> <https://www.gov.uk/government/collections/pensioners-incomes-series-statistics--3>

<sup>86</sup> <https://www.gov.uk/government/collections/income-related-benefits-estimates-of-take-up--2>



### Data availability

- Statistical Bulletin – Annual<sup>87</sup>
- Supporting excel data tables
- UK Data Service<sup>88</sup> held End User License (EUL) micro-data and Special User Licence (SUL) micro-data via Safe Room access only<sup>89</sup> for 1993/94 to 2012/13
- UK Data Service also publish the GB and NI questionnaires, showcards, routing information, derived variable information and other supporting documentation

### Coverage

The data collected by the FRS reflects DWP's primary use of the survey for modelling for policy development and costings. The survey has a wide remit to reflect the breadth of areas where DWP require information. This includes the collection of income data, including the receipt of social security benefits; data relating to certain items of expenditure, such as housing costs; and expenditure associated individual circumstances, such as whether someone gives or receives care, or has childcare costs. The FRS reports on housing, caring, disability and pensions alongside incomes and benefit receipt. The FRS is known to under-report benefit receipt relative to administrative records, though is considered the best source for the analysis of total benefit receipt on a benefit unit or household basis, and of benefit and tax credit receipt by characteristics not captured on administrative sources. The FRS is also thought to underestimate the incomes of the self employed. FRS users are given an annual opportunity to review the contents of the FRS questionnaire and put forward suggestions for change. Proposals are reviewed and finalised by senior FRS stakeholders.

### Survey

The FRS has a stratified clustered probability sample design and is a representative survey of around 20,000 households in the United Kingdom, though prior to 2002/03 the FRS only covered Great Britain. DWP commissions the Office for National Statistics (ONS) and the National Centre for Social Research (NatCen) to administer the FRS for Great Britain (GB).

The fieldwork for the survey in Northern Ireland is managed by the Department for Social Development (DSDNI) and is currently carried out by the Northern Ireland Statistics and Research Agency. The area of Scotland north of the Caledonian Canal was included in the FRS for the first time in the 2001/02 survey year, and, from 2002/03, the FRS was extended to include a 100 per cent boost of the Scottish sample increasing the potential for Scottish level analysis. In 2012/13, the FRS included 34,008 UK addresses in the sample and it achieved a 60 per cent response rate. Non-response bias is dealt with by weighting the data to ensure that the sample composition (in terms of factors such as age, sex, region and tenure) reflect the true UK population. Unlike HBAI, no adjustments are made to correct for volatility in the numbers and income levels at the top of the income distribution.

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<sup>87</sup> <https://www.gov.uk/government/statistics/family-resources-survey-2012-to-2013>

<sup>88</sup> <http://ukdataservice.ac.uk>

<sup>89</sup> [http://ukdataservice.ac.uk/media/178323/secure\\_frs\\_application\\_guidance.pdf](http://ukdataservice.ac.uk/media/178323/secure_frs_application_guidance.pdf)

### Guidance/Advice

The annual FRS publication contains a good overview of the survey methods and procedures. Supporting documentation is also published on the UK Data Service web pages.

### **Strengths:**

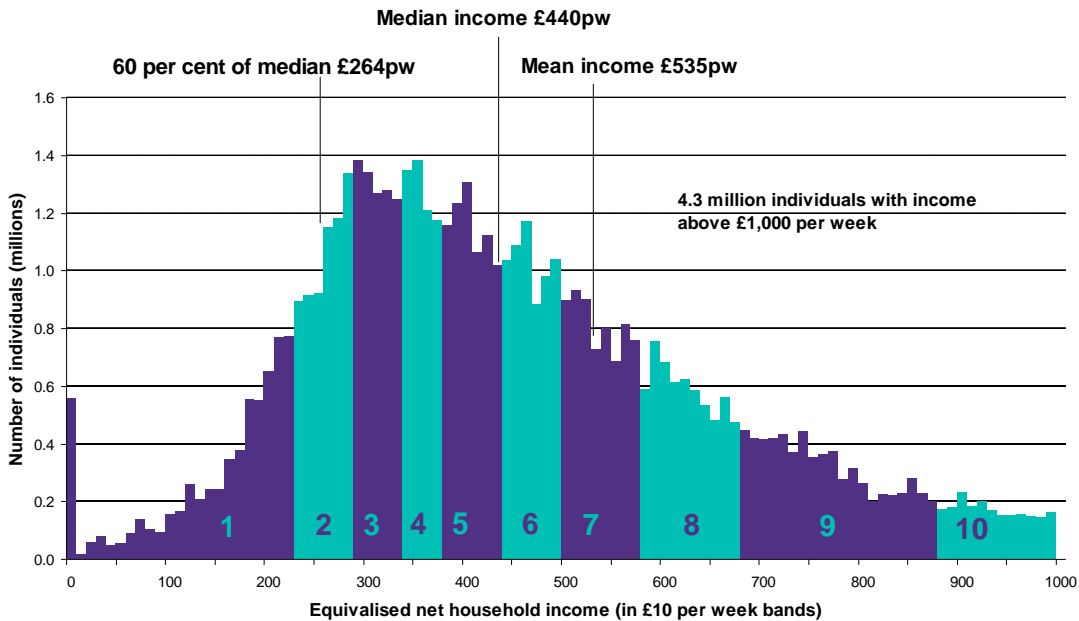
- captures more detail on different income sources compared to other household surveys
- collects detailed information on the household and individual circumstances, such as employment, education levels and impairments to enable detailed cross-tabular analysis
- availability of a long GB time series back to 1992, and for the UK back to 2002/03
- large sample allowing analysis of population subgroups at the National level
- area north of the Caledonian Canal included from 2001/02 and from 2002/03 the 100 per cent Scottish sample boost increased the sample available for analysis

### **Limitations:**

- the previously available Special User Licence FRS dataset is now only available via UK Data Service Safe Room access
- the annual FRS report was previously published in the spring, but this is now in June
- FRS is known under-report benefit receipt
- FRS is not adjusted (as HBAI is) to reduce the volatility in estimates in numbers and incomes the upper end of the distribution
- while HBAI provides robust national level estimates for many population subgroups, it cannot be consistently or reliably used to carry out detailed analysis of these groups at the regional or sub-regional level
- lack of UK estimates prior to 2002/03 for those interested in carrying analysis over the longer term

## A2.5 Households Below Average Income (HBAI)

Figure 14: Income (BHC) distribution for the total population, 2012/13



Source: Households Below Average Income (HBAI) – Department for Work and Pensions

### Background

The Households Below Average Income (HBAI) series<sup>90</sup>, published by the Department for Work and Pensions (DWP), is the foremost source of data and information about household income, income poverty and income inequality in the UK. The focus of HBAI is on disposable income, adjusted for household size and composition, rather than gross income. This is partly because HBAI’s main purpose is to provide a proxy for material living standards. Questions designed to capture material deprivation in terms of the self-reported inability of individuals or households to afford particular goods and activities have also been included as an additional way of measuring the living standards of families with children since 2004/05, and of pensioners since 2008/09.

HBAI was developed in the late 1980s using data from the Family Expenditure Survey (FES)<sup>91</sup>, to replace the FES based Low Income Families series, and has been compiled using data derived from the Family Resources Survey (FRS) since 1994/95. It is used by Government to monitor performance against poverty related targets, such as those set out in the Child Poverty Act, 2010<sup>92</sup>, and is extensively used for the analysis of low income by academics, not-for-profit organisations and the wider research community.

<sup>90</sup> <https://www.gov.uk/government/collections/households-below-average-income-hbai-2>

<sup>91</sup> <http://www.esds.ac.uk/government/fes/faq/>

<sup>92</sup> <http://www.legislation.gov.uk/ukpga/2010/9/contents>

### Data availability

- HBAI Statistical Bulletin – Annual<sup>93</sup>
- HBAI supporting data tables
- HBAI microdata – UK Data Service<sup>94</sup>

### Coverage

HBAI provides UK annual estimates on the number and percentage of people living in low-income households, focusing on the weekly net (disposable) equivalised (adjusted for household size and composition) household income, rather than gross income. This comprises total income from all sources of all household members including dependants. Income is adjusted for household size and composition using equivalence scales, which reflect the extent to which households of different size and composition require a different level of income to achieve the same standard of living. This adjusted income is referred to as equivalised income. The equivalence scales currently used in HBAI are modified OECD scales. McClements scales were previously used to adjust HBAI income up until 2004/05.

HBAI presents figures for different population sub-groups (the population as a whole, working-age adults, children, pensioners, and individuals living in a family where someone is disabled) in terms of relative low income measures (the number and proportion of individuals who have household incomes below a certain proportion of the average in that year) and absolute low income measures (the proportion of individuals who have household incomes a certain proportion below the median in a set year, adjusted for inflation). HBAI also includes measures of income inequality represented by the Gini Coefficient to show how incomes are distributed across all individuals and how high and low-income individuals compare to one another. HBAI provides results and time series for: the numbers below various income levels, some fixed in real terms, some varying with contemporary mean/median income; income growth by decile; shares of total income by decile; the composition of decile groups by family and economic status; incomes by quintile of family type and economic status; and historically, the numbers and characteristics of those with persistently low incomes. HBAI also includes three-year average estimates for regions of the UK.

The HBAI analyses of disposable income are presented on two bases: Before Housing Costs (BHC) and After Housing Costs (AHC) to take into account that variations in housing costs do not correspond to comparable variations in the quality of housing. HBAI and PI use variants of RPI to adjust for inflation to look at how incomes are changing over time in real terms. Headline HBAI figures for income and absolute low income trends on the Before Housing Costs basis (BHC) are also presented using RPIJ, CPI and CPIH, but the After Housing Cost (AHC) figures are not included as there has not been a decision taken on what deflator to use for this purpose.

### Survey

The HBAI dataset is derived from the Family Resources Survey (FRS) and, prior to 1994-95, the Family Expenditure Survey (FES). The FRS has a stratified clustered probability sample design a

<sup>93</sup> <https://www.gov.uk/government/statistics/households-below-average-income-hbai-199495-to-201213>

<sup>94</sup> <http://ukdataservice.ac.uk>

representative survey of around 20,000 households in the United Kingdom, though prior to 2002/03 the FRS only covered Great Britain – see section A2.3 for more detail on the FRS.

FRS non-response bias is dealt with by weighting the data to ensure that the composition of the sample (in terms of age, sex, marital status, region and a number of other variables) reflects the true UK population. Because of known deficiencies at the top of the FRS (and formerly the FES) income distribution, for the HBAI dataset, an adjustment is made to correct for volatility in the highest incomes captured in the survey. This adjustment controls both the numbers and income levels of the very rich: the numbers of very rich pensioners and non-pensioners are adjusted via the grossing regime and each 'very rich' individual is assigned an income derived from HMRC's Survey of Personal Incomes (SPI) – this is done both at the level of disposable income and of gross income and its components.

### Guidance/Advice

The guidance provided in the HBAI publication is of a good standard, and in particular, complex issues are clearly explained. The chapter on equivalisation is particularly good and well explained. Advice is given in the HBAI report on how to compare the FES and FRS series using either direct methods or splicing depending on the type of comparison the user wishes to make.

### **Strengths:**

- availability of the long time series back to 1979
- large sample allowing analysis of population subgroups at the National level
- increased robustness of the top end income estimates by using SPI data
- accessible guidance and graphics explaining key HBAI methods, terms and processes
- the FRS was extended to include a 100 per cent boost of the Scottish sample, increasing the sample size available for analysis at the Scottish level, from 2002/03
- uses broader measures such as the Gini coefficient which are robust when comparing over long time periods

### **Limitations:**

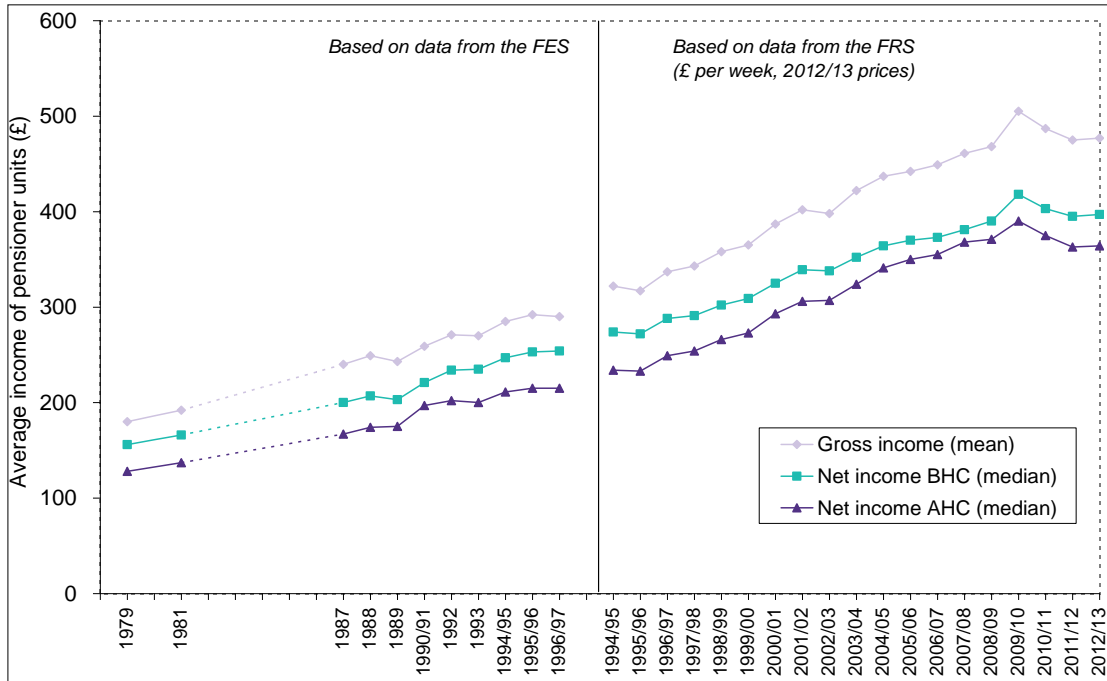
- the annual HBAI report was previously published in the spring, but this is now in June
- HBAI provides a snapshot measure of low income capturing both temporary and permanent levels of low income, whereas permanent levels would generally be regarded as a better measure of relative welfare
- HBAI previously included summary persistent low income measures using data collected by the British Household Panel Survey (BHPS), though these are no longer included due to the BHPS ending in 2008
- while HBAI provides robust national level estimates for many population subgroups, it cannot be consistently or reliably used to carry out detailed analysis of these groups at the regional or sub-regional level

- lack of UK estimates prior to 2002/03 for those interested in carrying out longer term UK level analysis
- the time lag between the reference period and the publication of the statistics



## A2.6 Pensioners' Incomes (PI) Series

Figure 15: Real income of pensioners, 1979-1996/97 and 1994/95-2012/13



Source: Pensioners' Incomes (PI) Series – Department for Work and Pensions

### Background

The Pensioners' Incomes (PI) series<sup>95</sup> contains estimates of the levels and trends of pensioners' incomes, broken down by different groups and income sources. Since 1994/95, it has been based on the Family Resources Survey (FRS)<sup>96</sup>; and prior to this, it was the Family Expenditure Survey (FES)<sup>97</sup>.

The annual Pensioners' Incomes (PI) series<sup>98</sup> publication presents income level and source of income estimates, for single pensioners and pensioner couples, where at least one member of the couple is over State Pension Age (SPA). It includes estimates for the total income of pensioner units, as well as detailed breakdowns by different income components, such as benefits and occupational pension income, which are not presented in HBAI. It also includes an analysis of pensioner incomes by region, ethnic group and in relation to the overall income distribution.

The PI series is used to inform Government thinking on relevant policies, and inform decisions about related programmes and projects. Researchers and analysts outside government use the statistics and data to examine topics such as ageing, distributional impacts of fiscal policies and the income profiles of pensioner groups.

<sup>95</sup> <https://www.gov.uk/government/collections/pensioners-incomes-series-statistics--3>

<sup>96</sup> <https://www.gov.uk/government/collections/family-resources-survey--2>

<sup>97</sup> <http://www.esds.ac.uk/government/fes/faq/>

<sup>98</sup> <https://www.gov.uk/government/collections/pensioners-incomes-series-statistics--3>

### Data availability

- PI series Statistical Bulletin – Annual<sup>99</sup>
- PI series supporting data tables
- PI series microdata – UK Data Service (as part of the FRS project)<sup>100</sup>

### Coverage

The annual PI series publication includes chapters covering the following statistics:

- income for different pensioner groups by age, for singles and couples, and by region
- the various sources of pensioner income, including the proportion of pensioners who receive income from these different sources
- the distribution of pensioner incomes, both within the pensioner population and in relation to the overall household population
- additional analysis, including couples where one member is above State Pension Age and the other below, married and cohabiting couples, and results for ethnic groups

### Survey

The PI Series is derived from the Family Resources Survey (FRS) and, prior to 1994–95, the Family Expenditure Survey (FES). The FRS has a stratified clustered probability sample design and is a representative survey of around 20,000 households in the United Kingdom (see A2.3). Over 7,000 households containing at least one person over State Pension Age, made up the subset of data used in the PI series 2012/13 publication. As the series is based on household surveys, a substantial proportion of the pensioner population, such as those living in institutions such as nursing homes and communal establishments, are excluded.

Whereas in the HBAI series income is equivalised to take account of different sized households (see A2.5), the PI series primarily presents analysis based on unequivalised pensioner incomes. This is because one of the main functions of the PI series is to provide information on the cash income of pensioner units, split by sources of income, in constant prices. As this is only possible using unequivalised income, most PI series results are presented separately for single and couple pensioner units. Unlike HBAI, the PI series excludes the incomes of other household members to reflect the true level of income available to individual pensioner units. As with HBAI, the PI series adjusts to correct for the volatility in the highest incomes captured by the FRS, controlling for both the numbers and income levels of the very rich using incomes derived from HMRC's Survey of Personal Incomes (SPI), see section A2.10 for a summary of SPI.

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<sup>99</sup> <https://www.gov.uk/government/collections/pensioners-incomes-series-statistics--3>

<sup>100</sup> <http://ukdataservice.ac.uk>

### Guidance/Advice

The PI series statistical bulletin is less well developed than that for HBAI, though the information included is clearly presented and well explained. The guidance provided in the PI publication explains key issues and how these need to be taken into account when interpreting results or analysing data. These include:

- definitions that apply to the PI data (e.g. analysis is at the household level and PI incomes are unequivalised – unlike in HBAI)
- key analysis groupings (e.g. gross or net income, all pensioner, single or couple pensioner units; BHC or AHC; and mean or median measures)
- small sub-groups that require the pooling of several years of data for robust analyses (e.g. three year pooling for analysis by region, ethnicity or quintile)

### **Strengths:**

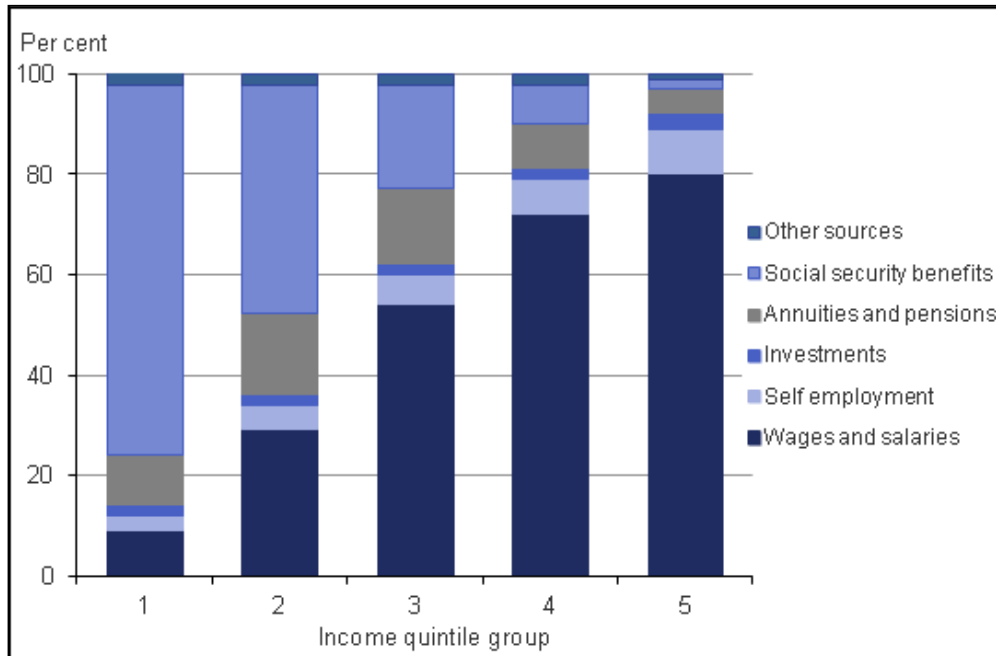
- includes information on the cash income of pensioners by source of income in constant prices
- ability to look at different breakdowns and components of incomes for pensioners that are not available from other sources
- availability of the long time series back to 1979

### **Limitations:**

- PI series statistical bulletin is less well developed than that for HBAI
- many of the caveats that apply for the FRS also apply for the PI series (e.g. the of receipt of a number of benefits are under-reported on the FRS, and this will feed into PI)
- as the PI series is based on survey data and subject to sampling variation and other forms of error, it is often difficult to draw conclusions about significant changes in incomes from one year to the next
- pensioners living in institutions, such as nursing homes and communal establishments are not covered as the series are based on household surveys
- lack of UK estimates prior to 2002/03

## A2.7 Living Cost and Foods Survey (LCF)

**Figure 16:** Sources of income by gross income quintile group in the UK, 2011



**Source:** Living Costs and Food Survey – Office for National Statistics

### Background

The Living Costs and Food Survey (LCF) is a continuous annual survey carried out by ONS which collects detailed information on household spending patterns to produce summary estimates of UK household expenditure. A national household expenditure survey has been conducted each year since 1957. The Family Expenditure Survey (FES) and National Food Survey (NFS) provided information on household expenditure patterns and food consumption from 1957 to 2001. In April 2001, these surveys were combined to form the Expenditure and Food Survey (EFS) and in January 2008, the EFS, was renamed the LCF, when it became constituent part of the ONS Integrated Household Survey (IHS)<sup>101</sup>. While the LCF is the primary source of official information on household expenditure on goods and services, it is also an important and detailed source of income data.

Results from the LCF are published in two key publications – Family Spending<sup>102</sup> and Family Food<sup>103</sup>. Family Spending is published by ONS and provides a comprehensive overview of household expenditure and income, while Family Food, produced by the Department for Environment, Food and Rural Affairs (DEFRA), provides detailed statistical information on the purchase and consumption of food and drink. One of the main purposes of the LCF is to define the 'basket of goods' used in the Retail Prices Index (RPI) and the Consumer Price Indices (CPI). The LCF is also an important source for estimates of household expenditure in the UK National and Regional Accounts and provides the source information for ONS's Effects of Taxes and Benefits on

<sup>101</sup> <http://www.ons.gov.uk/ons/rel/integrated-household-survey/integrated-household-survey/index.html>

<sup>102</sup> <http://www.ons.gov.uk/ons/rel/family-spending/family-spending/index.html>

<sup>103</sup> <https://www.gov.uk/government/collections/family-food-statistics>

Household Income (ETB)<sup>104</sup>. LCF information on expenditure and income is also used by HM Treasury and HM Revenue and Customs to study how taxes and benefits affect household incomes and to assess the effects of policy in these areas.

### Data availability

- Annual Statistical Bulletin – Family Spending<sup>105</sup>
- Annual Data Tables<sup>106</sup>
- UK Data Service microdata<sup>107</sup>
- VML microdata<sup>108</sup>
- End User Licence – government office region only

### Coverage

The LCF interview collects information about regular expenditure, such as rent and mortgage payments along with retrospective information on certain large, infrequent expenditures such as those on vehicles. Each individual aged 16 and over in the household visited is asked to keep diary records of daily expenditure for two weeks. Detailed information on the income (including cash benefits received from the state) of each adult member of the household is collected through the interview. In addition, personal information such as age, sex and marital status is recorded for each household member. Since 1998/9 children aged 7 to 15 have been asked to keep a simplified version of the expenditure diary. Family Spending presents LCF data down to regional level, at different measures including mean weekly expenditure by different types of expenditure. It also presents breakdowns of weekly expenditure by income quintiles and deciles and household composition. Although the EFS replaced the Family Expenditure Survey and the National Food Survey in 2001, there are issues with comparing data from the LCF and EFS with these other sources.

### Survey

As with other household surveys, participation in the LCF is voluntary. Response rates have varied over time but are usually between 50 to 57 per cent, although there has been a tendency for these to be around the lower end of this range in the past few years. The LCF currently has an achieved sample size of around 5,500 private UK households per year. Non-response bias is accounted for by weighting the LCF data to census population totals.

<sup>104</sup> <http://www.ons.gov.uk/ons/rel/household-income/the-effects-of-taxes-and-benefits-on-household-income/index.html>

<sup>105</sup> <http://www.ons.gov.uk/ons/rel/family-spending/family-spending/2014-edition/index.html>

<sup>106</sup> <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-370146>

<sup>107</sup> <http://ukdataservice.ac.uk>

<sup>108</sup> <http://www.ons.gov.uk/ons/about-ons/business-transparency/freedom-of-information/what-can-i-request/virtual-microdata-laboratory--vml-/index.html>

### Guidance/Advice

A range of LCF guidance is available on the ONS website<sup>109</sup> and the UK Data Service website<sup>110</sup>, where it is also possible to apply for access to the micro level data tables

### **Strengths:**

- the main survey source on UK household expenditure
- simultaneously captures household income and expenditure levels allowing the potential for a more dynamic analysis of living conditions
- microdata available for re-use in analysis via the UK Data Service
- data are available at the UK and regional level for comparison purposes
- comparable aggregate time series back to 2001, and a further inconsistent series to 1957

### **Limitations:**

- sample size is too small for reliable lower level geographical and other detailed analyses
- low response rates mean that there is a greater likelihood of bias in the sample
- income and expenditure data are not captured for the same time period
- hard to get a consistent time series for some analyses due to changes to survey design and the equivalisation scales used

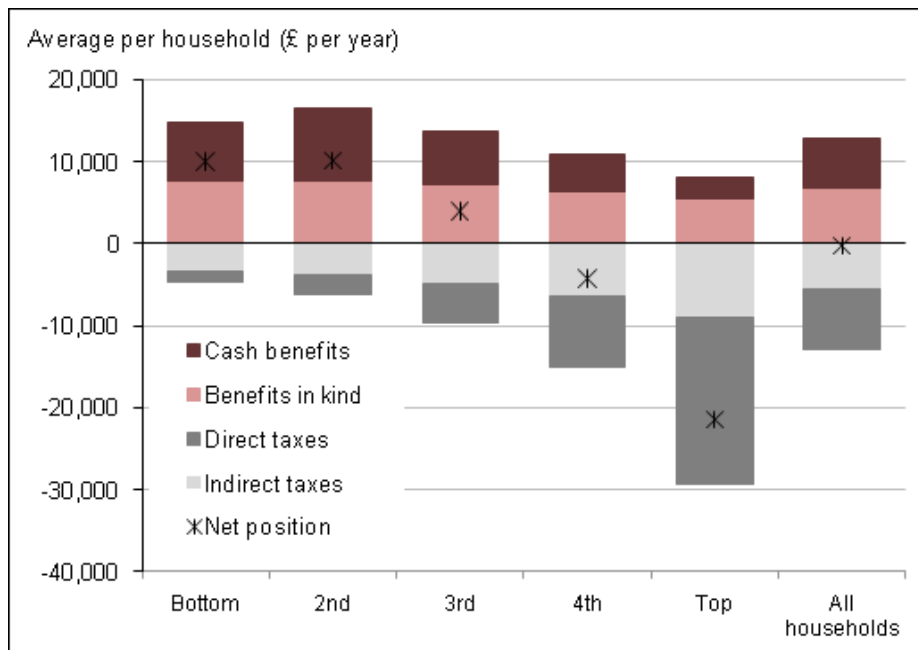
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<sup>109</sup> <http://www.ons.gov.uk/ons/about-ons/get-involved/taking-part-in-a-survey/information-for-households/a-to-z-of-household-and-individual-surveys/living-costs-and-food-survey/living-costs-and-food-survey-2012.pdf>

<sup>110</sup> <http://discover.ukdataservice.ac.uk/series/?sn=2000028#teaching>

## A2.8 Effects of Taxes and Benefits on Household Income (ETB)

Figure 17: Summary of the effects of taxes and benefits on all households, 2012/13



Source: The Effects of Taxes and Benefits on Household Income 2012/13 (Office for National Statistics)

### Background

The Effects of Taxes and Benefits on Household Income (ETB), also sometimes known as the Redistribution of Income (RoI), is based on data collected by the Living Costs and Food Survey<sup>111</sup> (LCF) which has a sample of around 5,500 households, and is produced annually by ONS. *The Effects of Taxes and Benefits on Household Income*<sup>112</sup> shows the way taxes and benefits redistribute income between various groups of households in the UK. The study shows where different types of households and individuals are in the income distribution and looks at the changing levels of income inequality over time.

Annualised original income at the household level comes largely from data collected by the LCF and is the cash income of all members of a household before the deduction of taxes or the addition of any state benefits. The statistics include reports both overall and separately for 'retired' and 'non-retired' households, on how the distribution of household incomes is affected by: state financial benefits; direct taxes and National Insurance contributions; indirect taxes; and certain major benefits in kind such as health and education.

ETB began with the introduction of the Family Expenditure Survey (FES) in the late 1950s.. ETB receive the LCF data each September, around six months after the end of the survey period and complete production with the release of the statistical bulletin in June.

<sup>111</sup> <http://www.ons.gov.uk/ons/about-ONS/get-involved/taking-part-in-a-survey/information-for-households/a-to-z-of-household-and-individual-surveys/living-costs-and-food-survey/index.html>

<sup>112</sup> <http://www.ons.gov.uk/ons/rel/household-income/the-effects-of-taxes-and-benefits-on-household-income/index.html>



ETB is of particular interest to HM Treasury, HM Revenue and Customs and DWP in determining policies on taxation and benefits and in preparing Budget and pre-Budget reports.

#### Data availability

- Effects of Taxes and Benefits Statistical Bulletin and Further Analysis and Methodology report<sup>113</sup>
- Annual Data Tables – ETB reference tables (set of excel spreadsheets) and historical tables back to 1977<sup>114</sup>
- ETB microdata (from 1977) available through UK Data Service

#### Coverage

The ETB provides a detailed breakdown of household income, including estimates of both direct and indirect taxes, and both cash benefits and 'in kind' benefits provided by the state. The ETB analysis produces estimates for 5 main measures of household income:

- Original income – the annualised income in cash of all members of the household (income from employment, self-employment, investment income, private pensions and annuities which include all workplace pensions, individual personal pensions and annuities) before the deduction of taxes or the addition of any state benefits
- Gross income – obtained by adding cash benefits and tax credits to original income
- Disposable income – by deducting income tax, council tax and Northern Ireland rates, and employee's and self employed National Insurance contributions from gross income
- Post-tax income – by deducting indirect taxes (such as VAT, and fuel and alcohol duties from disposable income) from disposable income
- Final income – by adding derived administrative estimates of the 'benefits in kind' provided by government (such as the provision of education, health services, and subsidised travel and housing) to household post-tax income

#### Survey/Source

The data cover the UK as a whole and estimates at regional levels are also published. As the data are derived from the LCF, it is based on the same survey methods and sample size (see A2.7).

#### Guidance/Advice

Recent guidance<sup>115</sup> was published on the analysis and methodology used to produce ETB which is helpful although quite detailed and hard to follow. However, ONS also publishes several

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<sup>113</sup> <http://www.ons.gov.uk/ons/rel/household-income/the-effects-of-taxes-and-benefits-on-household-income/2012-13/etb-stats-bulletin-2012-13.html>

<sup>114</sup> <http://www.ons.gov.uk/ons/rel/household-income/the-effects-of-taxes-and-benefits-on-household-income/historical-data--1977-2012-13/summary--historical-data--1977-2012-13.html>

<sup>115</sup> [http://www.ons.gov.uk/ons/dcp171766\\_367315.pdf](http://www.ons.gov.uk/ons/dcp171766_367315.pdf)

infographics<sup>116</sup> along with these statistics which help to explain the major concepts in a more accessible way. It is also possible to apply for access to the ETB derived microdata held by the UK Data Service.

**Strengths:**

- availability of a long time series back to 1961, with consistent microdata available back to 1977
- detailed and objective distributional analysis of the effects of taxes and benefits on the household incomes of retired and non-retired households
- effectively combines survey data with administrative estimates of benefits in kind to quantify re-distributional effects of government policy on final household incomes
- including household income and expenditure data offers the potential for a more dynamic analysis of living conditions
- uses broader measures such as the Gini coefficient which are robust when comparing over long time periods
- ETB income measures designed to be consistent with international standards (e.g. UNECE 2011)

**Limitations:**

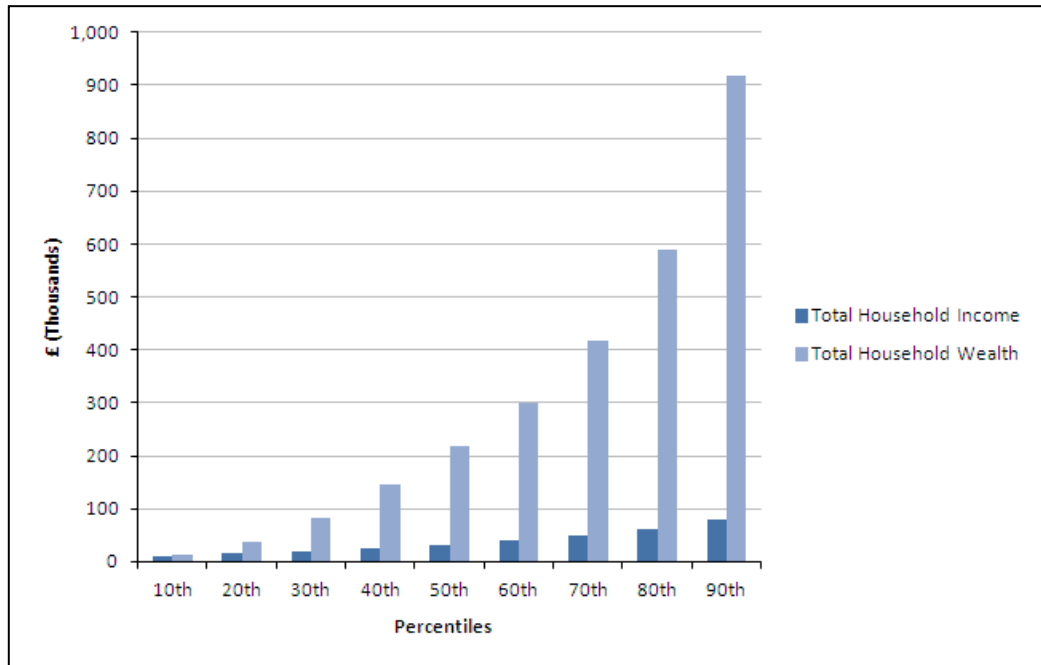
- financial year estimates are published annually with a one year time-lag
- sample size is too small for reliable lower level geographical and other detailed analyses
- low response rates mean that there is a greater likelihood of bias in the sample
- income and expenditure data are not captured for the same time period

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<sup>116</sup> <http://www.ons.gov.uk/ons/rel/household-income/the-effects-of-taxes-and-benefits-on-household-income/2012-13/sty-facts-taxes-and-benefits.html>

## A2.9 Wealth and Assets Survey (WAS)

**Figure 18:** Distribution of total household wealth and income, by percentile points: Great Britain, 2010-12



**Source:** Wealth and Assets Survey 2010-2012 (ONS)

### Background

The Wealth and Assets Survey (WAS) is a longitudinal household survey carried out by ONS in Great Britain. The WAS began in 2006 with each wave of the survey lasting two years. The survey's major focus is on producing estimates of total household wealth, defined as the sum of four components: net property wealth, net financial wealth, physical wealth and private pension wealth. The major uses of WAS are to study the distribution of wealth, the value and types of assets held, the potential to save for retirement, and factors associated with saving and borrowing and overall wealth throughout the life cycle. The most recent WAS wave three results were published in July 2014<sup>117</sup>.

The WAS aims to address gaps identified in data about the economic well-being of households by producing estimates of total household income alongside those for household wealth. WAS comprises total household income from four constituent parts: earned income from employment (including both employees and the self-employed); income from state support (including benefits, tax credits and state pensions); income from private pensions (including occupational and personal pensions) and other income (such as income from investments and rent from property). The bulletin *Wealth and Income 2010-2012*<sup>118</sup> simultaneously analyses the wealth and income estimates of households responding to the third wave of the survey.

<sup>117</sup> <http://www.ons.gov.uk/ons/rel/was/wealth-in-great-britain-wave-3/2010-2012/index.html>

<sup>118</sup> <http://www.ons.gov.uk/ons/rel/was/wealth-in-great-britain-wave-3/wealth-and-income--2010-12/stb--wealth-and-income--2010-12.html>

### Data availability

- Statistical Bulletin – Wealth in Great Britain<sup>119</sup>
- Statistical Bulletin – Wealth and Income<sup>120</sup>
- UK Data Service End User License microdata (waves 1-3)<sup>121</sup>
- Special User Licence microdata (more restricted)<sup>122</sup>

### Coverage

WAS uses HMRC records to oversample the wealthiest ten per cent of postcode areas. This is done to facilitate a higher level of response from wealthy households and in turn, provide more robust estimates at the top end of the wealth distribution. This oversampling is corrected when the data are weighted for analysis. The WAS questionnaire is divided into two parts, a household questionnaire completed by one person in each household and an individual questionnaire addressed to all adults aged 16 and over (excluding those aged 16 to 18 currently in full-time education or those aged 19 and in a government training scheme). The household section contains detailed questions on the value of property and mortgages as well as estimates for the value of household contents and vehicles. The individual level questionnaire collects information on income from benefits, employment and self-employment, pensions and rental property and investments as well as extensive information on the value of financial assets, private pensions and debts. Estimates of gross and net annual total income are available from the survey, though, in waves one and two, only earned income was included.

### Survey/Source

WAS draws its sample from the population of private households in Great Britain. The first wave of the survey started in July 2006 and lasted for two years, ending in June 2008. The further waves were carried out ending in June 2010 and 2012 respectively. Wave three returned to responding households from wave two who gave their permission to be re-interviewed. Households who were eligible at wave two but who could not be contacted were approached again at wave three. In addition, a new cohort boost was introduced at wave three (12,000 issued addresses). This was done to combat the sample attrition over time, a common feature of longitudinal household surveys, with the aim of maintaining an achieved sample size of around 20,000 responding households per wave. In total, in wave three, 21,451 households across Great Britain were interviewed, encompassing 40,396 individuals aged 16 or over. The data used for creating total wealth and total income variables undergoes considerable editing, quality assurance and both cross-sectional and longitudinal imputation as part of the data processing stage ahead of publication.

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<sup>119</sup> <http://www.ons.gov.uk/ons/rel/was/wealth-in-great-britain-wave-3/2010-2012/index.html>

<sup>120</sup> <http://www.ons.gov.uk/ons/rel/was/wealth-in-great-britain-wave-3/wealth-and-income--2010-12/stb--wealth-and-income--2010-12.html>

<sup>121</sup> <http://discover.ukdataservice.ac.uk/catalogue/?sn=7215&type=Data%20catalogue>

<sup>122</sup> <http://discover.ukdataservice.ac.uk/catalogue/?sn=6415&type=Data%20catalogue>

### Guidance

Good comparisons are made with other sources of income and earnings data in the main statistical bulletin and several tables and charts are used to illustrate how the measures compare<sup>123</sup>. A technical chapter<sup>124</sup> is included as part of *Wealth in Great Britain Wave 3: 2010-2012* which gives a technical insight into the survey's methodological aspects.

### **Strengths:**

- only survey to provide robust distributional estimates of household assets and debt
- as both wealth and income estimates are produced, a dynamic analyses of the economic situation of GB households is possible
- comprehensive range of income data sources included from wave three
- longitudinal design offers the potential for assessing interactions of income and wealth over time going forward
- collects details on income from self-employment

### **Limitations:**

- income only available as a classificatory variable from wave three onwards
- time series relatively short, only back until 2006/08 when the survey began
- each survey wave takes two years to administer
- long time lag between the end of the survey period and publication

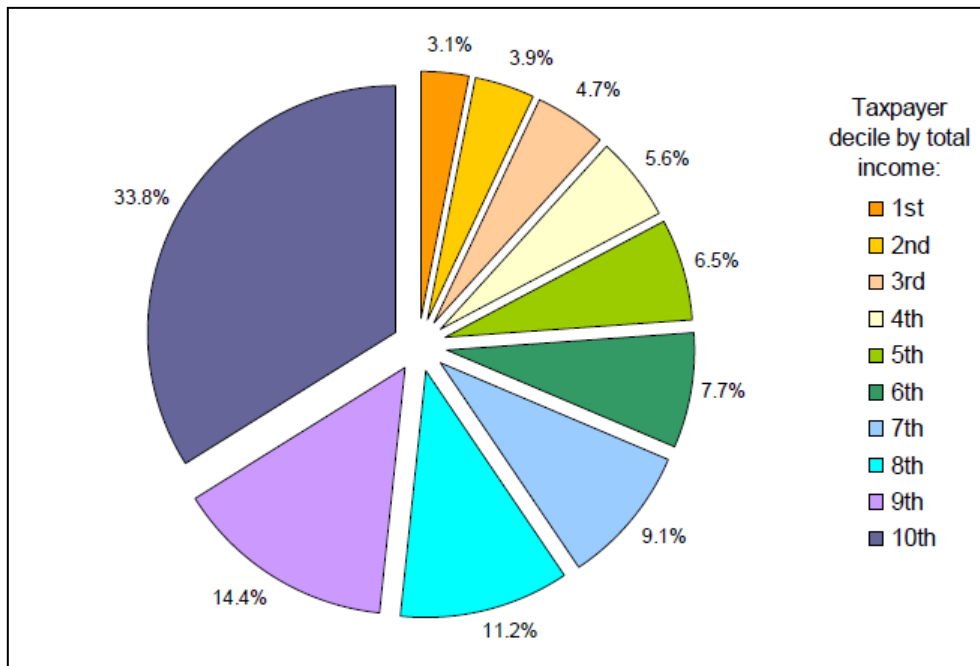
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<sup>123</sup> <http://www.ons.gov.uk/ons/rel/was/wealth-in-great-britain-wave-3/wealth-and-income--2010-12/stb--wealth-and-income--2010-12.html#tab-Quality-Assuring-Income-Data>

<sup>124</sup> <http://www.ons.gov.uk/ons/rel/was/wealth-in-great-britain-wave-3/2010-2012/report--chapter-7--technical-details.html>

## A2.10 Survey of Personal Incomes (SPI)

Figure 19: Shares of total income by taxpayer total income decile, 2011-12



Source: Survey of Personal Incomes (SPI) – Her Majesty’s Revenue and Customs (HMRC)

### Background

The Survey of Personal Incomes (SPI)<sup>125</sup> is carried out annually by HM Revenue and Customs (HMRC) using information held by HMRC tax offices. The SPI samples the records of individuals who could be liable to pay UK tax in order to estimate the levels of income assessable to taxation in a given tax year.

The SPI is primarily compiled to provide an evidence base for costing proposed changes to tax rates, personal allowances and other tax reliefs. It is also used to inform general economic policy, modelling and forecasting, and to provide summary information for the National Accounts. Finally, it is also used to provide information to Members of Parliament, other Government Departments, companies, organisations and individuals.

<sup>125</sup> <https://www.gov.uk/government/collections/personal-incomes-statistics>

### Data availability

- 3 annual statistical bulletins<sup>126,127,128</sup>
- data in supporting excel tables<sup>129</sup>
- UK Data Service currently holds Public Use Tape (PUT) SPI data for 1985-86 and 1995/96 onwards (data for 2008-09 is currently unavailable)<sup>130</sup>

### Coverage

The SPI is used to estimate income tax liabilities arising on incomes in a given tax year for each individual in the SPI sample. In 2012-13, the SPI sample totalled 705,000 individual records, representing around a 1.5 per cent sample of individuals in contact with HMRC. The annual SPI statistical bulletins present income and tax liability analyses for individuals in the UK, the UK constituent countries and other sub-UK geographic areas. SPI also includes some basic information on individual characteristics, such as age and gender.

Not all of the individuals in the SPI sample are taxpayers. Around 20 per cent of the SPI sample have no income tax liability, due to allowances, deductions and reliefs that exceed their total income assessable for tax. Where income exceeds the lower threshold for the operation of PAYE, the SPI provides a comprehensive and accurate source on personal incomes assessable for income tax. However, SPI is not a representative source for people with incomes below the threshold, and no estimates are produced for the number of cases below the threshold or the amount of their incomes. In addition, sources of income which are not liable for income tax are excluded. These include some social security benefits, income from Individual Savings Accounts and some National Savings & Investment products and Capital Gains from the disposal of assets which are subject to Capital Gains Tax (CGT).

Where no information for taxable sources is available from HMRC systems, estimated values are imputed using other sources. For example, missing banking and dividend income is imputed using estimates from the Family Resources Survey (FRS), superannuation pension contribution estimates are derived from Annual Survey of Hours and Earnings (ASHE), and personal pension estimates are obtained from external sources. Imputation is usually based on UK level totals with little adjustment made to account for sub-UK differences.

### Survey/Source

SPI's stratified sample design yields large sub-samples of SPI cases with very high incomes which account for a large proportion of total tax liabilities, increasing the precision of estimates of tax liabilities and taxable incomes. The overall sample is obtained from three separate HMRC administrative sources: the National Insurance and Pay As You Earn (PAYE) Service (NPS) system; the Computerised Environment for Self Assessment system; and the Claims system for

<sup>126</sup> <https://www.gov.uk/government/statistics/income-tax-liabilities-statistics-tax-year-2011-to-2012-to-tax-year-2014-to-2015>

<sup>127</sup> <https://www.gov.uk/government/statistics/personal-incomes-statistics-tables-31-to-311-for-the-tax-year-2011-to-2012>

<sup>128</sup> <https://www.gov.uk/government/statistics/personal-incomes-statistics-tables-312-to-315a-for-the-tax-year-2011-to-2012>

<sup>129</sup> <https://www.gov.uk/government/collections/personal-income-by-tax-year>

<sup>130</sup> <http://discover.ukdataservice.ac.uk/catalogue/?sn=7569&type=Data%20catalogue>



those claiming a repayment due to having had too much tax deducted. Samples are drawn from each system and combined to create the overall sample. A new sample of individuals is drawn from each system to create SPI for each tax year.

#### Guidance/Advice

The individual statistical reports contain a good level of detail around the specific methods used to create SPI. A basic overview of the SPI methods and anonymisation procedures employed for the SPI Public Use Tapes is published on the UK Data Service web pages.

#### **Strengths:**

- the large representative sample of individuals assessable to tax in a given tax year
- the PUT series available from 1995/1996 (and the one off 1985-1986 version)

#### **Limitations:**

- the currently unpublished 2008/2009 SPI data
- the lack of coverage for those on low incomes
- the exclusion of sources of income that are not subject to income tax
- the time lag between the reference period and the publication of the statistics

## A2.11 Benefits Data

### HM Revenue & Customs (HMRC) Working and Child Tax Credit statistics

**Figure 20:** Average annual entitlement by entitlement band



**Source:** Child and Working Tax Credit statistics (HMRC)

#### Background

Child Tax Credits and Working Tax Credits are administered by HM Revenue & Customs (HMRC) and are part of wider government policy to provide support to parents returning to work, reduce child poverty and increase financial support for all families. They can be claimed by individuals, or jointly by couples, regardless of whether or not they have children. HMRC publishes annual statistics<sup>131</sup> showing the provisional and finalised positions of the Tax Credit awards provided for each tax year. The statistics have been published since the introduction of Working and Child Tax Credits in 2003 and are accompanied by bulletins containing background information, distributional analyses and supporting commentary. HMRC also produces separate, local (LSOA) level estimates of Children in low-income families<sup>132</sup>, by combining Tax Credit administrative data for low income families with DWP out-of-work benefit records.

#### Data availability

- Main report (with supporting Excel tables)<sup>133</sup>
- Supplementary payments report (with supporting Excel tables)<sup>134</sup>
- Geographical summaries report (with supporting Excel tables)<sup>135</sup>

<sup>131</sup> <https://www.gov.uk/government/collections/personal-tax-credits-statistics>

<sup>132</sup> <https://www.gov.uk/government/statistics/personal-tax-credits-children-in-low-income-families-local-measure-2012-snapshot-as-at-31-august-2012#history>

<sup>133</sup> <https://www.gov.uk/government/statistics/child-and-working-tax-credits-statistics-finalised-annual-awards-2012-to-2013>

<sup>134</sup> <https://www.gov.uk/government/statistics/child-and-working-tax-credits-statistics-finalised-annual-awards-supplement-on-payments-2012-to-2013>

- Small area tables (England, Wales and Scotland)<sup>136</sup>

## Department of Work and Pensions (DWP) Benefits Data

### Background

DWP produces statistical summaries on benefits on a monthly and quarterly basis based on data collected from administrative data sources. The statistics cover most of the main benefits including Attendance Allowance (AA), Bereavement Benefit (BB), Carer's Allowance (CA), Disability Living Allowance (DLA), Employment and Support Allowance (ESA), State Pension (SP), Pension Credit (PC), Incapacity Benefit (IB) and many more. However, it is only the live caseload of each benefit and the average amount of each benefit paid that are published – so there is no real sense of the total weekly amount of benefit that is paid either to individuals or households. For example, some benefits are means tested and some are not, so members within any one household could be receiving multiple benefits, some of which are taken into account for the entitlement of other household members and others which are assessed completely independently.

In addition to the published statistical summaries, DWP have a number of benefit interrogation tools available. Stat-Xplore is the newest tool and currently holds statistics on Housing Benefit claimants, Jobseeker's Allowance and Employment and Support Allowance Sanctions, Benefit Cap, National Insurance Allocations to adult overseas nationals entering the UK and Personal Independence Payment data. The Work and Pensions Longitudinal Study (WPLS) tabulation tool can be used for breakdowns such as age, gender and high-level geographies and this is based on 100 per cent sample. DWP have other tabulation tools available based on a five per cent sample for a longer time series and to cover certain variables not included on the 100 per cent tabulation tools. Again the five per cent tabulation tools are available for most of the main DWP benefits. To gain an overview of the benefit claiming caseloads across all benefit combinations, DWP produces tabulation tools for both 100 per cent and five per cent level for Client groups. An example tabulation tool table<sup>137</sup> available from the DWP website, provides illustrative statistics for the various combinations of DWP benefits that can be analysed. Individuals are allocated to different Client Groups based on their primary reason for interacting with DWP.

The Family Resource Survey is a better DWP resource for gaining an insight into receipt of weekly amount of DWP benefits at a household level. In general, for the reasons cited above and the often changing nature of the benefits system, the DWP administrative data on individual benefits does not provide an understanding of overall benefit income paid to individual households.

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<sup>135</sup> <https://www.gov.uk/government/statistics/personal-tax-credits-finalised-award-statistics-geographical-statistics-2012-to-2013>

<sup>136</sup> <https://www.gov.uk/government/statistics/personal-tax-credits-finalised-award-statistics-small-area-data-lsoa-and-data-zone-201213>

<sup>137</sup> [http://tabulation-tool.dwp.gov.uk/100pc/stgp/comb/ccstatgp/a\\_carate\\_r\\_comb\\_c\\_ccstatgp\\_may14.html](http://tabulation-tool.dwp.gov.uk/100pc/stgp/comb/ccstatgp/a_carate_r_comb_c_ccstatgp_may14.html)

Data availability

- DWP Statistical Summaries<sup>138</sup>
- DWP Stats-Xplore Tool<sup>139</sup>
- DWP Tabulation Tool (five per cent sample)<sup>140</sup>
- DWP Tabulation Tool (100 per cent sample)<sup>141</sup>

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<sup>138</sup> <https://www.gov.uk/government/collections/dwp-statistical-summaries>

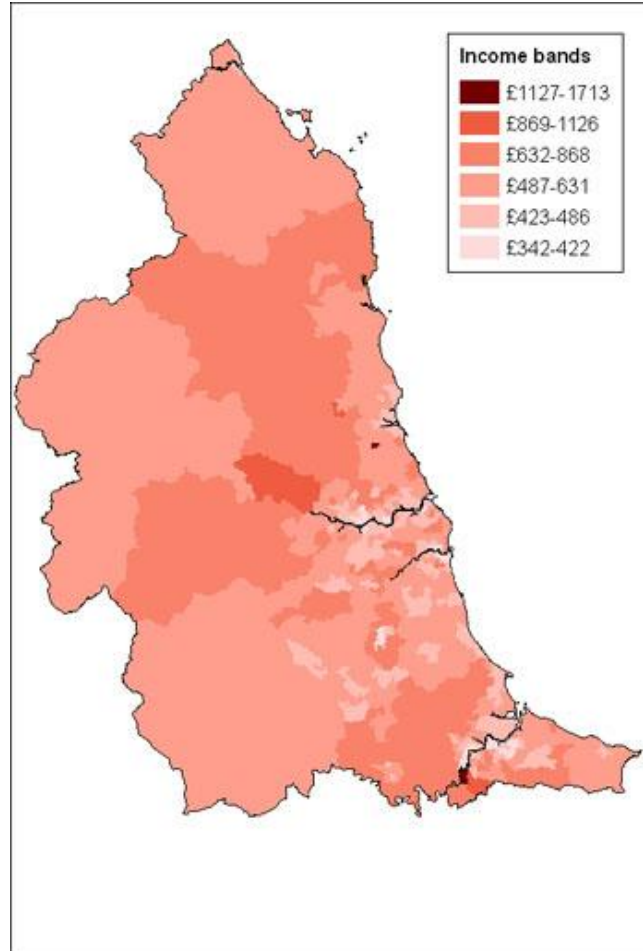
<sup>139</sup> <https://stat-xplore.dwp.gov.uk/>

<sup>140</sup> <http://tabulation-tool.dwp.gov.uk/5pc/tabtool.html>

<sup>141</sup> <http://tabulation-tool.dwp.gov.uk/100pc/>

## A2.12 Small Area Income Estimates

**Figure 21:** Model Based Estimates of Weekly Average Household Income (see Footnote 2), for Middle Layer Super Output Areas – North East Region, 2007/08



**Source:** Neighbourhood statistics

### Background

Small Area Income Estimates are available on the Neighbourhood Statistics website<sup>142</sup>. These estimates are produced at the middle layer super output area (MSOA) and provide the average household income for small areas within England and Wales. It includes income at household level from wages and salaries, self-employment, benefits and pensions amongst others. There is a lengthy time lag between the end of the reference period and the publication of the statistics. Currently, the most recent statistics available are for 2007/08 although the next publication is scheduled for Q2 2015 will refer to 2011/12.

Estimates and confidence intervals are produced for four different income types:

- Average weekly household total income (unequalised)
- Average weekly household net income (unequalised)

<sup>142</sup><http://www.neighbourhood.statistics.gov.uk/dissemination/Info.do?page=analysisandguidance/analysisarticles/income-small-area-model-based-estimates-200708.htm>

- Average weekly household net income before housing costs (equivalised)
- Average weekly household net income after housing costs (equivalised)

#### Data availability

Small Area Income Statistics – Neighbourhood statistics

#### Coverage

Survey data from FRS are combined with census and administrative data to produce the small area level estimates.

Each MSOA contains on average around 7,600 people. MSOAs were designed to help the reporting of small area statistics as they are of a consistent size and do not undergo regular boundary changes, making it easier for users to compare and follow small areas over time.

#### Guidance/Advice

Good guidance is provided alongside these statistics including a quality guide<sup>143</sup>, technical guide<sup>144</sup> and a user guide<sup>145</sup>.

#### **Strengths:**

- income estimates available for low level geographies

#### **Limitations:**

- long time lag between reference period and publication
- due to variation in sources, there could be inconsistencies

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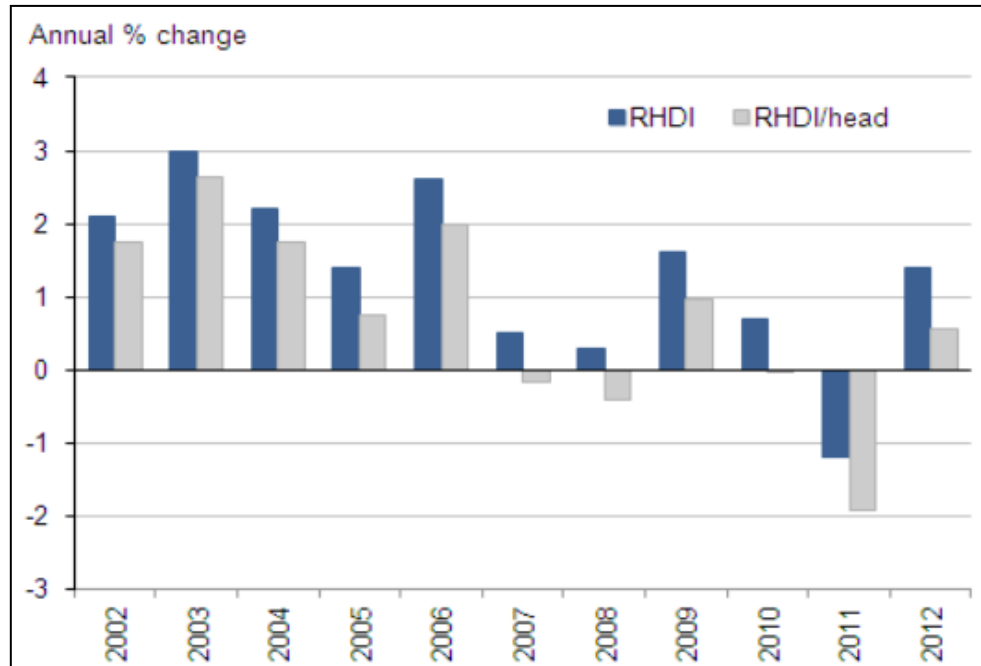
<sup>143</sup> <http://www.neighbourhood.statistics.gov.uk/dissemination/MetadataDownloadPDF.do?downloadId=25673>

<sup>144</sup> [http://www.neighbourhood.statistics.gov.uk/HTMLDocs/images/TechnicalReport2007\\_08final\\_tcm97-112199.pdf](http://www.neighbourhood.statistics.gov.uk/HTMLDocs/images/TechnicalReport2007_08final_tcm97-112199.pdf)

<sup>145</sup> [http://neighbourhood.statistics.gov.uk/HTMLDocs/downloads/UserGuide2007\\_08final.pdf](http://neighbourhood.statistics.gov.uk/HTMLDocs/downloads/UserGuide2007_08final.pdf)

## A2.13 National Accounts

**Figure 22:** Real household disposable income, chained volume measures, UK



**Source:** Real Household Disposable Income (RHDI) – Office for National Statistics

### Background

The UK National Accounts contains several measures that are important in the consideration of the coherence and accessibility of income and earnings statistics. The relevant sources are explained below.

**Compensation of employees** is the sum of all employment income, including wages and salaries, employers’ pension and National Insurance contributions, bonuses and benefits in kind.

**Mixed income** is a combination of compensation of employees and gross operating surplus for the self-employed and recognises that the income of the self-employed is a combination of employment income and profits, but it is not appropriate to split it into these two components.

**Gross disposable household income (GDHI)** is the amount of money that individuals in the household sector have available for spending or saving. GDHI includes income from wages, salaries, self-employment, property and pensions and is money left after expenditure associated with this income i.e. taxes and social contributions. The sector also includes sole trader enterprises and non-profit institutions serving households (NPISH), for example, most charities and universities. It is calculated gross of any deductions for capital consumption. GDHI is a residence based measure so excludes the effects of commuting in and out of regions to work, but includes other sources of income which are unrelated to current work, such as pensions and investment incomes.

**Real disposable household income (RDHI)** is a measure of household disposable income in real-terms. This is derived by applying the Household Final Consumption Expenditure deflator to



the Gross Disposable Household Income estimate. This is commonly used as an indicator of changes in living standards.

#### Data availability

- UK Quarterly Accounts<sup>146</sup>
- Supporting Excel data tables<sup>147</sup>

#### Guidance/Advice

ONS produces reference documentation<sup>148</sup> to support understanding and use of the National Accounts data, though little is available to explain how the various National Accounts sources relating to income and earnings should be used.

#### **Strengths:**

- compensation of employees covers all employment income
- mixed income covers self employed income, an area neglected by other official sources
- a long annual time series to 1948, and quarterly to 1955
- more recent data are comparable on an international basis

#### **Limitations:**

- little guidance available to specifically explain how National Accounts sources relating to income can and should be used
- little guidance is available around the coherence of National Accounts income measures in relation to those produced by other official sources

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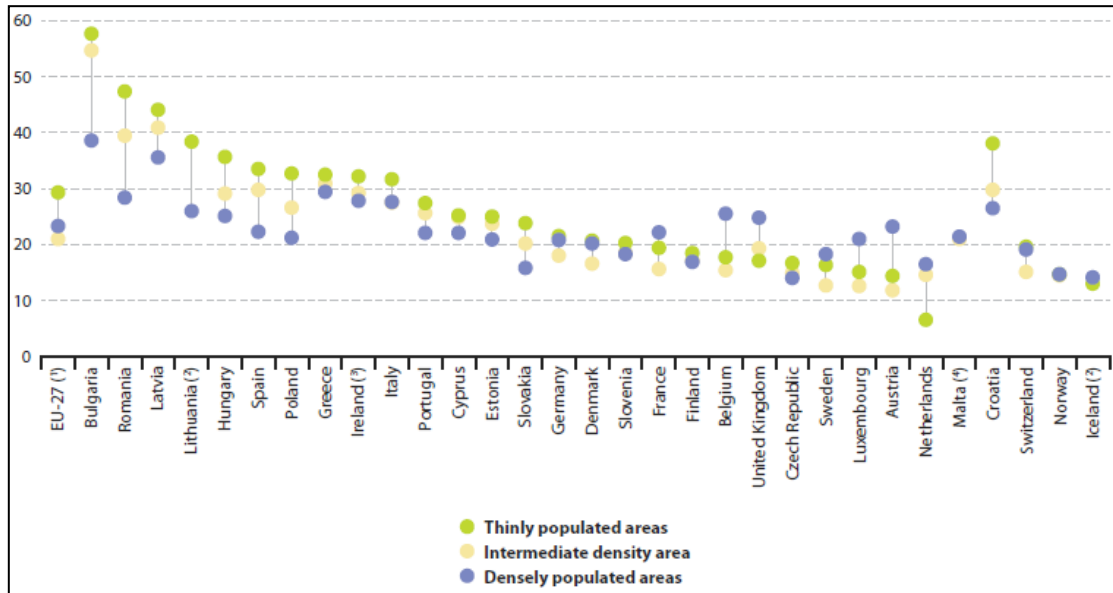
<sup>146</sup> <http://www.ons.gov.uk/ons/rel/naa2/quarterly-national-accounts/index.html>

<sup>147</sup> <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-333057>

<sup>148</sup> <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/national-accounts/articles/2011-present/uk-national-accounts---a-short-guide--2014.pdf>

## A2.14 EU Statistics on Income and Living Conditions (EU-SILC)

**Figure 23:** Percentage of people in EU-27 countries at risk of poverty or social exclusion, by degree of urbanisation, 2011



**Source:** EU Statistics on Income and Living Conditions (EU-SILC) – Eurostat

### Background

EU statistics on income and living conditions (EU-SILC) is produced by ONS and DWP on behalf Eurostat<sup>149</sup> and is the main European data source on the topics of income, living conditions and social inclusion. Since 2010, EU-SILC has been used to monitor the European Council’s (EC) headline target on social inclusion under the Europe 2020<sup>150</sup> agenda. All EU Member States are required to implement EU-SILC, which is based on the idea of a common framework as opposed to a common survey.

EU-SILC was established under a 2003 EC Framework Regulation<sup>151</sup> to provide data on structural indicators of social cohesion (the at-risk-of-poverty rate, the S80/S20 income share ratio and the gender pay gap), social inclusion and pensions in Europe. Strategic issues regarding the development of EU-SILC are discussed in the meetings of the Directors of Social Statistics of the National Statistical Institutes and the European Statistical System Committee (ESSC).

<sup>149</sup> <http://ec.europa.eu/eurostat>

<sup>150</sup> [http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:EU\\_2020](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:EU_2020)

<sup>151</sup> <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32003R1177>

### Data availability

- EU-SILC summary results and reports are published on the Eurostat website<sup>152</sup>
- anonymised microdata for registered researchers twice a year via encrypted CD-ROM

Eurostat provides encrypted CD-ROM's which contain the latest years' data and revisions for previous EU-SILC datasets. A small number of countries have not permitted their data to be published for confidentiality reasons. A description of the procedure for accessing EU-SILC microdata is provided on Eurostat's website<sup>153</sup>.

### Coverage

All EU Member States are required to implement EU-SILC, which is based on a common framework as opposed to a common survey. The common framework consists of common procedures, concepts and classifications, including harmonised lists of target variables to be transmitted to Eurostat. There are two EU-SILC data types:

- cross-sectional data on income, poverty, social exclusion and living conditions
- longitudinal data pertaining to individual level changes over a four year period

EU-SILC's main focus is on collecting detailed data on personal income and household income, although information is also obtained on social exclusion, housing conditions, labour, education and health. EU-SILC includes objective and subjective monetary and non-monetary measures which are used to produce indicators which can be analysed with the primary domains to facilitate a more comprehensive study of social inclusion. Since 2005, EU-SILC has also included one ad-hoc module per year:

- 2005: inter-generational transmission of poverty
- 2006: social participation
- 2007: housing conditions
- 2008: over-indebtedness and financial exclusion
- 2009: material deprivation
- 2010: intra-household sharing of resources
- 2011: inter-generational transmission of disadvantages
- 2012: housing conditions
- 2013: well-being

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<sup>152</sup> [http://ec.europa.eu/eurostat/statistics-explained/index.php/Living\\_conditions](http://ec.europa.eu/eurostat/statistics-explained/index.php/Living_conditions)

<sup>153</sup> <http://ec.europa.eu/eurostat/web/microdata/overview>

## Survey

The EU-SILC reference population is all private households and their residing members for the countries surveyed. In most participating countries all members in selected households aged 16 or over are asked to fill in a personal questionnaire. However, in a number of countries administrative registers are used as the basis for the EU-SILC sample. For these countries, only one selected respondent per household receives the personal questionnaire.

DWP's Family Resources Survey (FRS) is used for collecting cross-sectional and wave one longitudinal EU-SILC data for the UK. Subsequent longitudinal waves for the UK are obtained using the ONS Survey on Living Conditions (SLC). EU-SILC achieved a sample of 217,720 households across the EU in 2011.

The EU-SILC target population does not include persons living in collective households and in institutions, and some vulnerable groups living in private households may also be underrepresented because they are hard to reach. Some small parts of a countries national territory amounting to no more than two per cent of the national population/national territories may also be excluded. These include the French Overseas Departments and territories, the Dutch West Frisian Islands (with the exception of Texel), and the UK Scilly Islands.

## Guidance/Advice

Supporting documentation is provided with the microdata released for research. Technical material and methodological working papers are available from Eurostat's Living Conditions web pages<sup>154</sup>.

### **Strengths:**

- facilitates cross country analyses of the income and living conditions in Europe
- coverage is not confined to EU-27 countries, with 31 countries participating in total
- innovative framework approach offers options for the development of other EU statistics
- provides income and material deprivation data for all countries using comparable definitions
- longitudinal data, allowing analysis of income and labour market dynamics

### **Limitations:**

- some individual countries have not permitted their individual country data sets to be made available to researchers due to confidentiality reasons
- different household response levels, private household definitions and household membership affects cross-country comparability
- some nations collect income data for the previous calendar year, whereas others use a sliding reference period
- possible inconsistencies between income and socio-economic variables for some countries when the fieldwork period is distant from income reference period

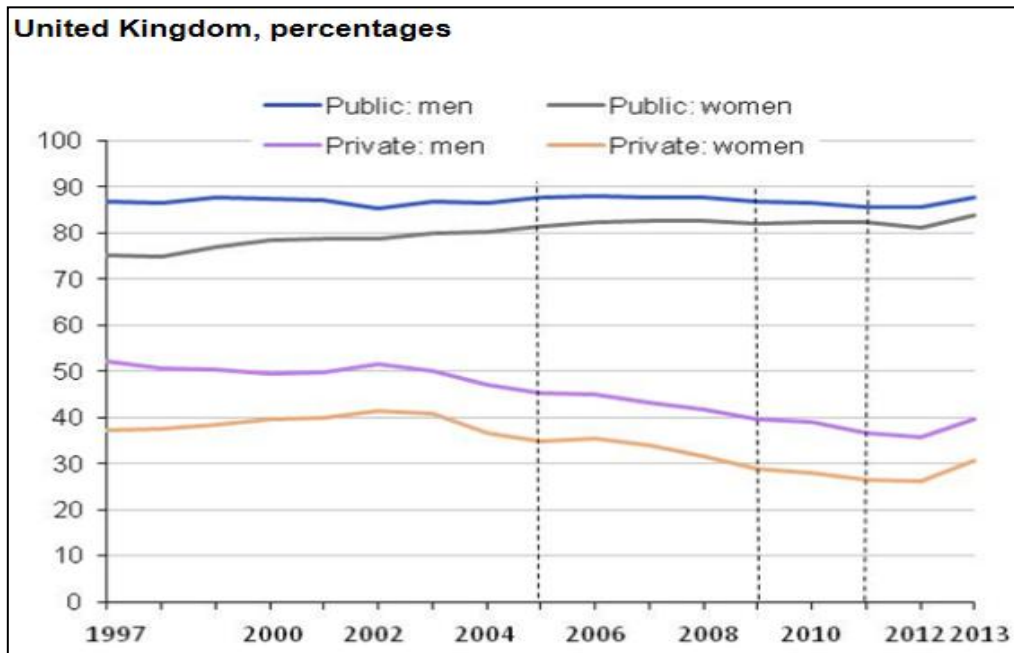
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<sup>154</sup><http://ec.europa.eu/eurostat/statistics-explained/index.php?oldid=204808>

- the different fieldwork periods used by individual states makes comparisons of indicators that show a seasonal pattern difficult
- whether only one or all household members are interviewed (related to whether a survey or register basis is used) impacts on the longitudinal tracing of individuals over time

## A2.15 Pension Trends

Figure 24: Employee membership of a workplace pension: by sex and sector, 1997 to 2013



Source: Pension Trends – Office for National Statistics

### Background

Pension Trends is an ONS compendium publication drawing together statistics from a wide range of sources with the aim of providing a coherent overview of the economic and social issues that shape trends in UK pension provision. Pension Trends is divided into 14 topic based chapters, each being published separately, on a rolling basis, via the ONS web site<sup>155</sup>. The publication is aimed at a wide audience including: policy makers; pension providers; journalists and other commentators; academics and students; and the general public – both current and future pensioners.

The first edition of Pensions Trends was produced in 2005 by the interdepartmental Pension Statistics Task Force (PSTF)<sup>156</sup>, in response to growing public demand for reliable pension statistics. Subsequent publications have been produced by the ONS Pensions Analysis Unit, which aims to be a centre of excellence in the collection and analysis of pension statistics. Pension Trends has been a web-only publication since 2008, following consultation with the interdepartmental Pensions Statistics Advisory Group (PSAG), which is made up of expert Government and private sector users.

<sup>155</sup> <http://www.ons.gov.uk/ons/rel/pensions/pension-trends/index.html>

<sup>156</sup> <http://www.ons.gov.uk/ons/guide-method/method-quality/guide-to-pension-statistics/pension-statistics-task-force/index.html>

### Data availability

- updated chapters in pdf format – some updated annually, but others less frequently<sup>157</sup>
- excel tables for data included in published charts and tables via clickable pdf links.

### Coverage

*Pension Trends* brings together existing statistics and background information from a variety of sources to examine economic and social issues shaping trends in UK pension provision. The range of topics *Pensions Trends* covers has changed since the first 2005 edition, in line with shifts in pension policy and data availability. The current *Pension Trends* chapters are:

- Chapter 1: Pensions Legislation: An Overview
- Chapter 2: Population Change
- Chapter 3: Life expectancy and Healthy Ageing
- Chapter 4: The Labour Market and Retirement
- Chapter 5: State Pensions
- Chapter 6: Private Pensions
- Chapter 7: Private Pension Scheme Membership
- Chapter 8: Pension Contributions
- Chapter 9: Pension Scheme Funding and Investment
- Chapter 10: Saving for Retirement
- Chapter 11: Pensioner Income and Expenditure
- Chapter 12: Household Pension Resources
- Chapter 13: Inequalities and Poverty in Retirement
- Chapter 14: Pensions and the National Accounts

*Pensions Trends* draws on a wide range of official and National Statistics, derived from a variety of social and business surveys and administrative data sources. These include:

- Population estimates and projections (ONS)
- Health expectancies estimates (ONS)
- Health Survey for England (HSCIC)
- Labour Force Survey (ONS)
- Living Costs and Food Survey (ONS)
- Annual Survey of Hours and Earnings (ONS)

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<sup>157</sup> <http://www.ons.gov.uk/ons/rel/pensions/pension-trends/index.html>



- Occupational Pension Schemes Survey (ONS)
- Effect of Taxes and Benefits on Household Income (ONS)
- Wealth and Assets Survey (ONS)
- Family Resources Survey (DWP)
- State pension related benefits data (DWP)
- Personal pension administrative data tables (HMRC)
- Pension scheme funding records (The Pensions Regulator)
- The National Accounts (ONS)
- Income replacement rates provided by mandatory national schemes (OECD)

**Strengths:**

- coherently draws together statistics from multiple sources to explore pertinent issues
- analysis evolves over time in line with changing policy and data source availability

**Limitations:**

- the frequency and range of chapter updates has declined since 2013