

ARTICLE

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Quality measures of household labour market indicators

SUMMARY

This article considers the reliability of the two main survey sources for key household labour market indicators, using standard errors to inform users on the accuracy of regular household analysis. It shows the level of detail that provides reliable analysis for different geographies. It will also consider when to use the Annual Population Survey (APS) instead of the Labour Force Survey (LFS, see ONS 2009a).

Introduction

Analysing family and household characteristics complements the wealth of available information on the characteristics of people in the UK. This is done through the LFS with its primary use to produce person-level statistics (such as employment, unemployment and economic inactivity levels and rates) broken down by personal characteristics (such as age, sex and ethnicity). As the survey collects information about each member of participating households, the LFS also provides family and household-level statistics that describe the combined economic activity status of family and household members. This is done using the LFS household dataset and is the principal source of statistics on couples where both partners are working, one partner is working, or neither partner is working. It is also the main source of statistics on 'working' households (where all the adults are working); 'mixed' households (containing both working and non-working adults); and 'workless' households (where none of the adults is working). These statistics are published annually in the Statistical Bulletin, 'Work and Worklessness among households' (see ONS 2009b), using the LFS household data as the source.

Accompanying the LFS is the APS, which is created by combining individuals in waves 1 and 5 from four consecutive LFS quarters with boosts from the English, Welsh and Scottish Local Labour Force Surveys. In autumn 2008, ONS launched APS household datasets (see ONS 2008a), to complement LFS household datasets.

Labour Force Survey

The LFS is a quarterly survey of households living at private addresses in the UK. Individuals are in the survey for five consecutive quarters. The main sampling unit is the household address and therefore if the occupants change, the address remains in the sample and any new occupants interviewed. By collecting information about each member of participating households, the LFS provides family and household-level statistics that describe the combined economic activity status of members.

The LFS household datasets are available, on a consistent calendar quarter basis, for the period April to June from 1997, and for October to December, from 2004. It has a sample size of around 53,000 households each quarter and collects a wide range of information. For some households, one or more members have unknown economic status because they refuse to take part, or no proxy response is available. These members are given the same weight as other members in the household so they retain their correct place within the household structure. This means there will be some 'unknown' households in any weighted analysis of the combined economic status in LFS household datasets.

Annual Population Survey

As the APS household datasets contain results from four different sources, the APS household sample is three times the size of the LFS sample. It contains information collected from a sample of around 160,000

households. They are available for the calendar period of January to December for individual years from 2004. Although there will be individuals with missing economic status within some households, as in the LFS household datasets, a form of 'nearest neighbour' imputation (see Ashton and Kent 2008) is used in the APS. This means that analysis of the combined economic status do not contain any 'unknown' households.

Advantages and Disadvantages of datasets

The advantage of the LFS over the APS is that the household datasets are quarterly and go back to 1997, allowing for a longer time series. Less time-series analysis is available from the APS household datasets because they only go back to 2004. As the APS household datasets are annual and published around six months after the end of the period, they are also less timely than those for the quarterly LFS. However, by covering a whole year, the APS household data gives an annual estimate in comparison to a quarterly estimate from the LFS. The APS is the recommended source for local area data because of the greater sample size. Estimates for lower level geographies are not published regularly from the LFS household data as the smaller sample size results in estimates with wide margins of uncertainty. Another advantage of the APS over the LFS for household analysis is the LFS estimates for sub-groups are not adjusted to compensate for people, families and households with unknown economic activity status, whereas imputation is used in the APS. The LFS estimates for regions, local areas and other sub-groups may therefore underestimate the numbers of people, families and households in each economic activity status category. For more information about the LFS and APS household datasets, see the household user guide (see ONS 2008b) on the National Statistics website.

Reliability measures

As it is costly and time-consuming to collect information from every household in the UK for the LFS and APS, a sample is taken to provide a variety of estimates for variables of interest. Selecting a different sample of households may produce different estimates. The difference between an estimate and its true value is the sampling error. The actual sampling error for any estimate is unknown but we can estimate, from the sample, a typical error, known as the standard error. This provides a means of assessing the precision of an estimate. The lower the standard error, the more

confidence there is that the estimate is close to the true value. Accompanying each estimate is a confidence interval, which means there is 95 per cent certainty that from all samples possible, the estimate will lie within the lower and upper range.

One way to express the standard error is as a percentage of the estimate itself. This is referred to as the relative standard error (RSE) of the estimate. Larger sample sizes represent more of the population and tend to have smaller RSEs, and the smaller the RSE, the more reliable the estimate. As the sample size gets smaller, estimates tend to have higher standard errors and are therefore less reliable. Care must be taken with the accuracy of estimates from small sample sizes. However, it also depends on the use of estimates when deciding how reliable the estimate needs to be, and therefore whether it may be acceptable for a less reliable estimate. Different users have different needs and **Annex Table A** includes a ready reckoner, to allow users to make informed decisions around how precise the data are for their needs.

Estimates with a RSE of 20 per cent or more are not considered reliable for practical purposes. In other words, if a different sample is taken from the same population, there is a good chance the estimate may differ greatly from the estimate of the current sample. Although 20 per cent is quite an arbitrary cut off value for RSEs, it stems from the fact that before 2005, quarterly LFS estimates of fewer than 10,000 were likely to be unreliable and so not published. The 10,000 threshold equates to a sample size of about 25, and as sample sizes decrease below 25 individuals, the standard error increases rapidly, detracting from the value of the estimates. Although the publication policy changed in 2005, the unreliability guidelines for LFS estimates did not. In summary, the larger the sample size used, the more reliable is the estimate from the sample.

Geographical hierarchies

Various geographical breakdowns are possible in the LFS and APS, and it is possible to use a geographical hierarchy to drill down to lower level detail within an area. Geographies include the Countries of the UK, Government Office Region (GOR) in England, Local Authorities (LA) and Nomenclature of Units for Territorial Statistics (NUTS). The latter maintained by Eurostat, the statistical office of the European Communities, as a 3-tier hierarchy used for statistical production across the European Union. The top-level is

equivalent to GOR plus England, Scotland, Wales and Northern Ireland, level 2 (NUTS 2) consists of groups of counties, with 37 in the UK, and level 3 (NUTS 3) consists of groups of local authorities with 133 in the UK. There are a total of 408 local authorities in the UK, each of which is allocated to a group in NUTS 3. The hierarchy used in this article is summarised in the following way:

Country → GOR → NUTS 2 → NUTS 3
→ LA

NUTS areas provide a useful intermediate level in terms of sample size between GOR and LA, when the LA sample sizes are too small for reliable estimates. However, as mentioned above, it also depends on the use of the estimate when deciding how reliable it needs to be.

Results

The following section gives an outline of the reliability of estimates from the APS and LFS. The analysis is based on the proportions of different types of working-age households. No actual estimates or standard errors are given as the aim is purely to assess reliability of estimates and give an idea of which estimates can be used at which geographical level.

There are various household labour market indicators describing the adults and children living in working-age households by the economic status of the household. The key indicators include the number of working, mixed and workless households – see **Box 1**. In addition there is interest in children living in working, mixed and workless households.

Table 1 shows the distribution of the RSEs, for the percentages of working, mixed and workless households for the different levels in the geographical hierarchy. There are a larger percentage of smaller RSEs for the APS data, because of the larger sample size than the LFS. Also as there is a larger number of households for the working household group, the RSEs are smaller for these estimates than for the mixed and workless household groups, which have smaller sample sizes. For example, for NUTS 2 areas from the LFS, 97.3 per cent of RSEs are less than 5 per cent for working households compared with 32.4 per cent for mixed households and 2.7 per cent for workless households. The differences between the LFS and APS become more apparent as you move further down the geographical hierarchy. At country level, all RSEs are less than 5 per cent for both

Box 1**Key definitions**

A **household** is defined as a single person or a group of people living at the same address that have the address as their only or main residence, and either share one main meal a day or share the living accommodation or both.

A **working household** is one that includes at least one person of working age and all individuals aged 16 and over are in employment.

A **mixed household** is one that includes at least two people

of working age and at least one person aged 16 and over is in employment, with at least one other being unemployed or inactive.

A **workless household** is one that includes at least one person of working age and no one aged 16 and over is in employment.

A **relative standard error** (RSE) is the standard error as a percentage of the estimate of that standard error.

Table 1**Percentage of Relative Standard Errors falling within defined bands for LFS and APS by geography, LFS April to June 2008, APS January to December 2007**

	Percentages							
	LFS				APS			
	RSE<5	5≤RSE<10	10≤RSE<20	RSE≥20	RSE<5	5≤RSE<10	10≤RSE<20	RSE≥20
Working households								
Country ¹	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
GOR	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
NUTS 2 ²	97.3	2.7	0.0	0.0	100.0	0.0	0.0	0.0
NUTS 3 ³	35.9	53.1	7.8	3.1	95.3	4.7	0.0	0.0
LA	1.0	50.9	45.5	2.7	34.6	53.2	11.3	1.0
Working households								
Country ¹	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
GOR	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
NUTS 2 ²	32.4	59.5	5.4	2.7	86.5	13.5	0.0	0.0
NUTS 3 ³	0.8	29.7	60.2	9.4	25.8	68.8	5.5	0.0
LA	0.0	0.7	46.6	52.7	0.0	39.0	48.8	12.3
Workless households								
Country ¹	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
GOR	90.0	10.0	0.0	0.0	100.0	0.0	0.0	0.0
NUTS 2 ²	2.7	75.7	18.9	2.7	45.9	54.1	0.0	0.0
NUTS 3 ³	0.0	13.3	57.8	28.9	7.0	54.7	34.4	3.9
LA	0.0	1.2	18.4	80.3	0.0	22.3	22.3	55.4

Notes:

- 1 Country includes UK, England, Wales, Scotland and Northern Ireland.
- 2 Nomenclature of Units for Territorial Statistics, level 2 (37 in UK).
- 3 Nomenclature of Units for Territorial Statistics, level 3 (133 in UK).

Source: Labour Force Survey and Annual Population Survey

the LFS and APS, for working, mixed and workless households. At GOR level, for the smaller workless households group, in the LFS, 90.0 per cent of estimates have a RSE of less than 5 per cent, with the remaining GORs having a RSE of less than 10 per cent. Below this geographical hierarchy, the estimates for the LFS quickly become less reliable. For workless households in the LFS, 80.3 per cent at LA level have a RSE greater than 20 per cent and hence not considered reliable for practical purposes compared with 55.4 per cent from the APS. Therefore, the LFS generally provides reliable estimates at GOR level, but below this, the APS is recommended for estimates of workless households.

Table 1 also shows that moving from LA to NUTS 3 for APS, the proportion of estimates for workless households with a

RSE greater than 20 per cent, and hence not considered reliable, drops from 55.4 per cent to 3.9 per cent. Therefore, for practical use, estimates at NUTS 3 level may be a good compromise between the lack of detail in a GOR estimate and LA estimate, where many are not reliable.

Table 2 shows a geographical hierarchy, using APS data, and the reliability of several key household indicators. A full table for all regions in the UK is at Annex A and is on the National Statistics website. Table 2 shows London to illustrate its use. Estimates are scored with a number (1) showing estimates with a RSE of less than 5 per cent. Those coloured numbered (4) are estimates with a RSE of greater than 20 per cent. The 2007 APS household dataset provides the RSEs for this table. Table 2 is useful to assess whether a measure is

reliable at the desired geographical level of the user, and if it is not, it shows whether the next level up the hierarchy provides a reliable estimate for the purpose of their analysis. For example, for the local authority of Bromley, the estimate of the proportion of children in workless households is not reliable as the RSE is greater than 20 per cent, indicated by the number (4). The next level up in the hierarchy is NUTS 3 area, Outer London – South. The estimate for the proportion of children in workless households is scored (3), and therefore acceptable. However, to get a more reliable estimate, use the next level up the hierarchy, that is NUTS 2 area, Outer London, and the RSE for the estimate here is numbered (2), reasonably precise. The final step up the hierarchy takes us to the London GOR, and the

Table 2

Ready Reckoner for reliability of Key household series for London GOR by NUTS 2, NUTS 3 and LA, Annual Population Survey, January to December 2007

	A (Working)	B (Mixed)	C (Workless)	D (Children in working)	E (Children in Mixed)	F (Children in workless)
UK	1	1	1	1	1	1
England	1	1	1	1	1	1
London	1	1	1	1	1	1
Inner London	1	1	1	1	1	1
Inner London - West	1	1	1	2	2	2
Camden	1	2	2	3	3	3
City of London	4	4	4	4	4	4
Hammersmith and Fulham	1	2	3	3	3	3
Kensington and Chelsea	2	2	2	3	3	4
Wandsworth	2	3	3	3	3	4
Westminster	1	2	2	4	3	3
Inner London - East	1	1	1	1	1	2
Hackney	2	2	2	3	3	3
Haringey	2	2	3	3	3	3
Islington	1	2	3	3	3	3
Lambeth	1	2	2	3	3	3
Newham	2	2	2	3	3	3
Southwark	1	2	2	3	3	3
Lewisham	1	2	3	3	3	3
Tower Hamlets	2	2	2	4	3	3
Outer London	1	1	1	1	1	2
Outer London - East and North East	1	1	1	1	2	2
Barking and Dagenham	2	2	3	3	3	3
Bexley	2	2	3	2	3	4
Enfield	2	2	3	3	3	3
Greenwich	2	2	3	3	3	3
Havering	2	2	3	2	3	4
Redbridge	2	2	3	3	3	3
Waltham Forest	2	3	3	3	3	4
Outer London - South	1	1	2	1	2	3
Bromley	1	3	3	2	3	4
Croydon	2	2	3	3	3	4
Kingston upon Thames	2	2	3	2	3	4
Merton	1	2	4	2	3	4
Sutton	2	3	3	3	3	4
Outer London - West and North West	1	1	2	1	1	2
Barnet	2	2	3	3	3	4
Brent	2	2	3	3	3	4
Ealing	2	2	3	3	3	3
Harrow	2	2	3	3	3	4
Hillingdon	2	2	3	3	3	3
Hounslow	2	2	3	3	3	4
Richmond upon Thames	1	2	3	3	3	4

Notes:

- A: Working-age households where all members aged 16 or over are in employment.
 B: Working-age households containing both working and workless members.
 C: Working-age households where no one aged 16 or over is in employment.
 D: Children living in a working-age household where all members aged 16 or over are in employment.
 E: Children living in a working-age household containing both working and workless members.
 F: Children living in a working-age household where no one aged 16 or over is in employment.
 1: $0 \leq RSE < 5$. Estimates are considered precise.
 2: $5 \leq RSE < 10$. Estimates are considered reasonably precise.
 3: $10 \leq RSE < 20$. Estimates are considered acceptable.
 4: $RSE \geq 20$. Estimates are not considered reliable for practical purposes.

Source: Annual Population Survey

estimate for the proportion of children in workless households at this level is precise as the RSE is less than 5 per cent. Therefore, the most appropriate level in the hierarchy can be chosen so the reliability of the estimate is suitable for its use. Another example is Westminster local authority where the estimate of the proportion of workless households would be reasonably precise as it is scored (2). Only if a very precise estimate is necessary would you need to go up to the next level, NUTS 3 area, Inner London – West. Using Table 2, it is possible to see at a glance whether an estimate is suitable for the desired purpose. For the proportion of workless households, although many estimates at local authority level are not considered reliable, NUTS 3 area estimates are more accurate. ONS will undertake work to provide a ready reckoner for other APS and LFS household datasets on the National Statistics website.

Conclusion

There are advantages and disadvantages of both the APS and LFS when doing household analysis. Although the LFS data is more timely, the larger sample size of the APS results in more reliable estimates. The analysis in this article shows the proportion of estimates classified as precise is much higher in the APS compared to the LFS, and therefore the APS should be used for low-level geographical analysis wherever possible.

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ANNEX

Table A

Ready Reckoner for reliability of key household series by country, GOR, NUTS 2, NUTS 3 and LA, Annual Population Survey, January to December 2007

	A (Working)	B (Mixed)	C (Workless)	D (Children in working)	E (Children in Mixed)	F (Children in workless)
UK	1	1	1	1	1	1
England	1	1	1	1	1	1
North East	1	1	1	1	1	2
<i>Tees Valley and Durham</i>	1	1	1	1	2	2
Hartlepool and Stockton-on-Tees	1	2	2	2	2	3
Hartlepool	1	2	2	2	3	3
Stockton-on-Tees	1	2	2	2	3	3
South Teesside	1	1	2	2	2	3
Middlesbrough	1	2	2	2	3	3
Redcar and Cleveland	1	2	2	2	3	3
Darlington	1	2	2	2	3	3
Darlington	1	2	2	2	3	3
Durham CC	1	2	2	2	3	3
Chester-le-Street	2	4	4	3	4	4
Derwentside	2	3	4	2	4	4
Durham	2	3	4	3	4	4
Easington	2	3	3	3	4	4
Sedgefield	3	3	3	3	4	4
Teesdale	4	4	4	4	4	4
Wear Valley	3	4	4	3	4	4
<i>Northumberland and Tyne and Wear</i>	1	1	1	1	2	2
Northumberland	1	2	3	2	3	4
Alnwick	3	4	4	3	4	4
Berwick-upon-Tweed	3	4	4	4	4	4
Blyth Valley	2	3	3	3	4	4
Castle Morpeth	2	3	4	3	4	4
Tynedale	2	3	4	4	4	4
Wansbeck	2	3	4	3	4	4
Tyneside	1	1	1	1	2	2
Gateshead	1	2	2	2	3	3
Newcastle upon Tyne	1	2	2	2	3	3
North Tyneside	1	2	2	2	3	3
South Tyneside	1	2	2	2	3	3
Sunderland	1	2	2	2	3	3
Sunderland	1	2	2	2	3	3
North West	1	1	1	1	1	1
<i>Cumbria</i>	1	2	2	2	3	3
West Cumbria	2	3	3	2	4	4
Allerdale	2	3	4	2	4	4
Barrow-in-Furness	3	4	3	4	4	4
Copeland	3	4	3	3	4	4
East Cumbria	1	3	3	2	4	4
Carlisle	2	4	4	2	4	4
Eden	3	4	4	3	4	4
South Lakeland	2	3	4	3	4	4
<i>Cheshire</i>	1	1	2	1	2	3
Halton and Warrington	1	1	2	1	2	3
Halton	1	2	2	2	3	3
Warrington	1	2	2	1	3	4
Cheshire CC	1	2	3	2	2	4
Chester	2	3	4	3	4	4
Congleton	2	4	4	3	4	4
Crewe and Nantwich	2	3	4	3	3	4
Ellesmere Port and Neston	2	4	4	3	4	4
Macclesfield	2	3	4	3	4	4
Vale Royal	2	3	4	3	4	4
<i>Greater Manchester</i>	1	1	1	1	1	2
Greater Manchester South	1	1	1	1	2	2
Manchester	1	2	2	2	3	3
Salford	1	2	2	2	3	3
Stockport	1	2	3	2	3	4
Tameside	1	2	2	2	2	3
Trafford	1	2	3	2	3	4
Greater Manchester North	1	1	1	1	2	2
Bolton	1	2	2	2	3	3

Table A continued

	A (Working)	B (Mixed)	C (Workless)	D (Children in working)	E (Children in Mixed)	F (Children in workless)
Bury	1	2	3	2	3	4
Oldham	1	2	2	2	2	3
Rochdale	1	2	2	2	3	3
Wigan	1	2	2	2	3	3
<i>Lancashire</i>	1	1	2	1	2	2
Blackburn with Darwen	1	2	2	2	2	3
Blackburn with Darwen	1	2	2	2	2	3
Blackpool	1	2	2	2	3	3
Blackpool	1	2	2	2	3	3
Lancashire CC	1	1	2	1	2	3
Burnley	3	3	4	4	4	4
Chorley	2	3	4	3	4	4
Fylde	2	4	4	3	4	4
Hyndburn	3	3	4	4	4	4
Lancaster	2	3	4	3	4	4
Pendle	3	3	4	4	4	4
Preston	2	3	3	4	3	4
Ribble Valley	2	4	4	3	4	4
Rossendale	2	4	4	3	4	4
South Ribble	2	3	4	3	4	4
West Lancashire	2	3	4	3	4	4
Wyre	2	3	4	3	4	4
<i>Merseyside</i>	1	1	1	1	2	2
East Merseyside	1	1	1	1	2	2
Knowsley	1	2	2	2	3	3
St. Helens	1	2	2	2	3	3
Liverpool	1	2	2	2	3	3
Liverpool	1	2	2	2	3	3
Sefton	1	2	2	2	3	3
Sefton	1	2	2	2	3	3
Wirral	1	2	2	2	3	3
Wirral	1	2	2	2	3	3
Yorkshire and the Humber	1	1	1	1	1	2
<i>East Yorkshire and Northern Lincolnshire</i>	1	1	1	1	2	2
Kingston upon Hull, City of	1	2	2	2	3	3
Kingston upon Hull, City of	1	2	2	2	3	3
East Riding of Yorkshire	1	2	3	2	3	4
East Riding of Yorkshire	1	2	3	2	3	4
North and North East Lincolnshire	1	2	2	2	2	3
North East Lincolnshire	1	2	2	2	3	3
North Lincolnshire	1	2	3	2	3	3
<i>North Yorkshire</i>	1	2	2	2	2	4
York	1	2	3	2	3	4
York	1	2	3	2	3	4
North Yorkshire CC	1	2	3	2	3	4
Craven	3	4	4	4	4	4
Hambleton	3	3	4	4	4	4
Harrogate	2	3	4	3	4	4
Richmondshire	2	4	4	4	4	4
Ryedale	3	4	4	4	4	4
Scarborough	3	3	4	3	4	4
Selby	3	3	4	3	4	4
<i>South Yorkshire</i>	1	1	1	1	2	2
Barnsley, Doncaster and Rotherham	1	1	1	1	2	2
Barnsley	1	2	2	2	3	3
Doncaster	1	2	2	2	3	4
Rotherham	1	2	2	2	3	3
Sheffield	1	2	2	2	3	3
Sheffield	1	2	2	2	3	3
<i>West Yorkshire</i>	1	1	1	1	1	2
Bradford	1	2	2	2	2	3
Bradford	1	2	2	2	2	3
Leeds	1	2	2	2	3	3
Leeds	1	2	2	2	3	3
Calderdale, Kirklees and Wakefield	1	1	2	1	2	3
Calderdale	1	2	2	2	3	3
Kirklees	1	2	3	2	2	4
Wakefield	1	2	2	2	3	4
East Midlands	1	1	1	1	1	2
<i>Derbyshire and Nottinghamshire</i>	1	1	1	1	2	2
Derby	1	2	2	2	3	3

Table A continued

	A (Working)	B (Mixed)	C (Workless)	D (Children in working)	E (Children in Mixed)	F (Children in workless)
Derby	1	2	2	2	2	3
East Derbyshire	2	2	3	2	3	4
Bolsover	3	3	4	4	4	4
Chesterfield	2	3	3	3	4	4
North East Derbyshire	3	3	3	3	4	4
South and West Derbyshire	1	2	3	2	3	4
Amber Valley	2	3	4	3	4	4
Derbyshire Dales	3	3	4	4	4	4
Erewash	2	4	3	3	4	4
High Peak	2	3	4	3	4	4
South Derbyshire	2	3	4	3	4	4
Nottingham	1	2	2	2	3	3
Nottingham	1	2	2	2	3	3
North Nottinghamshire	1	2	3	2	3	4
Ashfield	2	3	4	3	4	4
Bassetlaw	2	3	4	3	4	4
Mansfield	2	3	4	3	4	4
Newark and Sherwood	2	3	4	3	4	4
South Nottinghamshire	1	2	3	2	3	4
Broxtowe	2	3	4	3	4	4
Gedling	2	3	4	3	4	4
Rushcliffe	2	3	4	3	3	4
<i>Leicestershire, Rutland and Northamptonshire</i>	1	1	2	1	2	3
Leicester	1	2	2	2	2	3
Leicester	1	2	2	2	2	3
Leicestershire CC and Rutland	1	2	3	1	3	4
Blaby	2	3	4	3	4	4
Charnwood	2	3	4	2	4	4
Harborough	2	3	4	3	4	4
Hinckley and Bosworth	2	3	4	3	4	4
Melton	3	4	4	3	4	4
North West Leicestershire	2	3	4	3	4	4
Oadby and Wigston	3	3	4	3	4	4
Rutland	2	3	4	3	3	4
Northamptonshire	1	2	3	2	3	3
Corby	3	4	4	3	4	4
Daventry	2	4	4	3	4	4
East Northamptonshire	2	3	4	3	4	4
Kettering	2	4	4	3	4	4
Northampton	1	3	3	3	3	4
South Northamptonshire	2	3	4	3	4	4
Wellingborough	2	4	4	3	4	4
<i>Lincolnshire</i>	1	2	2	2	3	3
Lincolnshire	1	2	2	2	3	3
Boston	3	4	4	3	4	4
East Lindsey	2	3	3	3	4	4
Lincoln	2	3	4	3	4	4
North Kesteven	2	3	4	3	4	4
South Holland	3	3	4	3	4	4
South Kesteven	2	3	4	3	3	4
West Lindsey	2	3	4	4	4	4
West Midlands	1	1	1	1	1	1
<i>Herefordshire, Worcestershire and Warwickshire</i>	1	1	2	1	2	3
Herefordshire, County of	1	2	3	2	3	4
Herefordshire, County of	1	2	3	2	3	4
Worcestershire	1	2	3	2	3	4
Bromsgrove	2	3	4	3	4	4
Malvern Hills	3	3	4	3	4	4
Redditch	2	3	4	3	4	4
Worcester	2	3	4	3	4	4
Wychavon	2	3	4	3	4	4
Wyre Forest	3	3	4	4	4	4
Warwickshire	1	2	3	1	3	4
North Warwickshire	2	3	4	3	4	4
Nuneaton and Bedworth	2	3	4	3	4	4
Rugby	2	3	4	2	4	4
Stratford-on-Avon	2	3	4	3	4	4
Warwick	2	3	4	3	4	4
<i>Shropshire and Staffordshire</i>	1	1	2	1	2	3
Telford and Wrekin	1	2	3	2	3	3
Telford and Wrekin	1	2	3	2	3	3

Table A continued

	A (Working)	B (Mixed)	C (Workless)	D (Children in working)	E (Children in Mixed)	F (Children in workless)
Shropshire CC	1	2	3	2	3	4
Bridgnorth	2	3	4	3	4	4
North Shropshire	2	3	3	3	4	4
Oswestry	2	4	4	3	4	4
Shrewsbury and Atcham	1	3	4	2	4	4
South Shropshire	3	3	4	3	4	4
Stoke-on-Trent	1	2	2	2	3	3
Stoke-on-Trent	1	2	2	2	3	3
Staffordshire CC	1	2	2	2	3	4
Cannock Chase	2	3	4	3	4	4
East Staffordshire	2	3	4	3	4	4
Lichfield	2	3	4	3	4	4
Newcastle-under-Lyme	3	3	3	3	4	4
South Staffordshire	2	3	4	3	4	4
Stafford	2	3	4	3	4	4
Staffordshire Moorlands	2	3	4	2	4	4
Tamworth	3	4	4	4	4	4
<i>West Midlands</i>	1	1	1	1	1	1
Birmingham	1	2	2	2	2	3
Birmingham	1	2	2	2	2	3
Solihull	1	2	3	2	3	4
Solihull	1	2	3	2	3	4
Coventry	1	2	3	2	3	3
Coventry	1	2	3	2	3	3
Dudley and Sandwell	1	1	2	2	2	2
Dudley	1	2	2	2	3	3
Sandwell	1	2	2	2	3	3
Walsall and Wolverhampton	1	1	2	2	2	3
Walsall	1	2	3	2	3	3
Wolverhampton	1	2	2	3	2	3
East of England	1	1	1	1	1	2
<i>East Anglia</i>	1	1	2	1	2	3
Peterborough	1	2	3	2	2	3
Peterborough	1	2	3	2	2	3
Cambridgeshire CC	1	2	3	2	3	4
Cambridge	2	4	4	4	4	4
East Cambridgeshire	2	4	4	3	4	4
Fenland	2	3	4	4	4	4
Huntingdonshire	2	3	4	3	4	4
South Cambridgeshire	2	3	4	3	4	4
Norfolk	1	2	2	2	2	4
Breckland	2	3	4	3	4	4
Broadland	2	3	4	3	4	4
Great Yarmouth	3	3	4	4	4	4
King's Lynn and West Norfolk	2	3	4	3	3	4
North Norfolk	2	3	4	3	4	4
Norwich	2	3	3	4	4	4
South Norfolk	2	3	4	3	4	4
Suffolk	1	2	3	2	3	4
Babergh	2	3	4	3	4	4
Forest Heath	3	4	4	4	4	4
Ipswich	2	3	4	3	4	4
Mid Suffolk	2	3	4	3	4	4
St. Edmundsbury	2	4	4	3	4	4
Suffolk Coastal	2	3	4	3	4	4
Waveney	2	3	4	3	4	4
<i>Bedfordshire and Hertfordshire</i>	1	1	2	1	2	3
Luton	1	2	2	3	2	3
Luton	1	2	2	3	2	3
Bedfordshire CC	1	2	3	2	3	4
Bedford	2	3	4	3	3	4
Mid Bedfordshire	2	3	4	2	4	4
South Bedfordshire	2	3	4	3	4	4
Hertfordshire	1	1	2	1	2	3
Broxbourne	3	3	4	4	4	4
Dacorum	2	3	4	3	4	4
East Hertfordshire	2	3	4	3	4	4
Hertsmere	2	3	4	3	3	4
North Hertfordshire	2	3	4	3	4	4
St. Albans	2	3	4	3	3	4
Stevenage	2	4	4	3	4	4

Table A continued

	A (Working)	B (Mixed)	C (Workless)	D (Children in working)	E (Children in Mixed)	F (Children in workless)
Three Rivers	2	3	4	3	4	4
Watford	2	3	4	3	4	4
Welwyn Hatfield	2	3	3	3	4	4
<i>Essex</i>	1	1	2	1	2	3
Southend-on-Sea	1	2	3	2	3	3
Southend-on-Sea	1	2	3	2	3	3
Thurrock	1	2	3	2	3	3
Thurrock	1	2	3	2	3	3
<i>Essex CC</i>	1	1	2	1	2	3
Basildon	2	3	4	3	4	4
Braintree	2	3	4	3	4	4
Brentwood	3	3	4	4	3	4
Castle Point	3	3	4	4	4	4
Chelmsford	2	3	4	3	4	4
Colchester	2	3	3	3	3	4
Epping Forest	2	3	4	4	4	4
Harlow	2	3	4	4	4	4
Maldon	3	3	4	4	4	4
Rochford	3	3	4	4	4	4
Tendring	2	3	4	3	4	4
Uttlesford	2	4	4	3	4	4
London	1	1	1	1	1	1
<i>Inner London</i>	1	1	1	1	1	1
Inner London - West	1	1	1	2	2	2
Camden	1	2	2	3	3	3
City of London	4	4	4	4	4	4
Hammersmith and Fulham	1	2	3	3	3	3
Kensington and Chelsea	2	2	2	3	3	4
Wandsworth	2	3	3	3	3	4
Westminster	1	2	2	4	3	3
Inner London - East	1	1	1	1	1	2
Hackney	2	2	2	3	3	3
Haringey	2	2	3	3	3	3
Islington	1	2	3	3	3	3
Lambeth	1	2	2	3	3	3
Newham	2	2	2	3	3	3
Southwark	1	2	2	3	3	3
Lewisham	1	2	3	3	3	3
Tower Hamlets	2	2	2	4	3	3
<i>Outer London</i>	1	1	1	1	1	2
Outer London - East and North East	1	1	1	1	2	2
Barking and Dagenham	2	2	3	3	3	3
Bexley	2	2	3	2	3	4
Enfield	2	2	3	3	3	3
Greenwich	2	2	3	3	3	3
Havering	2	2	3	2	3	4
Redbridge	2	2	3	3	3	3
Waltham Forest	2	3	3	3	3	4
Outer London - South	1	1	2	1	2	3
Bromley	1	3	3	2	3	4
Croydon	2	2	3	3	3	4
Kingston upon Thames	2	2	3	2	3	4
Merton	1	2	4	2	3	4
Sutton	2	3	3	3	3	4
Outer London - West and North West	1	1	2	1	1	2
Barnet	2	2	3	3	3	4
Brent	2	2	3	3	3	4
Ealing	2	2	3	3	3	3
Harrow	2	2	3	3	3	4
Hillingdon	2	2	3	3	3	3
Hounslow	2	2	3	3	3	4
Richmond upon Thames	1	2	3	3	3	4
South East	1	1	1	1	1	2
<i>Berkshire, Buckinghamshire and Oxfordshire</i>	1	1	2	1	1	3
Berkshire	1	1	2	1	1	3
Bracknell Forest	1	2	3	2	3	4
Reading	1	2	3	2	3	3
Slough	1	2	3	2	2	3
West Berkshire	1	2	3	2	3	4
Windsor and Maidenhead	1	2	3	2	2	4
Wokingham	1	2	3	2	3	4

Table A continued

	A (Working)	B (Mixed)	C (Workless)	D (Children in working)	E (Children in Mixed)	F (Children in workless)
Milton Keynes	1	2	3	2	3	4
Milton Keynes	1	2	3	2	3	4
Buckinghamshire CC	1	2	3	2	3	4
Aylesbury Vale	2	3	4	3	4	4
Chiltern	2	3	4	3	4	4
South Bucks	3	3	4	4	3	4
Wycombe	2	3	4	3	3	4
Oxfordshire	1	2	3	2	3	4
Cherwell	2	3	4	3	4	4
Oxford	2	3	4	3	4	4
South Oxfordshire	2	3	4	3	3	4
Vale of White Horse	2	3	4	2	4	4
West Oxfordshire	2	3	4	3	4	4
<i>Surrey, East and West Sussex</i>	1	1	2	1	1	3
Brighton and Hove	1	2	2	2	3	3
Brighton and Hove	1	2	2	2	3	3
East Sussex CC	1	2	3	2	2	4
Eastbourne	2	3	4	3	4	4
Hastings	2	3	4	3	4	4
Lewes	2	3	4	3	4	4
Rother	2	4	4	3	4	4
Wealden	2	3	4	3	3	4
Surrey	1	1	2	1	2	3
Elmbridge	2	3	4	3	4	4
Epsom and Ewell	2	3	4	3	4	4
Guildford	2	3	4	3	3	4
Mole Valley	2	3	4	3	4	4
Reigate and Banstead	2	3	4	3	3	4
Runnymede	2	4	4	3	4	4
Spelthorne	2	3	4	3	4	4
Surrey Heath	2	3	4	3	4	4
Tandridge	2	3	4	3	4	4
Waverley	2	3	4	3	4	4
Woking	2	3	4	3	4	4
West Sussex	1	2	2	2	2	4
Adur	2	4	4	3	4	4
Arun	2	3	4	3	3	4
Chichester	2	3	4	3	4	4
Crawley	2	3	4	3	4	4
Horsham	2	3	4	3	4	4
Mid Sussex	2	3	4	2	4	4
Worthing	2	3	4	3	4	4
<i>Hampshire and Isle of Wight</i>	1	1	2	1	2	3
Portsmouth	1	2	2	2	3	4
Portsmouth	1	2	2	2	3	4
Southampton	1	2	2	2	3	3
Southampton	1	2	2	2	3	3
Hampshire CC	1	1	2	1	2	4
Basingstoke and Deane	2	3	4	3	4	4
East Hampshire	2	3	4	4	3	4
Eastleigh	2	3	4	3	4	4
Fareham	2	3	4	3	4	4
Gosport	2	4	4	3	4	4
Hart	2	3	4	3	4	4
Havant	2	3	4	3	3	4
New Forest	2	3	3	3	3	4
Rushmoor	2	3	4	3	4	4
Test Valley	2	3	4	3	4	4
Winchester	2	3	4	3	4	4
Isle of Wight	1	2	2	2	3	4
Isle of Wight	1	2	2	2	3	4
<i>Kent</i>	1	1	2	1	2	3
Medway	1	2	3	2	3	4
Medway	1	2	3	2	3	4
Kent CC	1	1	2	1	2	3
Ashford	2	3	4	3	4	4
Canterbury	2	3	4	3	4	4
Dartford	2	3	4	4	4	4
Dover	2	3	4	3	4	4
Gravesham	3	3	4	3	4	4
Maidstone	2	3	4	3	4	4

Table A continued

	A (Working)	B (Mixed)	C (Workless)	D (Children in working)	E (Children in Mixed)	F (Children in workless)
Sevenoaks	2	3	4	3	4	4
Shepway	2	3	4	3	4	4
Swale	2	3	3	3	3	4
Thanet	2	3	3	3	4	4
Tonbridge and Malling	2	3	4	3	4	4
Tunbridge Wells	2	3	4	3	4	4
South West	1	1	1	1	1	2
<i>Gloucestershire, Wiltshire and Bristol/Bath area</i>	1	1	1	1	2	2
Bristol, City of	1	2	2	2	3	3
Bristol, City of	1	2	2	2	3	3
North and North East Somerset, South Gloucestershire	1	1	2	1	2	3
Bath and North East Somerset	1	2	3	2	3	4
North Somerset	1	2	3	2	3	4
South Gloucestershire	1	2	3	2	3	4
Gloucestershire	1	2	3	2	3	4
Cheltenham	2	3	4	3	4	4
Cotswold	2	4	4	4	4	4
Forest of Dean	3	3	4	3	4	4
Gloucester	2	3	4	3	4	4
Stroud	2	3	4	2	4	4
Tewkesbury	2	4	4	3	4	4
Swindon	1	2	3	2	3	4
Swindon	1	2	3	2	3	4
Wiltshire CC	1	2	3	2	3	4
Kennet	2	3	4	3	4	4
North Wiltshire	2	3	4	3	4	4
Salisbury	2	3	4	3	4	4
West Wiltshire	2	3	4	3	4	4
<i>Dorset and Somerset</i>	1	1	2	1	2	3
Bournemouth and Poole	1	2	2	1	2	3
Bournemouth	1	2	3	2	3	4
Poole	1	2	3	2	3	4
Dorset CC	1	2	3	2	3	4
Christchurch	3	4	4	4	4	4
East Dorset	2	3	4	3	4	4
North Dorset	2	4	4	3	4	4
Purbeck	3	4	4	3	4	4
West Dorset	2	3	4	3	4	4
Weymouth and Portland	3	4	4	3	4	4
Somerset	1	2	3	2	3	4
Mendip	2	3	4	3	4	4
Sedgemoor	2	3	4	4	4	4
South Somerset	2	3	4	3	4	4
Taunton Deane	2	3	4	3	4	4
West Somerset	4	4	4	4	4	4
<i>Cornwall and Isles of Scilly</i>	1	2	2	2	3	4
Cornwall and Isles of Scilly	1	2	2	2	3	4
Caradon	3	3	4	4	3	4
Carrick	2	3	4	3	4	4
Kerrier	2	3	4	3	4	4
North Cornwall	3	4	4	4	4	4
Penwith	3	4	4	3	4	4
Restormel	2	3	4	3	4	4
Isles of Scilly	4	4	4	4	4	4
<i>Devon</i>	1	1	2	1	2	3
Plymouth	1	2	3	2	3	4
Plymouth	1	2	3	2	3	4
Torbay	1	2	2	2	3	3
Torbay	1	2	2	2	3	3
Devon CC	1	2	3	2	3	4
East Devon	2	3	4	3	4	4
Exeter	2	3	4	3	4	4
Mid Devon	2	4	4	3	4	4
North Devon	2	3	4	3	4	4
South Hams	2	4	4	3	4	4
Teignbridge	2	3	4	3	4	4
Torridge	3	3	4	4	4	4
West Devon	3	4	4	4	4	4
Wales	1	1	1	1	1	1
<i>East Wales</i>	1	1	1	1	2	2
Monmouthshire and Newport	1	1	2	2	2	3

Table A continued

	A (Working)	B (Mixed)	C (Workless)	D (Children in working)	E (Children in Mixed)	F (Children in workless)
Monmouthshire	1	2	3	2	3	4
Newport	1	2	2	2	3	3
Cardiff and Vale of Glamorgan	1	2	2	2	3	3
Cardiff	1	2	2	2	3	3
Vale of Glamorgan, The	1	2	2	2	3	3
Flintshire and Wrexham	1	1	2	1	2	3
Flintshire	1	2	3	2	3	4
Wrexham	1	2	2	2	3	3
Powys	1	2	3	2	3	4
Powys	1	2	3	2	3	4
<i>West Wales and The Valleys</i>	1	1	1	1	1	1
Isle of Anglesey	1	2	2	2	3	3
Anglesey, Isle of	1	2	2	2	3	3
Gwynedd	1	2	2	2	3	3
Gwynedd	1	2	2	2	3	3
Conwy and Denbighshire	1	1	2	2	2	3
Conwy	1	2	2	2	3	3
Denbighshire	1	2	2	2	3	3
South West Wales	1	1	2	1	2	3
Carmarthenshire	1	2	2	2	3	3
Ceredigion	1	2	2	2	3	4
Pembrokeshire	1	2	2	2	3	3
Central Valleys	1	2	2	2	2	3
Merthyr Tydfil	2	2	2	2	3	3
Rhondda, Cynon, Taff	1	2	2	2	3	3
Gwent Valleys	1	1	1	1	2	2
Blaenau Gwent	2	2	2	2	3	3
Caerphilly	1	2	2	2	3	3
Torfaen	1	2	2	2	3	3
Bridgend and Neath Port Talbot	1	1	2	1	2	3
Bridgend	1	2	2	2	3	3
Neath Port Talbot	1	2	2	2	3	3
Swansea	1	2	2	2	3	3
Swansea	1	2	2	2	3	3
Northern Ireland	1	1	1	1	1	2
Scotland*	1	1	1	1	1	1
<i>Eastern Scotland</i>	1	1	1	1	1	2
Angus and Dundee City	1	2	2	1	2	3
Clackmannanshire and Fife	1	2	2	2	3	3
East Lothian and Midlothian	1	2	2	1	2	3
Scottish Borders	1	2	3	2	3	4
Edinburgh, City of	1	2	3	2	3	3
Falkirk	1	2	3	2	3	4
Perth & Kinross and Stirling	1	2	2	1	2	3
West Lothian	1	2	3	2	3	3
<i>Highlands and Islands</i>	1	2	2	1	3	4
Caithness and Sutherland and Ross and Cromarty	2	3	4	3	4	4
Inverness and Nairn and Moray, Badenoch and Strathspey	1	3	4	2	4	4
Lochaber, Skye and Lochalsh and Argyll and the Islands	1	2	3	2	3	4
Eilean Siar (Western Isles)	2	3	4	3	4	4
Orkney Islands	2	3	4	2	4	4
Shetland Islands	2	3	4	2	4	4
<i>North Eastern Scotland</i>	1	1	2	1	2	3
Aberdeen City, Aberdeenshire and North East Moray	1	1	2	1	2	3
<i>South Western Scotland</i>	1	1	1	1	1	2
Dumfries & Galloway	1	2	2	2	3	4
East and West Dunbartonshire, Helensburgh and Lomond	1	1	2	1	2	3
East Ayrshire and North Ayrshire mainland	1	1	2	1	2	3
Glasgow City	1	2	2	2	3	3
Inverclyde, East Renfrewshire and Renfrewshire	1	1	2	1	2	3
North Lanarkshire	1	2	2	2	3	3
South Ayrshire	1	2	2	2	3	4
South Lanarkshire	1	2	2	2	3	4
Aberdeen City	1	2	3	2	3	4
Aberdeenshire	1	2	3	2	3	4
Angus	1	2	2	2	3	3
Argyll & Bute	1	2	3	2	3	4
Clackmannanshire	2	3	3	3	4	4
Dumfries & Galloway	1	2	2	2	3	4
Dundee City	1	2	2	2	3	3
East Ayrshire	1	2	2	2	3	3

Table A continued

	A (Working)	B (Mixed)	C (Workless)	D (Children in working)	E (Children in Mixed)	F (Children in workless)
East Dunbartonshire	1	2	3	1	3	4
East Lothian	1	2	3	2	3	4
East Renfrewshire	1	2	3	2	3	4
Edinburgh, City of	1	2	3	2	3	3
Eilean Siar (Western Isles)	2	3	4	3	4	4
Falkirk	1	2	3	2	3	4
Fife	1	2	2	2	3	3
Glasgow City	1	2	2	2	3	3
Highland	1	2	3	2	3	4
Inverclyde	1	2	2	2	3	3
Midlothian	1	2	3	2	3	4
Moray	1	2	3	2	2	4
North Ayrshire	1	2	2	2	3	3
North Lanarkshire	1	2	2	2	3	3
Orkney Isles	2	3	4	2	4	4
Perth & Kinross	1	2	3	2	3	4
Renfrewshire	1	2	2	2	3	3
Scottish Borders	1	2	3	2	3	4
Shetland Isles	2	3	4	2	4	4
South Ayrshire	1	2	2	2	3	4
South Lanarkshire	1	2	2	2	3	4
Stirling	1	2	3	2	3	4
West Dunbartonshire	1	2	2	2	3	3
West Lothian	1	2	3	2	3	3

Notes:

- A: Working-age households where all members aged 16 or over are in employment.
 B: Working-age households containing both working and workless members.
 C: Working-age households where no one aged 16 or over is in employment.
 D: Children living in a working-age household where all members aged 16 or over are in employment.
 E: Children living in a working-age household containing both working and workless members.
 F: Children living in a working-age household where no one aged 16 or over is in employment.

1: $0 \leq RSE < 5$. Estimates are considered precise.

2: $5 \leq RSE < 10$. Estimates are considered reasonably precise.

3: $10 \leq RSE < 20$. Estimates are considered acceptable.

4: $RSE \geq 20$. Estimates are not considered reliable for practical purposes.

* Local authorities in Scotland cannot be mapped directly to NUTS 3 areas and so LAs are shown below the rest of the Scottish areas.

Source: APS household datasets