Office for National Statistics

Labour Force Survey

User Guide

VOLUME 6 – ANNUAL POPULATION SURVEY (LOCAL AREA DATABASE)

ANNUAL POPULATION SURVEY/LOCAL AREA DATABASE

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SECTION 1: INTRODUCTION

The Labour Force Survey (LFS) is a key source of information of labour supply – that is, on individuals who supply their labour. The LFS is a quarterly survey of approximately 37,000 responses from UK households per quarter (pre-Covid19). Each household is surveyed over five quarters, with the final (fifth) interview one year after the first. It is designed to provide robust national labour market and macroeconomic information, but its sample size is insufficient to provide reliable data at local level. Therefore, annual datasets are produced for local area analysis, originally from the quarterly datasets and then with additional boost surveys.

1.1 APS and Covid

Because of the pandemic, it was necessary for the Labour Force Survey (LFS), from which APS data are derived, to shift from face-to-face and telephone interviewing to solely telephone interviewing from March 2020. This was associated with a shift in sample composition and a drop in response rates. The ONS added changes to the weighting process to mitigate the impact of potential non-response bias caused from these operational changes (See Volume 1: Background and Methodology for more details)[1].

The APS sample consists of cases from Waves 1 and 5 of main LFS, plus waves 1- 4 of the Local Labour Force Boost (LLFS). Due to the fact that only the main Wave 1 LFS sample was topped up but not the boost sample, the achieved wave 1 sample for the overall number of economically active adults on the APS for June 2020 to July 2021 is 95,746, which is 36,904 (28%) below the target. This has continued since the the onset of the pandemic and largely remained at that level since.

However, from April 2021, a field strategy referred to as ‘Knock to Nudge’ (KtN) was introduced on the LFS/APS. This strategy involves interviewers visiting sampled addresses where no phone numbers could be obtained through either telematching or the online portal and encourage residents at the address to provide their phone number and arrange a telephone appointment. This was introduced on the LFS main wave 1 and APS boost, wave 1. Early indications are that this measure has increased the response rate.

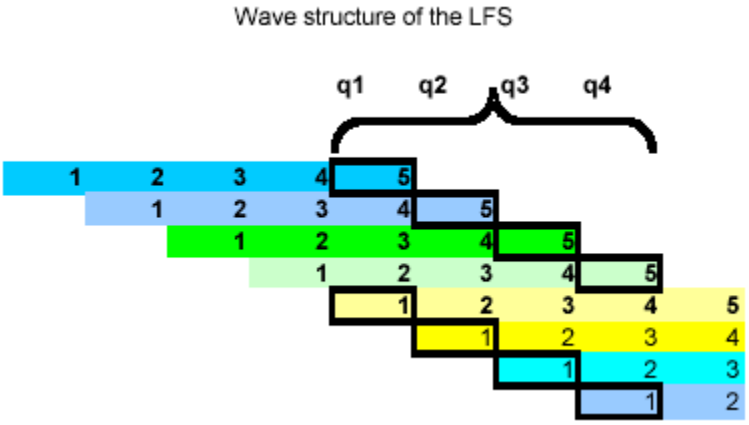
SECTION 2: ANNUAL LOCAL AREA DATABASE (LADB)

The Local Area Database (LADB) was first created in 1996, with the aim to make available more accurate data for Unitary Authority/local authority districts (UA/LADs).

The first design of the annual database consisted of responses from four quarters of the quarterly LFS.

[1] Volume 1: Background and Methodology
https://www.ons.gov.uk/file?uri=/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyuserguidance/lfsuserguidevolume1oct2020.pdf

Each quarter's LFS sample of households is made up of 5 waves. Each wave is interviewed in 5 successive quarters, such that in any one quarter, one wave will be receiving their first interview, one wave their second, and so on, with one receiving their fifth and last interview (see diagram below). The LADB was created by taking waves 1 and 5 from each of four consecutive quarters to obtain an annually representative sample. Over the period of four consecutive quarters, waves one and five will never contain the same households, and so this avoids the inclusion of responses from any household more than once in an annual dataset.



When the LADB was first introduced, the quarterly LFS was based on seasonal quarters: Spring (including the months March to May), Summer (June to August), Autumn (September to November), and Winter (December to February). Therefore, the LADB covered the period March to February. This changed to a calendar quarter basis (January to March, April to June, July to September, and October to December) in 2004.

Annual Local Area Labour Force Survey (ALALFS)

For the period from March 2000 to February 2001, extra respondents were included in the LADB (but not in the quarterly LFS data). This first sample boost covered only respondents in England, and was called the English Local LFS (ELLFS) boost. In March 2002 a similar boost was introduced in Wales (the WLFS boost), and in 2003/04 the SLFS boost was introduced in Scotland. The combined surveys were called the Annual Local Area LFS (ALALFS).

The ELLFS was designed in such a way to give an expected minimum sample size of 875 economically active adults in each Local Education Authority (LEA) (450 in London Boroughs and 300 in Rutland). The WLFS is designed to have an expected minimum sample size of 875 economically active adults in each Unitary Authority (UA) (700 for Anglesey and Ceredigion, 575 for Blaenau Gwent, and 500 in Merthyr Tydfil). The sample size in each UA in Scotland is boosted to produce an expected minimum of 875 economically active adults. However, to avoid saturation sampling, this figure is reduced to

300 in Clackmannanshire, 600 in Stirling, 700 in Inverclyde and Midlothian, and 800 in East Lothian and East Renfrewshire.

Each household in the boost samples is interviewed annually for four years. To build up the sample, in 2000/01 for England (and 2001/02 for Wales and 2003/4 in Scotland), the sample was divided into four groups or waves. Over the following three years they dropped out one by one, so that only one of the original four waves was actually in the survey for all four years. A new wave is then sampled every year.

More information on the methodology behind the ELLFS is available in articles on the ONS website and in the May 2000 issue of *Labour Market Trends*, pp195-199 and the January 2002 issue of *Labour Market Trends*, pp33-41.

The Annual Population Survey (APS)

Although the quarterly LFS started using a calendar quarter basis in 2006, the LADB moved to a calendar quarter basis in 2004. In January 2004, a sample boost was introduced in England only. The aim of the boost was to provide an expected minimum sample size of 875 economically active adults in each UALAD in England instead of in each LEA. This allowed more accurate precision for the newly launched ONS Neighbourhood Statistics.

The boost was called the Annual Population Survey boost (APSB), and combined with the Annual Local Area LFS (which included the ELLFS, WLFS, and SLFS) was called the Annual Population Survey. To avoid confusion between the whole dataset and the new boost, the whole dataset was called the Annual Population Survey (APS), and the new boost was called the APS(B).

The respondents included in the APS(B) boost did not answer all the questions included in the main LFS and other sample boosts (ELLFS, WLFS and SLFS). Therefore, some estimates from the APS – such as those relating to qualifications - are based on a subset of the database excluding the APS(B) cases.

With the introduction of the APS, it was decided that the annual data should be published four times a year rather than just once, as had been the case with the ALALFS. Data are now published quarterly for overlapping annual periods (January to December; April to March; July to June; and October to September).

In 2006, funding for the APS(B) was withdrawn, and so the structure of the Annual Population Survey reverted to the same as the ALALFS (that is, waves 1 and 5 of the quarterly LFS plus the Local Labour Force Survey (LLFS) for England, Wales and Scotland). However, the name ‘Annual Population Survey’ has been retained, and the data continue to be published four times a year (and all questions are now based on the complete database).

The figure below shows the current structure of the APS, with highlighted waves forming part of the APS January – December 2020 dataset.

	APS Dataset: January – December 2020			
	Jan – March 2020	**April – June 2020**	**July – Sept 2020**	**Oct – Dec 2020**
LFS cohort 1 *(first sampled January – March 2019)*	**Wave 5**			
LFS cohort 2 *(first sampled April – June 2019)*	**Wave 4**	**Wave5**		
LFS cohort 3 *(first sampled July – Sept 2019)*	**Wave 3**	**Wave 4**	**Wave 5**	
LFS cohort 4 *(First sampled Oct – Dec 2019)*	**Wave 2**	**Wave 3**	**Wave 4**	**Wave 5**
LFS cohort 5 *(First sampled Jan – March 2020)*	**Wave 1**	**Wave 2**	**Wave 3**	**Wave 4**
LFS cohort 6 *(first sampled April – June 2020)*		**Wave 1**	**Wave 2**	**Wave 3**
LFS cohort 7 *(first sampled July – Sept 2020)*			**Wave 1**	**Wave 2**
LFS cohort 8 *(First sampled Oct – Dec 2020)*				**Wave 1**
LLFS cohort 1 *(first sampled Jan– Dec 2017)*	**Wave 4**			
LLFS cohort 2 *(first sampled Jan– Dec 2018)*	**Wave 3**			
LLFS cohort 3 *(first sampled Jan– Dec 2019)*	**Wave 2**			
LLFS cohort 4 *(first sampled Jan– Dec 2020)*	**Wave 1**			

Weighting and Structure of the Local Area Annual Datasets

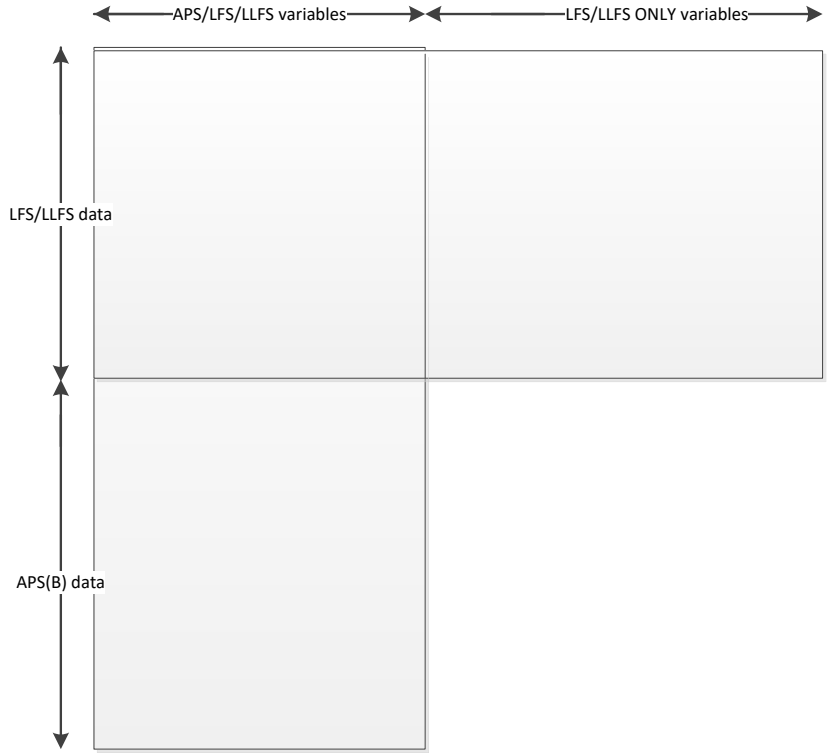
Weighting of the data is done in order to allow the sample to provide estimates relating to the total population and to minimise non-response bias. Each record's weight is the number of people in the population represented by that one sample member. The weights are based on the age and sex structures of the sample and of the population. More information on the weighting procedure can be found in Volume 1 of the User Guide.

For the LADB, it is desirable to improve the 'weighted totals' at the local area level. This is done by using mid-year population estimates for local authorities and taking account of local authority populations as well as the age and sex structures of the sample and population.

The basic methodology which is used for weighting the datasets is the same as the method used for the quarterly LFS datasets, where the weights are calibrated to the population totals using a Generalised Estimation System (GES).

For the periods January-December 2004 (JD04) to January-December 2005 (JD05), there are two weighting variables on the datasets (PWAPS14 and PWLFS14). This is due to the different data sources which make up the final dataset, as illustrated in the diagram below:

The structure of the APS dataset



The LFS/LLFS comprises of the main LFS data (waves 1 and 5 from each quarter in the year) and all the data from the English, Scottish and Welsh enhancements (ELLFS/SLFS/WLFS).

The APS boost (APS(B)) only covers a subset of topics covered in the LFS and the Local Labour Force Survey (LLFS), however all of the variables appear on the dataset. The variables that are covered in both the APS (B) core and the LFS/LLFS questionnaire are known as the CORE variables. NON CORE variables are those that are solely on the LFS/LLFS. A list of CORE variables from JD04 to JD05 can be found in Annex A.

The LFSSAMP variable can be used to identify these cases-
LFSSAMP=1=LFS cases
LFSSAMP=2=LLFS cases
LFSSAMP=6=APS Boost

The two weights on the APS person datasets for the periods from JD04 to JD05 are:

- PWAPS14 – there is a weight for all cases on the dataset, which can be used when looking only at the CORE variables (e.g. age, sex, ethnic group).
- PWLFS14 – there is only a weight for the LFS/LLFS cases. The APS boost cases have a 0 value for this weight. This weight should be used only when looking at NON-CORE variables, or when looking at a combination of CORE and NON-CORE.

From April 05-May06 (A05M) the APS boost was removed, with the structure of the APS dataset comprising of LFS and LLFS data. As these data were asked both the CORE and NON CORE questions, a single weight (PWTA14) was present on subsequent APS dataset.
The 2011 census resulted in revisions to the population estimates and in 2014/15 a reweighted exercise was carried out to reweight the APS historical datasets from JD04 to update the population totals. Datasets from this exercise will have a weight with a 14 as the last two digits. Another reweighting exercise was undertaken in 2018 going back to A11M, the last two digits on the weight for these datasets is 18.

From JD12 there is also an income weight included on the JD datasets, more information can be found in the section APS income weight below.

Sampling variability of the Local Area Annual Datasets

As the LFS is a sample survey, all estimates from it are subject to sampling variability. Sampling variability is dependent on several factors, including the size of the sample, the size of the estimate as a proportion of the population, and the effect of the design of the sample on the variable of interest. Standard errors calculated from simple random samples will, typically, differ from those calculated from more complicated sample designs, such as clustered or stratified samples. In the case of the LFS sample design, there is a clustering effect. This reflects the fact that addresses are sampled, but results are estimated for individuals. For example, ethnic group is particularly clustered, since it is likely that all members of a household living at a particular address will share the same ethnic group.

The sampling fraction is also important in determining sampling variability. A sampling fraction is the proportion of households in an area that are interviewed. For example, if there are 10,000 households and 50 of these are interviewed, then the sampling fraction would be 50/10,000 or 1/200. The greater the sampling fraction, the larger the sample size and hence the more reliable are the estimates.

The sampling fraction of the main LFS is consistent across Great Britain. However, the design of the local area annual samples means that sampling fractions may vary by area; English, Scottish and Welsh UALAs (or LEAs / UALADs prior to 2012) receiving a larger boost will have a higher sampling fraction. Northern Ireland will see no change. The sampling fraction varies so that a pre-determined target of economically active adults is achieved across UALAs.

Where the sampling fraction is consistent over all areas, the standard error of an estimate of a level is proportional to the size of the estimate. It is not possible to provide a table of

size of estimate against standard error for the later, boosted, annual LFS datasets because of the different sampling fractions in different areas; however, there is a simple conservative formula that can be used to derive the standard errors of estimates of levels.

A useful benchmark to assess the relative magnitude of a standard error is to calculate the ratio of the standard error derived from a particular (complex) sample design with the standard error that would have arisen from a simple random sample of the same size. This ratio (of the standard errors) is the design factor. It indicates the relative gain (or loss) in the estimate of standard error which results from the use of a particular complex sample design compared to a corresponding simple random sample. A design factor (or DEFT) of, say, 1.20 indicates that the standard error of the estimate in question is 20% greater than would have been the case for a simple random sample of the same size. The design factor (DEFT) should not be confused with the design effect (DEFF); the design effect is the design factor squared and is calculated by the ratio of variances instead of standard errors.

SE estimates for levels

An approximation to the standard error for an estimate of M thousand (MT) from the annual data can be given by:

√(MT * Wi/1000) (1)

where Wi is the average grossing factor (mean of the weights) for cases in a specific area i.

Average grossing factors, from the 2020 APS, are given in Annex *B*. If the area of interest spans several UA/LADs then the average grossing factor for several areas W can be given by:

$$W = \frac{\sum_i w_i s_i}{\sum_i s_i}$$

where wi is the average grossing factor for area i and si is the 16+ sample size in area i.

The 95 per cent confidence interval for an estimate of M thousand (MT) is given by:

MT ± 1.96 * s.e.

SE estimates for rates

A simple formula for producing standard errors for proportions (assuming a simple weighted random sample) is:

√ (p(1 - p)/n)

For instance, in the January to December 2020 APS dataset, the estimate of the total number of people aged 16 and over who are in employment is **31,936,670**. This is 60.5% of all people in the UK who are aged 16 and over. The number of people aged 16 and over in the UK sample is 180,212. The standard error of 0.1% is calculated as:

√ ((0.61 * 0.39)/ 180,212)

ONS methodologists have produced more precise standard errors allowing for the design of the LFS including the different sampling fractions. However, this involves much more complex calculations than those described here for the approximate standard errors. Annex C shows the estimate, standard error and design factor (based on the precise standard errors) for the employment and ILO unemployment (of persons aged 16+) for UA/LADs using the 2020 APS data.

The standard error of the level of the estimate is simply the standard error of the proportion (or rate) multiplied by the population aged 16 and over:

0.1% * 53,498,679= 53,498 (2)
The formulae (1) in the section above is an approximation of (2).

Thresholds

It is the nature of sampling variability that the smaller the group whose size is being estimated, or from which an estimate is being derived, the less precise that estimate is. Put another way, the size of the standard error increases with the level of the estimate, so that the larger the estimate the larger the standard error. But the larger the sample estimate, the smaller will be the standard error in percentage terms (relative standard error being the standard error as a percentage of the estimate). Thus, larger sample estimates will be relatively more reliable than smaller estimates: an estimate of 500,000, while having a standard error of 13,800, will have a relative standard error of 3%, whereas an estimate of 25,000 which has a standard error of 3,100 has a relative standard error of 12%.

Before 2005, publication thresholds were applied to quarterly and annual LFS estimates; any estimate smaller than the threshold was considered unreliable and hence not published. Since 2005, no estimates are suppressed due to lack of statistical reliability. All estimates are published along with 95% corresponding confidence intervals.

These thresholds are no longer applied by ONS in the dissemination of LFS and APS estimates, but this section is retained as thresholds can be used as a simple way of identifying cells with high sampling variability.

These thresholds were calculated to be approximately equivalent to publishing estimates which had a relative standard error of 20% or less. The threshold for quarterly LFS estimates was 10,000, and the thresholds for the annual LFS, before the sample boosts were introduced in 2000/01, was 6,000.

However, since 2000/01, the nature of LFS enhancement has meant that some areas have seen a very large increase in sample size, and others very small increase or none at all. This means that a single threshold for all areas is no longer appropriate.

For England, each area was allocated to one of three threshold bands - 2,000, 4,000 or 6,000. For Wales from 2001/02, each UA was given its own threshold. These ranged from 1,000 to 4,000. From 2003/04, each UA in Scotland was given its own threshold ranging from 1,000 to 5,000. Annex D shows how the thresholds were calculated for the local authorities in each of the three countries.

These thresholds can also be applied to the APS.

Thresholds for data on ethnicity

It has long been known that the effect on the LFS of clustering within households (or 'design effects') for ethnic group and for totals segregated by ethnic group can be substantial. For the annual LFS-based surveys it is appropriate to take account of the design effects in the thresholds for estimates of variables by ethnic groups. The local design effects may be different from the regional and national design effects because of local variations in household size and because of variations in the proportions of households in multi-occupied dwellings in different areas.

It is recommended for the ALALFS datasets in England that a single multiplier of 2.5 is applied to the general thresholds for most ethnic estimates1. A separate analysis of the WLFS recommended a multiplier of 4.0 in Cardiff and 2.5 in the rest of Wales. The SLFS uses the same multipliers of the standard thresholds as in England, and hence a multiplier of 2.5 is applied to the existing threshold.

These thresholds can also be applied to the APS.

Thresholds for earnings data

For estimates of the number of people in a small group, which is a count, for example employed people in a small ethnic group, we can use an approximation of the variance to derive the minimum number of cases that is required in a group to achieve a relative standard error of less than 20%. However, Earnings cannot be regarded as a count, it is a continuous variable, and hence the method for counts does not apply. There is no approximation method that can be used to derive a reliability threshold of variables that are not counts. Instead, we propose a threshold based on values of relative standard errors of small groups that were computed using recent APS earnings data.

Relative standard errors were obtained for estimates of mean gross earnings for groups defined by UALAD and age (grouped) and by UALAD and ethnicity (grouped). In both sets of groups, all groups with 25 or more cases had a relative standard error less than 20%. On the other hand, in groups with fewer than 25 cases, a proportion of the groups had a relative

standard error higher than 20%. Estimates of counts also have a reliability threshold of 25 cases per group.

The threshold depends on the variation of earnings, the sample design and weighting method, and hence may need to be revised in the future. We, therefore, recommend using a reliability threshold of 25 cases for estimates of earnings and monitor its value regularly, every two years, for example.

APS Income weight (PIWTA)**

From 2012 an income weight (PIWTA**) is included on the JD period datasets. From JD18 it will be included on every quarter.

The income weight is calculated in a similar way to the LFS income weight. More information on this can be found in the volume 1 user guide. The main differences are there are six calibration groups used to calculate the APS income weight, whereas for the LFS income weight there are four.

It is worth remembering that the primary source of data for earnings analysis in the UK is still the Annual Survey of Hours and Earnings. This business survey collects detailed information on the composition and distribution of earnings among employees, however as a business survey, ASHE collects only a limited range of personal characteristics regarding individual employees. This limits its usefulness in analysing earnings for instance by education and/or by different protected characteristics.

As a result, the Labour Force Survey is still heavily used as a source of data on earnings. Though it is accepted that the accuracy and detail of earnings information captured by the LFS falls short of that obtained by ASHE, the greater range of personal and household characteristics broaden its potential uses. However, one drawback of earnings analysis on the LFS is that the achieved sample is relatively small. This is because earnings questions are asked only to employees and only in forty percent of the interviews carried out in each quarter. Furthermore, earnings questions on the LFS are known to have particularly poor response rates. The achieved sample for the LFS earnings questions is usually around 9,000, compared with approximately 150,000 respondents on ASHE. This limited sample size then restricts the extent to which you can perform multivariate analysis of earnings on the LFS, particularly where the variables of interest have many categories.
It is this desire to have a sample size sufficient for more detailed analysis, alongside information on a wider range of personal characteristics which drives the user need for earnings weights on the APS.

Eurostat Ad-hoc module variables and weight.

The EuroStat Ad-hoc module ceased being collected after the UK’s withdrawal from the European Union in 2020. Eurostat module was collected for three quarters in 2020, however, this was not published

From 2009 until 2020, the JD APS person datasets have had additional variables added to the government cuts; these are known as the Eurostat Ad Hoc Modules (AHM) and the Eurostat wave 1 weight (EWEIGH**), where ** denotes the year that the weight was published.

Under Regulation (EC) No 577/98, Eurostat includes a number of variables each year which provide information on aspects of the labour market that do not form part of the standard questionnaire. These set of variables constitute an "*ad hoc* module". The different themes since 2009 are:

Year	**Theme**
2009	Transition from school to work life
2010	Reconciliation between work and family life
2011	Employment of disabled people
2012	Transition from work into retirement
2013	Accidents at work and other work-related health problems
2014	Labour market situation of migrants and their descendants
2015	An ad-hoc module didn't run this year [2]
2016	Young people on the labour market
2017	Self-employment
2018	Reconciliation between work and family life
2019	Work organisation and working time arrangements
2020	Accidents at work and other work-related health problems

A brief description of the ad hoc module variables can be found in the volume 9a user guide. More information about the Eurostat aspect of the survey (including the background, the regular variables and ISCO country classification) can be found in user guide volume 9.,Both of these user guides can be found here: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyuserguidance

The Eurostat variables are collected in the first wave only on the LFS, and this means a separate weight is required (EWEIGH**) to use along with the AHM variables.

The calculation of the Eurostat weight is similar to the method used for the calibration of the LFS and APS weights (GES). However, with the Eurostat weight the bounded option in GES is included, so the calibration weights cannot exceed the value 9999, a constraint set by Eurostat; this affects some multiple occupancy households from Q3 2010 due to changes to the LFS at that time. Since the Eurostat variables are based on wave 1 data

[2] The wave 1 weight and variables are still included on the JD15 dataset

only, the 75+ adjustment which is applied to wave 1 LFS data (as households where all residents are aged 75 and over are no longer interviewed in subsequent waves) is removed.

Wave 1 variables

From JD08, various wave 1 LFS variables have been added to the JD APS person datasets (on the Government cuts). A list of the wave 1 variables can be found in Annex E.

It is worth noting that several of these variables have only recently (in quarters in 2014) been asked in wave 1 only. However, in order to do some analysis with other years, they have been included in earlier periods of the APS dataset where they may have been asked in Wave 1 and Wave 5 of the LFS.

When analysis is carried out based on these variables the Wave 1 weight should be used: EWEIGH** (the Eurostat one that can also be used for the ad hoc modules).

There may be a discrepancy between the unweighted and weighted results, as the Wave 5 cases will be included in the unweighted counts but not in the weighted counts (This is because only Wave 1 cases have weights).

Personal Well-Being variables

From April 2011 the mainstream APS person datasets now contains Personal Well-Being questions (SATIS, WORTH, HAPPY, ANXIOUS), along with the Well-Being non-proxy weight (NPWT**), which should be used when analysing these variables. Previously (from 2011) a specific 'APS Well-Being micro dataset' was created, however the production of this separate dataset ceased from A14M. The APS person datasets (from A11M12 onwards) are now the official source for the Well-Being variables previously released as part of the 'APS Well-Being micro dataset'.

It is important to note that the size of the achieved sample for the Well-being questions within the APS dataset is approximately half that of the full APS file. This reduction is due to the Well-Being questions being only asked of persons aged 16 and over, who gave a personal interview; proxy answers are not accepted. As a result some caution should be used when analysing responses to Well-Being questions at detailed geography areas, or other variables, where unweighted respondent numbers are relatively small. It is recommended that for lower level geography analysis the variable ‘UACNTY09’ is used.

It is not possible to combine other single year APS/Personal Well-Being datasets together to carry out longitudinal analysis. The Personal Well-being datasets are not designed for longitudinal analysis, e.g. they are not designed to track individuals over time.

The ONS produce a Statistical Bulletin on Personal Well-Being in the UK, which is available from the ONS website. It provides an overview and analysis of UK personal well-being data and also includes information on how personal well-being data can be used:

https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing

Sexual Identity/Orientation variables

From January 2011 the APS person datasets now also contains a Sexual Identity variable (SIDV), along with the Sexual Identity weight (SIDWT**), which should be used when analysing this variable. Previously Sexual Identity variables were released as part of the Integrated Household Survey (IHS).

Again like the Personal Well-Being questions it is important to note that the size of the achieved sample for the Sexual Identity is much smaller than the full APS file. This reduction is due to the Sexual Identity questions being only asked of persons aged 16 and over, who gave a personal interview; proxy answers are not accepted. As a result any analysis by geographical area below regional level is not recommended, and that caution should be used for analysing Sexual Identity responses by other variables where unweighted respondent numbers are relatively small.

The ONS produce an experimental Statistical Bulletin on Sexual Orientation in the UK, which is available from the ONS website. It provides an overview and analysis of UK Sexual Identity data and also includes information on how Sexual Identity data can be used

https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/sexuality

Veteran variables

Between 2014 and 2018 the questions listed below have been asked on the APS to try and measure the UK Armed Forces Veterans residing in Great Britain.

- **VETCURR** (Currently serving in the armed forces)
- **VETSERV** (Ever served in armed forces)
- **VETYEARLFT** (Year left armed forces)
- **VTYRLFT2** (Age left the UK Regular Armed Forces or the UK Reserve Armed Forces)
- **VTYRLFT3** (Year left the UK Regular Armed Forces or the UK Reserve Armed Forces).
- **VETERAN** (Final Veterans derived variable to be used)

Due to the sensitive nature of these variables the Veteran questions are currently only released on APS Government level datasets.

Other Integrated Household Survey (IHS) variables

Other variables previously released via the IHS now been included in the APS person datasets. Use the APS person weight (PWTA**) for analysing these:

Smoking Variables

- **CIGEVER** (Ever Smoked) from JM16, previously **SMOKEVER**
- **CIGNOW** (Smoke at all nowadays) from April 2009
- **CIGSMK16** (Smoking Status) from JM16, previously **CIGSMK1**

The ONS produce a Statistical Bulletin on Smoking Prevalence in the UK, largely based on source information from the APS. For 2020, due to the COVID pandemic, a bulletin was released relating to smoking figures:

“The coronavirus pandemic has changed the way we can collect data and is likely to be a contributing factor to why we have seen an unrealistic decrease in the proportion of adults who smoked cigarettes in 2020 in our usual information source, the Annual Population Survey (APS). Therefore, these numbers should be treated with caution.

“Unlike the APS, the Opinions and Lifestyle Survey was already contactless, with interviews conducted online and by phone, and is the next best alternative source for measuring smoking prevalence in Great Britain. Based on this, smoking prevalence among those aged 16 years or over fell by 1.3% in 2020, compared with 2019. However, this decrease is not statistically significant.”

https://www.ons.gov.uk/releases/datacollectionchangesandtheirimpactonestimatingsmokingprevalenceintheuk2020

Health Variable

- **QHEALTH1** (How is the respondent’s health) from July 2009

APS Household datasets

Household level APS datasets are also available for the January-December periods (which allow labour market analysis to be carried out on families and households, at local area levels and for small sub-groups of the population across the UK). , Additional information can be found in user guides volume 1 (background and methodology) and 8 (household and family data)

https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyuserguidance

The main points to remember between the person and household datasets are:

- For the household data set, non-responders are included, as they are necessary to identify relationships between household members, assign them to complete family units within the household, and derive family and household variables.
- Unlike in the person data sets, weights for each person in the same household are equal. This ensures that weighted estimates at the household level are consistent

The APS household level weight is PHHWTA14 (from JD 2006 to JD11) and PHHWTA18 (from JD12). Similar weighting methodology is used to the household-level LFS dataset, but with a more detailed set of calibration groups.

Note due to changes from JD11, there are some additional cases included in the dataset (compared to JD06-JD10). These cases are:

1) households where everyone has an IOUTCOME of 6 (data brought forward from previous quarter) and THISWV=2,3 or 4,

2) households where everyone has an IOUTCOME of 3 (non-response)

3) households where everyone has an IOUTCOME of either 6 or 3 and THISWV=2,3 or 4. This won't have any impact on weighted analysis, since these cases have a zero weight, but it could have an impact if looking at the unweighted data.

Geography variables

There have been changes to the geography variables, which has involved some existing variables being removed and new ones added. This will affect the APS government datasets (both person and household level) from JD14. The change is due to ONS Geography moving to using a nine-digit coding structure in 2011, and the availability of new geographies following the 2011 Census

The new geography variables (mostly nine-digit) can be seen in the table below:

Variable name	Description
PARK	National Parks
LEA	Local Education Authority
CTRY9D	Country
NUTS162/NUTS132	NUTS 2 areas (2016/13)
NUTS163/NUTS133	NUTS 3 areas (2016/13)
TTWA9D	Travel to work area
RU11IND	2011 Census rural-urban classification
OA11	2011 Census output area
GOR9D	Region
PCON9D	Westminster parliamentary constituency (UK)
LAUA	Local Authority District
TECLEC	Local Learning and Skills Council (England) Enterprise Region (Scotland) DCELLS (Wales)
LSOA11	2011 Census Lower layer super output area
MSOA11	2011 Census Middle layer super output area
WARD	Electoral Ward
CCG	Clinical Commissioning Groups
CTY	Counties

LEP	Local Enterprise Partnerships (DV not supported by ONS Geography)

ONS unsupported geographies (listed in Annex F) are no longer provided on APS datasets from A15M16 onwards.

The reweighted historical LFS and APS government datasets (pre-2014) do not contain any nine-digit geographies. If you require these geographies pre-2014 a lookup can be provided on request to allow you to merge these onto historical datasets.

APS 3 Year Pooled datasets

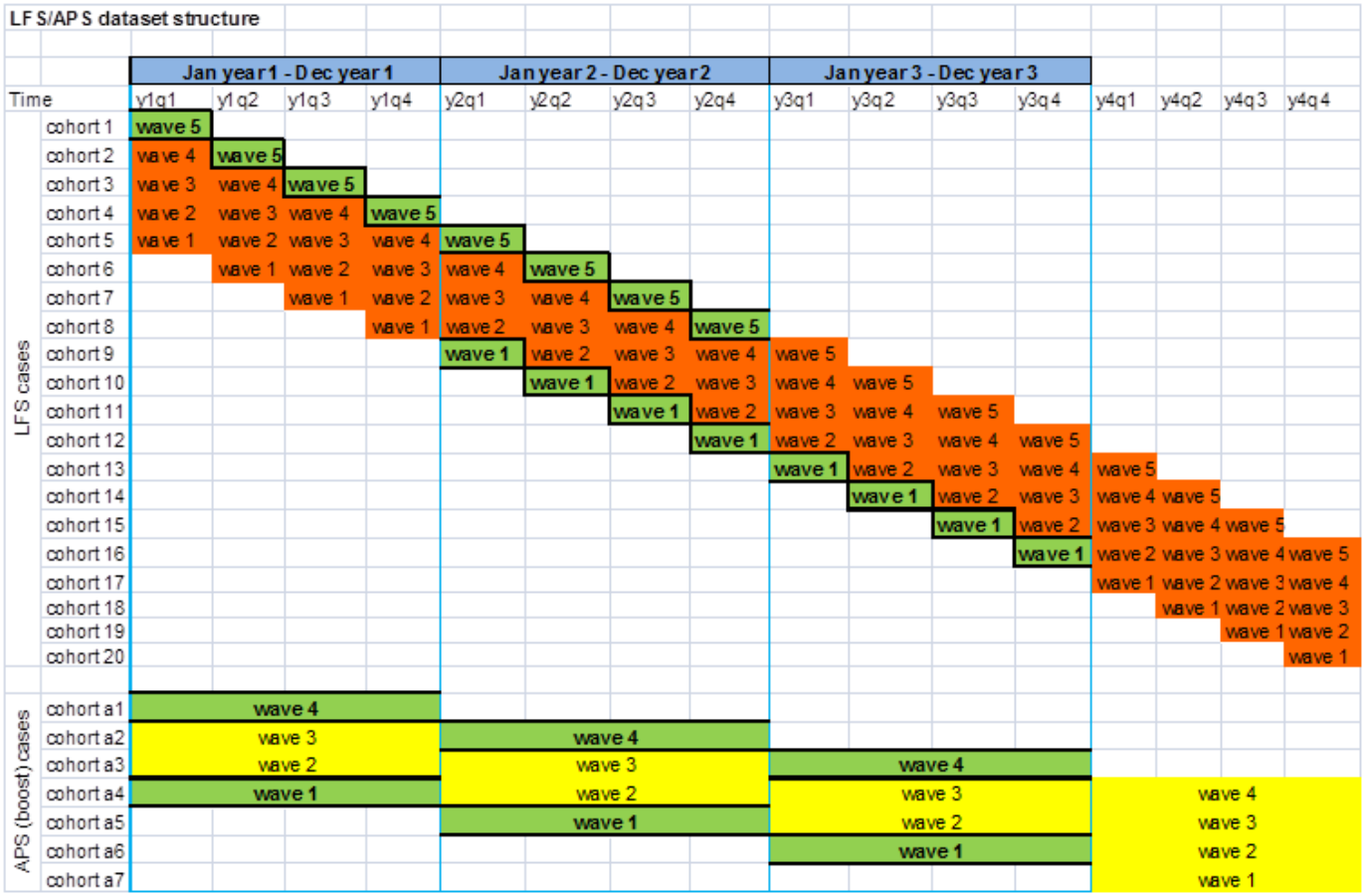
The APS 3 year pooled dataset is designed to allow more robust analysis at lower level geographies, that isn't always possible using the single year APS dataset, especially for certain topics whose achieved sample size is smaller.

This 3 year dataset will contain a sample size of around 530,000 respondents and will largely only include variables that appear in all of the 3 years it covers.

When combining multiple single year APS datasets together it is important to account for the rotational design of the APS, and ensure that no person appears more than once in the multiple-year dataset.

For this reason, the three-year dataset has been designed to include only a selection of the cases from the individual-year APS datasets, chosen in such a way that no individuals are included more than once and the cases included are approximately equally spread across the three years. This is done by selecting wave 5 LFS from year 1, wave 1 and 5 LFS from year 2, wave 1 LFS from year 3, and waves 1 and 4 APS boost from all waves.

This is illustrated in the diagram below, where the cases selected are those in bold/in a green background:



Any analysis produced from the pooled dataset should be treated solely as point-in-time estimates. The use of the pooled datasets is not recommended for any time series analysis. This is due to consecutive pooled datasets will contain two years of data from the same year (e.g. J14D16 estimates and J15D17 will both contain 2015 and 2016). Therefore any estimates of change will effectively be between 2014 and 2017, which is hard to interpret.

The APS pooled dataset is weighted to UK population totals just like the single year APS dataset (the same calibration groups and design weights are also used). The population totals used are the average of the 6th month of each of the three years (e.g. for J15D17 the mean of the population totals for June 2015, June 2016 and June 2017 is used).

There are several different weights on the dataset:

- **PWTA**C**: Person Weight for 3 year pooled APS dataset
- **SIDWT**C**: Sexual Identity weight for 3 year APS pooled dataset
- **NPWT**C**: Non-proxy weight for 3 year APS pooled dataset

Where ** denotes the year that the weight was published, for example the 2017 weight is pwta17.

The APS pooled datasets are available via the ONS Virtual Microdata Laboratory (VML) and the UKDS.

SECTION 3: ACCESSING LOCAL AREA DATA

Local area LFS data are available via four routes:

(i) ONS website

The 'Local labour markets: statistical indicators' publication can be found at: http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Local+Labour+Market+Indicators

This publication gives an overview of labour markets indicators for local areas, and the APS is used for estimates of labour supply. The publication includes some summary tables and analysis, plus downloadable Excel spreadsheets containing data for all local authorities and parliamentary constituencies.

ONS's on-line guide to labour market statistics http://www.ons.gov.uk/ons/rel/lms/labour-market-guidance/guide-to-labour-market-statistics/guide-to-lm-statistics.html also contains information on local area data, including information on the annual LFS and APS.

The Guide to Regional and Local Labour Market Statistics can be found at: http://webarchive.nationalarchives.gov.uk/20110218135832/http:/statistics.gov.uk/downloads/theme_labour/Guide_regional_local_lms.pdf

(ii) Nomis

Nomis contains tables of both annual LFS and APS data for a wide range of geographies. To access these data visit www.nomisweb.co.uk. Regular users are encouraged to register and obtain a user account, but the data can be accessed without registering. The most recent annual data on Nomis allows some additional functionality, such as allowing user defined areas and variables. Estimates from the 2003/04 annual LFS and all APS datasets are output, along with corresponding 95% confidence intervals.

Annual LFS/APS data are available for the following geographies:

- Countries
- Government Office Regions
- Counties
- Unitary authorities
- Local authority districts
- Parliamentary constituencies
- NUTS areas
- Learning and policy geographies (eg ELWAs and local learning and skills councils)

(**iii) ONS local area LFS Dataservice**

The estimates from the annual LFS/APS available from the ONS web site and from Nomis are pre-defined aggregates. For users who want to specify their own analyses and tabulations, ONS runs a service to provide these. There is a charge for this service. To request a table from this service or obtain more information about the service e-mail socialsurveys@ons.gov.uk

(iv) Access to APS micro-data

The UK Data Service (UKDS) manages access to the APS microdata, offering a Secure Data Service (SDS) and an End–User Licence (EUL) procedure which allow users access to microdata files containing various levels of APS variables. Information on accessing APS data from the UKDS can be found here:
https://www.ukdataservice.ac.uk/get-data/how-to-access

The more detailed versions of the APS microdata are also available via the ONS Virtual Microdata Laboratory (VML). Information on how to access the VML files can be found here:
https://www.ons.gov.uk/aboutus/whatwedo/paidservices/virtualmicrodatalaboratoryvml

Further Information

For general information about LFS local area data please telephone the Labour Market Statistics Helpline on 020 7533 6094, e-mail labour.market@ons.gov.uk.

For further information about the ONS tabulation services contact socialsurveys@ons.gov.uk or Tel: 01633 455678.
For more information on Nomis contact info@nomisweb.co.uk or Tel: 0191 334 2680.

ANNEX A – Core variables for JD04 to JD05 periods

aage	Dteofbth	gorwk2r	lktima	numhhld	quals401	Samelad	typhst4	xr12
add	Durum	Govtof	lktimb	numol4	quals402	sc2kmmj	typhst5	xr13
addjob	durun2	Govtor	lkyt4	numol5	quals403	sc2kmmn	Uacnty	xr14
advhst	Edage	Hallres	look4	numol5f	quals404	schm04	Uala	xr15
age	Emplen	hdpch19	manager	numolfo	quals405	Scotpca	Ualdgb	ystart
agedfe	Empmon	Hhld	mardy	numsce	quals406	sctvec	Ualdwk	ytetjb
ages	Enrol	Higho	marsex	nuts2	quals407	sector	Ukpca	ytetmp
amarstt	eth01	hitqua05y	marstt	nuts3	quals408	sectro03	Undabl	
aofl16	Ethas	hitqua4	mpnr02	nuts4	quals409	self1	Undnst	
aofl19	Ethbl	hitqua5	natidb	nvqlev	quals410	self2	undskhr	
aohl16	ethcen15	Hohid	natide	nvqsvq	quals411	self3	Undst	
aohl19	ethcen6	Home	natidi	nvqun	quals601	self4	Uresmc	
appr4	Ethmx	Hout	natido	nvqun2	quals602	sex	Urind	
attend	Ethwh	Hrp	natids	oacode	quals603	smsxfu	w1yr	
ayfl19	Everwk	Hrpid	natidw	oneten	quals604	soa1	Wait	
ayhl19	Extfu	Hst	nation	ownbus	quals605	soa2	ward03	
Befor	Famunit	Ilodefr	nato	pca	quals606	soc2km	ward05	
Beforf	fdpch15	ilodefr05	natox	pcode	quals607	solo2	ward98	
Btec	fdpch16	ilodefr05y	ndtype4	pdwage	quals608	solor	Wavfnd	
caind	fdpch19	indd92m	newdea4	persno	quals609	start	Week	
cameyr	fdpch2	indg92m	nolook	prxrel	quals610	stat2	Wnleft	
candg	fdpch4	indm92m	nolowa01	publicr	quals611	statr	wnleft2	
caseno	fdpch9	inds92m	nolowa02	pwaps05a	Quota	stucur	workage	
casward	Fmplus	Indsect	nolowa03	qgcse41	Recno	supvis	worst30	
conmon	Ftpt	inecac05	nolowa04	qgcse42	Refdte	supvis2	worst30n	
conmpy	Ftptwk	inecac05y	nolowa05	qgcse43	Refwkd	teach41	Wrkage	
consey	Furn	Inecacr	nolowa06	qgcse44	Refwkm	teach42	Wrking	
country	gcse41	Ioutcome	nolowa07	qgcse45	Refwky	teach43	xr00	
course	gcse42	Jbaway	nolowa08	qgnvq	Regwkr	teach44	xr01	
cry01	gcse43	Jobbeg	nolowa09	qrtr	Relbus	teach45	xr02	
cryo	gcse44	land96	nolowa10	qualch41	Relhfu	teach46	xr03	
cryox	gcse45	Lea	nolwm	qualch42	Relhrp	teclec4	xr04	
cured	gcseful1	Leftm	nolwmy	qualch43	Relig	ten96	xr05	
degcls	gcseful2	Leftw	nowant	qualch44	rent96	thiswv	xr06	
degree4	gcseful3	Leftyr	nsecm	qualch51	Resbby	tlec98	xr07	
difjob	gcseful4	Leiscl	nsecmmj	qualch52	Resmth	ttwa	xr08	
dobd	gcseful5	Lfssamp	num5up	qualch53	Respno	typhst1	xr09	
dobm	gnvq4	Likewk	numal	qualch54	Restme	typhst2	xr10	
doby	Gorwkr	Livtog	numas	qualch55	Rsa	typhst3	xr11	

2005 Only
Ilodef05y
Inecac05y
hitqual05y
hiqual05y
levqual05y

Weight to use: **PWAPS – Core Only** **PWLFS – Non Core or Non Core & Core**

ANNEX B – Average grossing factors (mean weights) for Unitary Authorities/ Local Authority District areas from the January-December 2020 APS data

Note: The Local Authority AA City of London hasn't been included in this table due to the small sample size (number of respondents).

Local Authority Area	Average Grossing Factor	AGF / 1000
England	351.1	0.35
AB Barking and Dagenham	567.0	0.57
AC Barnet	682.3	0.68
AD Bexley	381.3	0.38
AE Brent	941.9	0.94
AF Bromley	500.0	0.50
AG Camden	606.3	0.61
AH Croydon	651.3	0.65
AJ Ealing	789.8	0.79
AK Enfield	733.9	0.73
AL Greenwich	584.4	0.58
AM Hackney	662.4	0.66
AN Hammersmith and Fulham	419.1	0.42
AP Haringey	626.0	0.63
AQ Harrow	609.0	0.61
AR Havering	371.6	0.37
AS Hillingdon	750.6	0.75
AT Hounslow	742.2	0.74
AU Islington	603.5	0.60
AW Kensington and Chelsea	332.3	0.33
AX Kingston upon Thames	283.9	0.28
AY Lambeth	717.3	0.72
AZ Lewisham	563.8	0.56
BA Merton	401.3	0.40
BB Newham	1057.8	1.06
BC Redbridge	529.5	0.53
BD Richmond upon Thames	316.4	0.32
BE Southwark	659.9	0.66
BF Sutton	370.2	0.37
BG Tower Hamlets	925.5	0.93
BH Waltham Forest	598.8	0.60
BJ Wandsworth	683.6	0.68
BK Westminster	710.8	0.71
BL Bolton	283.2	0.28
BM Bury	158.7	0.16
BN Manchester	613.6	0.61
BP Oldham	222.0	0.22
BQ Rochdale	184.3	0.18
BR Salford	260.5	0.26
BS Stockport	302.3	0.30
BT Tameside	204.0	0.20

Local Authority Area	Average Grossing Factor	AGF / 1000
BU Trafford	234.6	0.23
BW Wigan	346.0	0.35
BX Knowsley	160.2	0.16
BY Liverpool	388.1	0.39
BZ St. Helens	177.4	0.18
CA Sefton	220.5	0.22
CB Wirral	279.6	0.28
CC Barnsley	222.7	0.22
CE Doncaster	320.8	0.32
CF Rotherham	261.4	0.26
CG Sheffield	495.7	0.50
CH Gateshead	193.8	0.19
CJ Newcastle upon Tyne	303.9	0.30
CK North Tyneside	208.3	0.21
CL South Tyneside	128.8	0.13
CM Sunderland	210.4	0.21
CN Birmingham	742.5	0.74
CQ Coventry	323.8	0.32
CR Dudley	328.8	0.33
CS Sandwell	353.2	0.35
CT Solihull	163.8	0.16
CU Walsall	260.3	0.26
CW Wolverhampton	235.8	0.24
CX Bradford	487.8	0.49
CY Calderdale	204.3	0.20
CZ Kirklees	377.2	0.38
DA Leeds	489.3	0.49
DB Wakefield	294.3	0.29
EB Hartlepool	74.3	0.07
EC Middlesbrough	115.3	0.12
EE Redcar and Cleveland	117.9	0.12
EF Stockton-on-Tees	161.4	0.16
EH Darlington	86.5	0.09
ET Halton	120.2	0.12
EU Warrington	189.1	0.19
EX Blackburn with Darwen	135.4	0.14
EY Blackpool	116.7	0.12
FA Kingston upon Hull, City of	291.3	0.29
FB East Riding of Yorkshire	256.1	0.26
FC North East Lincolnshire	138.8	0.14
FD North Lincolnshire	171.4	0.17
FF York	189.5	0.19
FK Derby	242.3	0.24
FN Leicester	425.3	0.43
FP Rutland	98.2	0.10
FY Nottingham	282.5	0.28

Local Authority Area	Average Grossing Factor	AGF / 1000
GA Herefordshire, County of	143.2	0.14
GF Telford and Wrekin	166.6	0.17
GL Stoke-on-Trent	235.8	0.24
HA Bath and North East Somerset	153.4	0.15
HB Bristol, City of	389.3	0.39
HC North Somerset	168.5	0.17
HD South Gloucestershire	246.4	0.25
HG Plymouth	239.9	0.24
HH Torbay	102.7	0.10
HN Bournemouth	220.4	0.22
HP Poole	152.0	0.15
HX Swindon	191.2	0.19
JA Peterborough	196.8	0.20
KA Luton	190.6	0.19
KF Southend-on-Sea	129.5	0.13
KG Thurrock	170.7	0.17
LC Medway	313.6	0.31
MA Bracknell Forest	108.1	0.11
MB West Berkshire	166.0	0.17
MC Reading	192.7	0.19
MD Slough	186.7	0.19
ME Windsor and Maidenhead	109.0	0.11
MF Wokingham	130.9	0.13
MG Milton Keynes	223.7	0.22
ML Brighton and Hove	327.6	0.33
MR Portsmouth	208.7	0.21
MS Southampton	237.3	0.24
MW Isle of Wight	102.0	0.10
09UC Mid Bedfordshire	353.8	0.35
09UD Bedford	395.1	0.40
09UE South Bedfordshire	383.9	0.38
11UB Aylesbury Vale	443.2	0.44
11UC Chiltern	342.0	0.34
11UE South Bucks	462.1	0.46
11UF Wycombe	479.9	0.48
12UB Cambridge	658.1	0.66
12UC East Cambridgeshire	412.4	0.41
12UD Fenland	694.1	0.69
12UE Huntingdonshire	558.7	0.56
12UG South Cambridgeshire	449.2	0.45
13UB Chester	490.3	0.49
13UC Congleton	384.2	0.38
13UD Crewe and Nantwich	622.4	0.62
13UE Ellesmere Port and Neston	584.6	0.58
13UG Macclesfield	476.2	0.48
13UH Vale Royal	581.4	0.58

Local Authority Area	Average Grossing Factor	AGF / 1000
15UB Caradon	437.7	0.44
15UC Carrick	400.4	0.40
15UD Kerrier	441.7	0.44
15UE North Cornwall	381.3	0.38
15UF Penwith	443.0	0.44
15UG Restormel	489.5	0.49
16UB Allerdale	377.4	0.38
16UC Barrow-in-Furness	463.9	0.46
16UD Carlisle	378.6	0.38
16UE Copeland	383.3	0.38
16UF Eden	320.8	0.32
16UG South Lakeland	333.0	0.33
17UB Amber Valley	576.5	0.58
17UC Bolsover	717.8	0.72
17UD Chesterfield	508.9	0.51
17UF Derbyshire Dales	436.8	0.44
17UG Erewash	597.1	0.60
17UH High Peak	458.2	0.46
17UJ North East Derbyshire	492.2	0.49
17UK South Derbyshire	516.5	0.52
18UB East Devon	433.5	0.43
18UC Exeter	547.0	0.55
18UD Mid Devon	436.2	0.44
18UE North Devon	513.4	0.51
18UG South Hams	474.6	0.47
18UH Teignbridge	461.5	0.46
18UK Torridge	673.7	0.67
18UL West Devon	483.7	0.48
19UC Christchurch	294.5	0.29
19UD East Dorset	277.3	0.28
19UE North Dorset	393.5	0.39
19UG Purbeck	408.2	0.41
19UH West Dorset	338.2	0.34
19UJ Weymouth and Portland	387.5	0.39
20UB Chester-le-Street	278.7	0.28
20UD Derwentside	378.1	0.38
20UE Durham	388.3	0.39
20UF Easington	517.4	0.52
20UG Sedgefield	321.0	0.32
20UH Teesdale	298.6	0.30
20UJ Wear Valley	347.7	0.35
21UC Eastbourne	508.0	0.51
21UD Hastings	485.2	0.49
21UF Lewes	443.6	0.44
21UG Rother	435.7	0.44
21UH Wealden	428.0	0.43

Local Authority Area	Average Grossing Factor	AGF / 1000
22UB Basildon	613.7	0.61
22UC Braintree	559.0	0.56
22UD Brentwood	838.0	0.84
22UE Castle Point	650.6	0.65
22UF Chelmsford	545.6	0.55
22UG Colchester	515.1	0.52
22UH Epping Forest	626.1	0.63
22UJ Harlow	750.4	0.75
22UK Maldon	523.4	0.52
22UL Rochford	520.0	0.52
22UN Tendring	557.2	0.56
22UQ Uttlesford	617.8	0.62
23UB Cheltenham	407.6	0.41
23UC Cotswold	410.2	0.41
23UD Forest of Dean	351.4	0.35
23UE Gloucester	510.8	0.51
23UF Stroud	389.9	0.39
23UG Tewkesbury	383.0	0.38
24UB Basingstoke and Deane	532.0	0.53
24UC East Hampshire	450.1	0.45
24UD Eastleigh	511.1	0.51
24UE Fareham	440.3	0.44
24UF Gosport	510.8	0.51
24UG Hart	411.7	0.41
24UH Havant	635.5	0.64
24UJ New Forest	439.6	0.44
24UL Rushmoor	484.0	0.48
24UN Test Valley	517.9	0.52
24UP Winchester	527.1	0.53
26UB Broxbourne	536.1	0.54
26UC Dacorum	587.2	0.59
26UD East Hertfordshire	415.9	0.42
26UE Hertsmere	624.9	0.62
26UF North Hertfordshire	444.0	0.44
26UG St. Albans	421.9	0.42
26UH Stevenage	612.4	0.61
26UJ Three Rivers	568.9	0.57
26UK Watford	623.0	0.62
26UL Welwyn Hatfield	544.2	0.54
29UB Ashford	513.8	0.51
29UC Canterbury	522.8	0.52
29UD Dartford	969.1	0.97
29UE Dover	478.5	0.48
29UG Gravesham	803.0	0.80
29UH Maidstone	915.6	0.92
29UK Sevenoaks	612.6	0.61

Local Authority Area	Average Grossing Factor	AGF / 1000
29UL Shepway	517.7	0.52
29UM Swale	600.6	0.60
29UN Thanet	577.8	0.58
29UP Tonbridge and Malling	848.0	0.85
29UQ Tunbridge Wells	619.6	0.62
30UD Burnley	558.5	0.56
30UE Chorley	540.2	0.54
30UF Fylde	487.3	0.49
30UG Hyndburn	682.1	0.68
30UH Lancaster	513.4	0.51
30UJ Pendle	657.7	0.66
30UK Preston	518.0	0.52
30UL Ribble Valley	533.3	0.53
30UM Rossendale	666.3	0.67
30UN South Ribble	532.5	0.53
30UP West Lancashire	561.4	0.56
30UQ Wyre	523.2	0.52
31UB Blaby	499.3	0.50
31UC Charnwood	601.2	0.60
31UD Harborough	418.6	0.42
31UE Hinckley and Bosworth	432.8	0.43
31UG Melton	378.5	0.38
31UH North West Leicestershire	455.9	0.46
31UJ Oadby and Wigston	703.1	0.70
32UB Boston	649.9	0.65
32UC East Lindsey	558.6	0.56
32UD Lincoln	487.3	0.49
32UE North Kesteven	456.0	0.46
32UF South Holland	534.5	0.53
32UG South Kesteven	506.1	0.51
32UH West Lindsey	401.8	0.40
33UB Breckland	512.0	0.51
33UC Broadland	526.1	0.53
33UD Great Yarmouth	680.7	0.68
33UE Kings Lynn and West Norfolk	500.8	0.50
33UF North Norfolk	509.3	0.51
33UG Norwich	775.6	0.78
33UH South Norfolk	455.6	0.46
34UB Corby	654.0	0.65
34UC Daventry	420.9	0.42
34UD East Northamptonshire	469.8	0.47
34UE Kettering	550.8	0.55
34UF Northampton	554.6	0.55
34UG South Northamptonshire	488.4	0.49
34UH Wellingborough	645.9	0.65
35UB Alnwick	250.2	0.25
35UC Berwick-upon-Tweed	299.2	0.30

Local Authority Area	Average Grossing Factor	AGF / 1000
35UD Blyth Valley	249.1	0.25
35UE Castle Morpeth	212.6	0.21
35UF Tynedale	256.5	0.26
35UG Wansbeck	264.0	0.26
36UB Craven	470.9	0.47
36UC Hambleton	380.7	0.38
36UD Harrogate	481.7	0.48
36UE Richmondshire	468.7	0.47
36UF Ryedale	371.5	0.37
36UG Scarborough	471.0	0.47
36UH Selby	456.1	0.46
37UB Ashfield	548.5	0.55
37UC Bassetlaw	627.0	0.63
37UD Broxtowe	448.0	0.45
37UE Gedling	452.6	0.45
37UF Mansfield	553.2	0.55
37UG Newark and Sherwood	542.8	0.54
37UJ Rushcliffe	457.6	0.46
38UB Cherwell	516.5	0.52
38UC Oxford	609.4	0.61
38UD South Oxfordshire	503.0	0.50
38UE Vale of White Horse	453.6	0.45
38UF West Oxfordshire	509.6	0.51
39UB Bridgnorth	280.3	0.28
39UC North Shropshire	225.4	0.23
39UD Oswestry	243.4	0.24
39UE Shrewsbury and Atcham	296.2	0.30
39UF South Shropshire	284.1	0.28
40UB Mendip	499.6	0.50
40UC Sedgemoor	401.3	0.40
40UD South Somerset	455.6	0.46
40UE Taunton Deane	410.8	0.41
40UF West Somerset	502.1	0.50
41UB Cannock Chase	797.1	0.80
41UC East Staffordshire	536.5	0.54
41UD Lichfield	482.3	0.48
41UE Newcastle-under-Lyme	549.9	0.55
41UF South Staffordshire	535.3	0.54
41UG Stafford	488.0	0.49
41UH Staffordshire Moorlands	531.1	0.53
41UK Tamworth	488.8	0.49
42UB Babergh	486.0	0.49
42UC Forest Heath	662.7	0.66
42UD Ipswich	561.8	0.56
42UE Mid Suffolk	431.3	0.43
42UF St. Edmundsbury	445.8	0.45
42UG Suffolk Coastal	448.8	0.45

Local Authority Area	Average Grossing Factor	AGF / 1000
42UH Waveney	526.7	0.53
43UB Elmbridge	576.2	0.58
43UC Epsom and Ewell	485.5	0.49
43UD Guildford	593.1	0.59
43UE Mole Valley	450.8	0.45
43UF Reigate and Banstead	692.8	0.69
43UG Runnymede	605.3	0.61
43UH Spelthorne	483.6	0.48
43UJ Surrey Heath	675.2	0.68
43UK Tandridge	779.9	0.78
43UL Waverley	464.1	0.46
43UM Woking	611.4	0.61
44UB North Warwickshire	350.9	0.35
44UC Nuneaton and Bedworth	434.1	0.43
44UD Rugby	396.0	0.40
44UE Stratford-on-Avon	386.0	0.39
44UF Warwick	399.0	0.40
45UB Adur	434.6	0.43
45UC Arun	556.8	0.56
45UD Chichester	522.9	0.52
45UE Crawley	771.7	0.77
45UF Horsham	549.8	0.55
45UG Mid Sussex	653.9	0.65
45UH Worthing	526.4	0.53
46UB Kennet	394.3	0.39
46UC North Wiltshire	415.9	0.42
46UD Salisbury	325.3	0.33
46UF West Wiltshire	382.4	0.38
47UB Bromsgrove	428.4	0.43
47UC Malvern Hills	369.3	0.37
47UD Redditch	439.1	0.44
47UE Worcester	435.9	0.44
47UF Wychavon	344.7	0.34
47UG Wyre Forest	420.3	0.42

Local Authority Area	Average Grossing Factor	AGF / 1000
Wales	131.8	0.13
NA Anglesey, Isle of	55.7	0.06
NC Gwynedd	111.6	0.11
NE Conwy	99.7	0.10
NG Denbighshire	84.8	0.08
NJ Flintshire	145.5	0.15
NL Wrexham	130.3	0.13
NN Powys	130.0	0.13
NQ Ceredigion	68.3	0.07
NS Pembrokeshire	93.3	0.09
NU Carmarthenshire	132.5	0.13
NX Swansea	198.7	0.20
NZ Neath Port Talbot	156.8	0.16
PB Bridgend	143.5	0.14
PD Vale of Glamorgan, The	136.3	0.14
PF Rhondda, Cynon, Taff	238.0	0.24
PH Merthyr Tydfil	86.5	0.09
PK Caerphilly	153.3	0.15
PL Blaenau Gwent	94.3	0.09
PM Torfaen	87.8	0.09
PP Monmouthshire	77.1	0.08
PR Newport	136.9	0.14
PT Cardiff	338.9	0.34

Local Authority Area	Average Grossing Factor	AGF / 1000
Scotland	232.9	0.23
QA Aberdeen City	318.8	0.32
QB Aberdeenshire	286.0	0.29
QC Angus	105.1	0.11
QD Argyll & Bute	74.6	0.07
QE Scottish Borders, The	140.3	0.14
QF Clackmannanshire	109.3	0.11
QG West Dunbartonshire	89.2	0.09
QH Dumfries and Galloway	167.8	0.17
QJ Dundee City	149.8	0.15
QK East Ayrshire	145.9	0.15
QL East Dunbartonshire	79.5	0.08
QM East Lothian	140.4	0.14
QN East Renfrewshire	116.9	0.12
QP Edinburgh, City of	522.9	0.52
QQ Falkirk	212.0	0.21
QR Fife	351.9	0.35
QS Glasgow City	656.6	0.66
QT Highland	299.3	0.30
QU Inverclyde	92.3	0.09
QW Midlothian	134.0	0.13
QX Moray	114.1	0.11
QY North Ayrshire	161.2	0.16
QZ North Lanarkshire	406.1	0.41
RA Orkney Islands	173.8	0.17
RB Perth and Kinross	151.2	0.15
RC Renfrewshire	230.1	0.23
RD Shetland Islands	156.9	0.16
RE South Ayrshire	125.9	0.13
RF South Lanarkshire	377.4	0.38
RG Stirling	104.9	0.10
RH West Lothian	241.1	0.24
RJ Eilean Siar (Western Isles)	41.8	0.04
Northern Ireland	168.1	0.17

ANNEX C – Sampling Variability for employment and ILO unemployment (of persons aged 16+) for Unitary Authorities/Local Authority District areas from the January-December 2019 APS data

Note: The Local authority AA City of London hasn't been included in this table due to the small sample size (number of respondents).
Some of the figures may differ slightly from publication due to seasonal adjustment
[1] The total estimate and standard error have been divided by 1000.

	Employment							ILO Unemployed						
	Total				Rate			Total				Rate		
	Sample Size	Estimate1	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor	Sample Size	Estimate1	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor
England	72,465	27,451	65.7	0.94	61.0	0.1	1.07	3,063	1,365	30.2	1.39	3.0	0.1	1.40
AB Barking and Dagenham	151	95	4.5	0.81	58.3	2.8	0.95	14	10	3.1	1.34	6.2	1.9	1.35
AC Barnet	285	204	6.7	0.81	65.6	2.2	0.96	13	12	3.3	1.19	3.7	1.1	1.20
AD Bexley	299	126	4.1	0.82	62.5	2.0	0.96	14	8	2.0	1.22	3.8	1.0	1.23
AE Brent	168	165	7.0	0.79	59.8	2.5	0.88	6	7	3.0	1.18	2.5	1.1	1.18
AF Bromley	331	172	4.9	0.75	64.7	1.9	0.89	12	5	1.6	1.01	2.0	0.6	1.01
AG Camden	213	137	6.5	1.02	62.0	3.0	1.15	8	7	2.4	1.19	3.2	1.1	1.19
AH Croydon	300	195	6.3	0.79	64.5	2.1	0.94	18	13	3.1	1.09	4.2	1.0	1.10
AJ Ealing	210	175	6.4	0.78	67.5	2.5	0.95	13	12	3.1	1.03	4.5	1.2	1.03
AK Enfield	207	156	7.5	0.94	59.0	2.8	1.09	10	10	3.5	1.29	3.8	1.3	1.29
AL Greenwich	247	155	5.2	0.80	67.9	2.3	0.97	14	10	3.3	1.40	4.3	1.4	1.40
AM Hackney	209	156	6.1	0.88	69.3	2.7	1.08	12	7	2.3	1.05	3.2	1.0	1.05
AN Hammersmith and Fulham	199	101	3.5	0.82	72.0	2.5	1.02	17	7	2.1	1.21	5.1	1.5	1.22
AP Haringey	238	150	5.9	0.89	68.1	2.7	1.08	10	8	2.7	1.20	3.8	1.2	1.21
AQ Harrow	184	117	4.6	0.75	59.2	2.4	0.86	13	10	2.7	1.11	5.1	1.4	1.12
AR Havering	317	132	3.7	0.74	63.5	1.8	0.86	15	6	1.7	1.13	2.8	0.8	1.14
AS Hillingdon	193	158	5.7	0.74	65.7	2.4	0.90	16	16	4.0	1.19	6.7	1.7	1.20

AT Hounslow	177	141	6.4	0.89	65.4	3.0	1.06	12	8	2.5	1.05	3.5	1.1	1.05
AU Islington	201	137	6.0	1.00	65.3	2.9	1.12	12	7	2.4	1.18	3.4	1.2	1.18
AW Kensington and Chelsea	207	79	3.1	0.86	59.2	2.3	0.94	13	5	1.4	1.11	3.5	1.0	1.11
AX Kingston upon Thames	302	95	3.0	0.84	67.7	2.2	1.02	15	5	1.3	1.16	3.3	0.9	1.16
AY Lambeth	271	197	5.8	0.77	73.0	2.1	0.93	24	18	3.9	1.09	6.8	1.4	1.10
AZ Lewisham	311	184	5.0	0.76	73.7	2.0	0.95	14	9	2.5	1.09	3.7	1.0	1.09
BA Merton	268	116	3.4	0.74	69.3	2.0	0.89	17	7	2.0	1.15	4.5	1.2	1.16
BB Newham	171	192	7.8	0.80	68.2	2.8	0.97	13	14	4.7	1.23	4.9	1.7	1.24
BC Redbridge	274	158	4.5	0.70	65.3	1.9	0.84	5	3	1.6	1.19	1.4	0.7	1.20
BD Richmond upon Thames	320	109	2.8	0.69	70.9	1.8	0.86	8	2	0.8	0.98	1.3	0.5	0.98
BE Southwark	281	191	5.7	0.79	73.7	2.2	0.99	20	16	3.6	1.13	6.0	1.4	1.14
BF Sutton	248	105	3.5	0.80	64.1	2.2	0.94	14	7	1.6	1.05	4.0	1.0	1.06
BG Tower Hamlets	167	173	8.7	1.00	67.9	3.4	1.21	10	11	3.8	1.20	4.3	1.5	1.21
BH Waltham Forest	234	135	5.5	0.84	62.3	2.5	0.99	21	17	4.0	1.26	8.1	1.8	1.27
BJ Wandsworth	291	204	5.0	0.69	76.3	1.9	0.88	9	7	2.4	1.07	2.7	0.9	1.07
BK Westminster	150	118	7.4	1.12	57.1	3.6	1.22	11	17	7.1	2.09	8.4	3.5	2.11
BL Bolton	393	125	4.8	1.07	54.3	2.1	1.19	17	6	1.6	1.25	2.7	0.7	1.25
BM Bury	526	88	2.3	0.83	59.0	1.5	0.94	25	5	0.9	1.11	3.0	0.6	1.11
BN Manchester	392	264	8.4	0.91	61.5	2.0	1.06	36	25	4.5	1.18	5.8	1.1	1.19
BP Oldham	426	106	3.2	0.88	57.1	1.7	1.00	20	6	1.4	1.22	3.0	0.7	1.23
BQ Rochdale	482	97	2.5	0.80	57.2	1.5	0.91	16	4	1.0	1.17	2.2	0.6	1.18
BR Salford	453	126	3.2	0.79	62.5	1.6	0.92	19	7	1.5	1.17	3.3	0.8	1.18
BS Stockport	418	141	3.9	0.84	59.7	1.7	0.95	18	7	1.7	1.19	3.0	0.7	1.19
BT Tameside	490	105	2.8	0.84	58.9	1.6	0.95	24	6	1.2	1.15	3.3	0.7	1.16

BU Trafford	467	117	2.8	0.75	61.9	1.5	0.87	20	5	1.2	1.10	2.9	0.6	1.10
BW Wigan	423	159	4.4	0.82	60.8	1.7	0.94	16	7	1.7	1.10	2.6	0.6	1.10
BX Knowsley	405	72	2.0	0.82	59.3	1.6	0.92	11	2	0.7	1.17	1.9	0.6	1.17
BY Liverpool	553	244	6.7	0.96	59.9	1.6	1.08	17	11	2.8	1.36	2.7	0.7	1.36
BZ St. Helens	440	85	2.5	0.87	58.5	1.7	0.98	15	3	1.0	1.23	2.4	0.7	1.23
CA Sefton	543	124	3.3	0.86	55.8	1.5	0.95	11	3	0.9	1.15	1.4	0.4	1.16
CB Wirral	469	141	3.9	0.83	55.3	1.5	0.92	16	6	1.5	1.18	2.2	0.6	1.18
CC Barnsley	441	111	3.4	0.93	53.9	1.7	1.01	18	5	1.2	1.19	2.4	0.6	1.19
CE Doncaster	370	137	4.4	0.88	54.7	1.7	0.97	27	13	2.5	1.25	5.0	1.0	1.26
CF Rotherham	439	128	3.6	0.87	59.2	1.7	0.98	15	5	1.4	1.17	2.5	0.6	1.18
CG Sheffield	533	277	8.1	0.95	60.4	1.8	1.09	24	15	3.2	1.19	3.2	0.7	1.19
CH Gateshead	477	98	2.7	0.85	59.6	1.6	0.96	26	7	1.5	1.30	4.1	0.9	1.30
CJ Newcastle upon Tyne	435	147	4.3	0.90	60.4	1.8	1.01	24	10	2.0	1.20	4.0	0.8	1.20
CK North Tyneside	421	98	2.4	0.73	57.2	1.4	0.80	19	5	1.3	1.23	3.2	0.8	1.23
CL South Tyneside	443	62	2.0	0.93	52.0	1.7	1.03	36	5	1.0	1.16	4.6	0.8	1.17
CM Sunderland	529	125	3.8	1.00	55.8	1.7	1.11	33	8	1.5	1.17	3.8	0.7	1.18
CN Birmingham	685	495	13.2	0.91	57.4	1.5	1.05	54	47	6.7	1.15	5.5	0.8	1.16
CQ Coventry	510	181	4.7	0.85	59.4	1.5	0.96	32	11	2.2	1.13	3.7	0.7	1.14
CR Dudley	403	142	4.3	0.84	55.3	1.7	0.94	22	10	2.3	1.30	3.8	0.9	1.30
CS Sandwell	384	147	4.4	0.82	58.5	1.8	0.95	20	9	1.9	1.13	3.4	0.8	1.14
CT Solihull	534	103	2.3	0.79	57.8	1.3	0.87	22	5	1.0	1.12	2.6	0.5	1.12
CU Walsall	460	127	3.6	0.85	57.3	1.6	0.97	22	7	1.8	1.29	3.3	0.8	1.30
CW Wolverhampton	451	122	3.4	0.86	56.4	1.6	0.95	23	6	1.3	1.11	2.9	0.6	1.11
CX Bradford	479	238	7.8	0.97	57.2	1.9	1.10	25	16	3.5	1.26	3.8	0.8	1.27
CY Calderdale	467	98	2.7	0.84	56.9	1.6	0.94	16	4	1.1	1.18	2.4	0.6	1.18
CZ Kirklees	524	200	5.5	0.85	57.5	1.6	0.97	16	7	1.9	1.20	1.9	0.5	1.20
DA Leeds	815	425	8.1	0.82	67.4	1.3	0.99	32	18	3.6	1.21	2.9	0.6	1.22
DB Wakefield	518	159	4.1	0.82	59.8	1.5	0.94	25	9	1.9	1.17	3.5	0.7	1.18
EB Hartlepool	480	39	1.2	0.92	52.2	1.6	1.01	37	3	0.6	1.14	4.5	0.8	1.14
EC Middlesbrough	433	58	2.1	1.07	53.5	2.0	1.20	21	3	0.7	1.21	3.0	0.7	1.21

EE Redcar and Cleveland	427	57	1.9	0.99	49.6	1.7	1.06	22	3	0.8	1.23	2.9	0.7	1.24
EF Stockton-on-Tees	498	91	2.6	0.91	60.2	1.7	1.05	25	6	1.2	1.25	3.7	0.8	1.25
EH Darlington	540	49	1.2	0.82	55.8	1.4	0.90	29	3	0.6	1.14	3.5	0.7	1.15
ET Halton	463	59	1.7	0.88	56.9	1.7	0.98	11	2	0.5	1.14	1.5	0.5	1.15
EU Warrington	515	106	2.2	0.68	64.2	1.3	0.81	15	4	0.9	1.17	2.1	0.6	1.17
EX Blackburn with Darwen	454	63	2.0	0.90	53.1	1.7	0.99	22	4	0.9	1.21	3.2	0.7	1.21
EY Blackpool	478	61	1.7	0.84	53.7	1.5	0.91	20	3	0.7	1.22	2.5	0.6	1.22
FA Kingston upon Hull, City of	400	127	4.2	0.96	62.0	2.0	1.11	18	7	2.1	1.46	3.4	1.0	1.46
FB East Riding of Yorkshire	521	151	3.8	0.83	54.8	1.4	0.91	18	7	1.6	1.27	2.4	0.6	1.27
FC North East Lincolnshire	453	71	2.0	0.88	56.0	1.6	0.98	21	4	0.9	1.31	3.0	0.7	1.31
FD North Lincolnshire	401	78	2.3	0.85	55.1	1.6	0.93	22	5	1.2	1.28	3.6	0.8	1.29
FF York	503	108	2.7	0.85	61.3	1.5	0.94	9	2	0.9	1.34	1.3	0.5	1.34
FK Derby	484	125	3.3	0.84	59.3	1.6	0.94	23	7	1.5	1.17	3.1	0.7	1.17
FN Leicester	379	175	5.1	0.83	62.5	1.8	0.97	22	11	2.3	1.09	3.9	0.8	1.09
FP Rutland	154	16	0.7	0.77	48.4	2.3	0.81	6	1	0.4	1.26	2.7	1.1	1.26
FY Nottingham	523	164	4.6	0.95	60.8	1.7	1.07	29	11	2.7	1.58	4.1	1.0	1.59
GA Herefordshire, County of	571	94	2.1	0.80	55.9	1.2	0.85	16	3	0.8	1.29	1.7	0.5	1.30
GF Telford and Wrekin	462	84	2.3	0.85	58.9	1.6	0.95	25	5	1.1	1.16	3.8	0.8	1.16
GL Stoke-on-Trent	485	122	3.0	0.77	59.7	1.5	0.87	14	4	1.0	1.08	1.7	0.5	1.08
HA Bath and North East Somerset	566	103	2.0	0.76	65.0	1.3	0.86	19	4	0.9	1.18	2.3	0.6	1.18
HB Bristol, City of	609	254	6.0	0.88	67.3	1.6	1.04	24	14	3.0	1.32	3.6	0.8	1.33
HC North Somerset	593	106	2.5	0.83	61.0	1.4	0.94	20	5	1.4	1.52	2.9	0.8	1.52
HD South Gloucestershire	564	149	3.0	0.71	63.9	1.3	0.81	19	5	1.1	1.05	2.0	0.5	1.05
HG Plymouth	512	129	3.2	0.81	59.8	1.5	0.91	22	6	1.4	1.18	2.8	0.7	1.19
HH Torbay	499	58	1.7	0.92	49.8	1.5	0.98	22	3	0.7	1.29	2.6	0.6	1.29
HN Bournemouth	400	100	2.9	0.89	58.6	1.7	0.96	23	6	1.3	1.14	3.6	0.8	1.14
HP Poole	405	71	1.7	0.70	56.3	1.3	0.77	16	3	0.9	1.26	2.5	0.7	1.26
HX Swindon	557	113	2.4	0.74	63.9	1.4	0.87	21	4	0.9	1.03	2.3	0.5	1.03
JA Peterborough	484	96	2.7	0.86	60.1	1.7	0.99	25	5	1.1	1.10	3.3	0.7	1.10
KA Luton	470	102	2.9	0.90	57.3	1.6	1.01	28	7	1.3	1.13	3.7	0.7	1.13

KF Southend-on-Sea	625	92	1.8	0.76	60.7	1.2	0.85	23	4	1.0	1.33	2.9	0.6	1.33
KG Thurrock	457	86	2.0	0.72	61.1	1.4	0.82	20	4	1.0	1.16	3.1	0.7	1.16
LC Medway	404	138	3.4	0.72	59.4	1.5	0.81	19	8	1.7	1.10	3.3	0.7	1.11
MA Bracknell Forest	544	64	1.3	0.72	67.2	1.4	0.86	20	3	0.6	1.18	2.8	0.7	1.18
MB West Berkshire	459	84	1.8	0.71	66.8	1.4	0.84	11	2	0.8	1.22	1.9	0.6	1.22
MC Reading	460	93	1.9	0.68	71.8	1.5	0.84	18	4	0.9	1.09	3.1	0.7	1.10
MD Slough	357	69	2.0	0.74	60.2	1.7	0.86	23	5	1.1	1.11	4.6	0.9	1.12
ME Windsor and Maidenhead	649	76	1.6	0.77	63.8	1.3	0.90	16	2	0.7	1.33	2.0	0.6	1.33
MF Wokingham	573	80	1.7	0.71	62.3	1.3	0.84	18	3	0.7	1.20	2.3	0.6	1.20
MG Milton Keynes	583	140	3.0	0.77	66.7	1.4	0.94	17	5	1.3	1.28	2.4	0.6	1.28
ML Brighton and Hove	444	160	4.6	0.94	63.3	1.8	1.04	27	13	3.1	1.49	5.3	1.2	1.50
MR Portsmouth	447	109	2.9	0.86	59.5	1.6	0.95	23	7	1.4	1.21	3.6	0.8	1.21
MS Southampton	507	138	3.4	0.88	63.9	1.6	0.99	13	4	1.1	1.15	1.9	0.5	1.15
MW Isle of Wight	507	58	1.5	0.83	48.7	1.3	0.88	24	3	0.7	1.22	2.9	0.6	1.23
09UC Mid Bedfordshire	168	71	2.7	0.75	67.0	2.6	0.90	*	*	*	*	*	*	*
09UD Bedford	214	99	3.9	0.81	59.8	2.3	0.91	7	5	2.0	1.40	2.8	1.2	1.41
09UE South Bedfordshire	145	48	1.9	0.66	64.3	2.6	0.78	*	*	*	*	*	*	*
11UB Aylesbury Vale	71	34	2.0	0.70	62.6	3.7	0.82	3	2	0.9	1.09	2.9	1.7	1.09
11UC Chiltern	187	91	3.1	0.68	64.1	2.2	0.80	6	3	1.3	1.05	2.4	0.9	1.05
11UE South Bucks	101	68	3.6	0.80	70.8	3.7	0.98	4	3	1.7	1.18	3.4	1.8	1.19
11UF Wycombe	117	45	2.8	0.92	64.4	4.0	1.09	*	*	*	*	*	*	*
12UB Cambridge	60	48	3.9	0.92	55.6	4.6	1.01	4	3	1.6	1.13	3.2	1.8	1.13
12UC East Cambridgeshire	163	88	4.0	0.80	62.3	2.8	0.92	9	4	1.4	0.93	3.0	1.0	0.94
12UD Fenland	177	78	2.6	0.61	61.7	2.1	0.71	5	2	1.1	1.07	1.9	0.9	1.07
12UE Huntingdonshire	126	65	2.8	0.72	63.3	2.8	0.82	*	*	*	*	*	*	*
12UG South Cambridgeshire	100	41	2.7	0.92	53.5	3.6	1.01	5	4	1.7	1.44	4.7	2.2	1.45
13UB Chester	95	62	3.3	0.75	63.5	3.4	0.88	4	2	1.0	0.90	2.0	1.0	0.90
13UC Congleton	59	39	3.0	0.85	60.7	4.7	0.99	5	4	1.6	1.08	5.7	2.5	1.09
13UD Crewe and Nantwich	154	78	3.6	0.83	56.9	2.6	0.91	3	2	1.2	1.23	1.5	0.9	1.23
13UE Ellesmere Port and Neston	98	68	2.7	0.63	63.1	2.6	0.72	*	*	*	*	*	*	*

13UG Macclesfield	85	41	3.1	1.01	55.5	4.2	1.10	*	*	*	*	*	*	*
13UH Vale Royal	103	45	2.7	0.84	55.2	3.3	0.93	*	*	*	*	*	*	*
15UB Caradon	106	52	2.5	0.71	60.1	2.8	0.81	*	*	*	*	*	*	*
15UC Carrick	99	40	2.4	0.80	53.4	3.2	0.89	7	3	1.4	1.21	4.7	1.8	1.21
15UD Kerrier	75	34	2.0	0.72	58.8	3.5	0.81	5	3	1.3	1.19	4.8	2.3	1.20
15UE North Cornwall	102	51	3.2	0.87	59.0	3.7	0.99	3	2	1.2	1.17	2.3	1.3	1.17
15UF Penwith	115	44	1.9	0.64	55.8	2.5	0.71	4	2	1.0	1.14	2.4	1.2	1.14
15UG Restormel	62	28	2.2	0.80	50.7	3.9	0.85	*	*	*	*	*	*	*
16UB Allerdale	127	53	2.7	0.85	57.9	3.0	0.93	6	3	1.3	1.20	3.5	1.4	1.20
16UC Barrow-in-Furness	80	29	1.8	0.70	57.4	3.5	0.80	*	*	*	*	*	*	*
16UD Carlisle	97	30	1.5	0.75	70.0	3.5	0.88	*	*	*	*	*	*	*
16UE Copeland	133	48	2.4	0.81	57.8	2.9	0.91	4	2	1.1	1.35	2.5	1.4	1.35
16UF Eden	114	67	3.1	0.72	61.8	2.9	0.80	4	3	1.6	1.21	2.7	1.5	1.22
16UG South Lakeland	42	33	3.4	0.90	52.1	5.4	1.00	5	4	1.7	1.04	5.8	2.7	1.05
17UB Amber Valley	98	48	3.5	0.96	57.6	4.2	1.08	7	5	1.9	1.21	6.3	2.3	1.22
17UC Bolsover	84	33	2.3	0.84	58.0	4.1	0.94	*	*	*	*	*	*	*
17UD Chesterfield	103	64	3.1	0.75	68.2	3.3	0.89	*	*	*	*	*	*	*
17UF Derbyshire Dales	98	48	3.2	0.97	61.8	4.1	1.09	7	4	1.7	1.27	5.3	2.2	1.27
17UG Erewash	86	47	2.8	0.80	56.0	3.4	0.88	*	*	*	*	*	*	*
17UH High Peak	107	51	3.2	0.87	66.1	4.1	1.06	4	2	1.3	1.12	3.2	1.6	1.13
17UJ North East Derbyshire	152	67	2.2	0.57	60.0	2.0	0.66	4	1	0.8	1.03	1.2	0.7	1.03
17UK South Derbyshire	121	72	6.3	1.48	64.7	5.7	1.67	5	4	1.7	1.21	3.3	1.5	1.21
18UB East Devon	91	41	2.1	0.70	64.2	3.3	0.82	*	*	*	*	*	*	*
18UC Exeter	89	47	2.8	0.82	63.3	3.8	0.95	*	*	*	*	*	*	*
18UD Mid Devon	79	39	2.5	0.79	55.9	3.6	0.87	5	3	1.4	1.14	4.4	2.0	1.15

18UE North Devon	127	63	3.6	0.91	56.4	3.2	1.00	*	*	*	*	*	*	*			
18UG South Hams	42	31	2.5	0.73	51.0	4.2	0.78	3	3	1.6	1.12	4.6	2.5	1.13			
18UH Teignbridge	44	24	2.8	1.07	53.3	6.2	1.17	*	*	*	*	*	*	*			
18UK Torridge	66	22	1.2	0.62	54.5	3.0	0.70	*	*	*	*	*	*	*			
18UL West Devon	137	39	2.0	0.79	53.7	2.7	0.87	6	2	0.9	1.20	2.7	1.2	1.21			
19UC Christchurch	87	34	1.9	0.74	60.3	3.4	0.83	*	*	*	*	*	*	*			
19UD East Dorset	53	23	1.6	0.71	63.1	4.3	0.83	*	*	*	*	*	*	*			
19UE North Dorset	123	46	2.5	0.87	55.1	3.0	0.95	4	2	1.2	1.38	2.8	1.5	1.38			
19UG Purbeck	73	27	2.0	0.79	53.8	3.9	0.89	*	*	*	*	*	*	*			
19UH West Dorset	98	26	1.9	0.94	57.7	4.2	1.05	3	1	0.5	1.15	1.7	1.2	1.15			
19UJ Weymouth and Portland	100	43	2.6	0.85	55.8	3.4	0.95	8	4	1.3	1.09	4.6	1.6	1.10			
20UB Chester-le-Street	118	48	2.7	0.89	57.2	3.3	0.96	7	4	1.3	1.12	4.3	1.6	1.13			
20UD Derwentside	89	48	2.5	0.72	58.1	3.1	0.79	5	3	1.3	1.08	3.6	1.6	1.09			
20UE Durham	113	36	2.3	0.87	53.4	3.4	0.98	9	3	1.1	1.10	4.6	1.6	1.11			
20UF Easington	28	10	1.2	0.89	51.4	6.2	0.99	*	*	*	*	*	*	*			
20UG Sedgefield	80	27	2.5	1.06	50.8	4.7	1.16	9	4	1.3	1.16	7.1	2.4	1.16			
20UH Teesdale	73	47	3.0	0.82	56.6	3.6	0.92	4	3	1.3	1.13	3.1	1.5	1.13			
20UJ Wear Valley	81	43	3.2	0.93	57.9	4.3	1.06	6	4	1.7	1.24	5.3	2.3	1.25			
21UC Eastbourne	103	49	2.4	0.71	57.6	2.9	0.80	6	4	1.4	1.10	4.3	1.6	1.11			
21UD Hastings	94	44	2.1	0.67	54.2	2.7	0.72	3	2	1.0	1.22	2.0	1.3	1.22			
21UF Lewes	187	77	3.3	0.80	59.9	2.6	0.91	8	4	1.5	1.20	3.0	1.2	1.20			
21UG Rother	157	91	4.0	0.74	62.5	2.7	0.87	4	3	1.4	1.04	1.9	0.9	1.04			
21UH Wealden	140	81	3.4	0.73	67.1	2.8	0.87	*	*	*	*	*	*	*			
22UB Basildon	31	30	4.1	1.02	41.9	5.7	1.06	*	*	*	*	*	*	*			
22UC Braintree	73	43	2.9	0.75	62.2	4.2	0.89	4	3	1.3	1.02	3.7	1.9	1.03			
22UD Brentwood	161	94	3.0	0.60	68.2	2.2	0.74	4	3	1.3	1.08	1.8	0.9	1.08			
22UE Castle Point	175	91	5.1	1.01	58.2	3.2	1.14	8	5	1.7	1.11	2.9	1.1	1.12			
22UF Chelmsford	113	65	3.2	0.71	63.2	3.1	0.83	*	*	*	*	*	*	*			
22UG Colchester	54	39	4.1	1.00	57.6	6.0	1.15	*	*	*	*	*	*	*			

22UH Epping Forest	58	29	2.7	0.92	59.4	5.4	1.06	*	*	*	*	*	*	*				
22UJ Harlow	82	45	2.4	0.71	61.5	3.3	0.80	*	*	*	*	*	*	*				
22UK Maldon	107	57	3.8	0.85	48.3	3.2	0.92	7	4	1.5	1.00	3.3	1.2	1.00				
22UL Rochford	67	42	3.1	0.83	56.3	4.1	0.91	*	*	*	*	*	*	*				
22UN Tendring	139	58	2.9	0.84	62.9	3.2	0.98	3	1	0.6	0.99	1.0	0.7	0.99				
22UQ Uttlesford	106	43	2.3	0.77	59.1	3.2	0.85	4	2	1.2	1.30	2.9	1.7	1.30				
23UB Cheltenham	110	44	2.2	0.79	62.4	3.1	0.90	*	*	*	*	*	*	*				
23UC Cotswold	123	66	3.3	0.78	59.5	3.0	0.88	6	5	2.0	1.28	4.4	1.8	1.28				
23UD Forest of Dean	160	63	2.6	0.75	65.0	2.7	0.88	3	1	0.8	1.11	1.5	0.9	1.11				
23UE Gloucester	120	47	2.0	0.68	63.0	2.8	0.79	6	3	1.1	1.06	3.6	1.4	1.06				
23UF Stroud	173	90	4.1	0.85	67.4	3.1	1.04	6	4	1.8	1.27	2.7	1.3	1.28				
23UG Tewkesbury	129	57	2.9	0.79	62.5	3.2	0.94	3	1	0.7	1.02	1.1	0.8	1.02				
24UB Basingstoke and Deane	122	68	2.5	0.61	64.4	2.4	0.71	5	4	1.5	1.11	3.3	1.4	1.11				
24UC East Hampshire	120	57	2.4	0.66	60.0	2.6	0.75	3	1	0.8	1.03	1.4	0.8	1.03				
24UD Eastleigh	78	39	3.1	0.91	55.0	4.4	1.01	3	2	1.2	1.18	2.7	1.7	1.19				
24UE Fareham	115	47	2.1	0.66	64.8	2.9	0.80	*	*	*	*	*	*	*				
24UF Gosport	85	57	5.1	1.13	53.0	4.7	1.21	7	4	1.8	1.08	4.1	1.7	1.08				
24UG Hart	190	84	4.1	0.92	58.0	2.8	1.03	4	1	0.9	1.18	1.0	0.6	1.18				
24UH Havant	98	49	3.4	1.02	65.8	4.6	1.20	7	4	1.9	1.32	5.9	2.5	1.33				
24UJ New Forest	137	67	4.2	1.05	67.9	4.3	1.25	*	*	*	*	*	*	*				
24UL Rushmoor	110	58	3.6	0.90	60.1	3.8	1.03	4	4	1.9	1.38	4.0	2.0	1.38				
24UN Test Valley	80	51	2.6	0.71	63.4	3.2	0.82	*	*	*	*	*	*	*				
24UP Winchester	138	81	2.9	0.61	68.0	2.4	0.74	4	2	1.2	1.06	2.0	1.0	1.07				
26UB Broxbourne	163	75	3.4	0.87	62.9	2.9	1.00	6	3	1.2	1.06	2.5	1.0	1.06				
26UC Dacorum	84	49	3.0	0.75	62.0	3.9	0.89	6	3	1.3	0.92	4.3	1.7	0.92				
26UD East Hertfordshire	156	72	2.4	0.61	64.4	2.1	0.70	4	2	0.9	1.02	1.6	0.8	1.02				
26UE Hertsmere	172	77	2.7	0.68	67.3	2.3	0.82	8	3	1.0	0.95	2.2	0.9	0.95				
26UF North Hertfordshire	88	50	2.3	0.61	66.6	3.0	0.71	4	2	1.4	1.23	3.1	1.9	1.23				
26UG St. Albans	79	44	3.3	0.89	59.0	4.3	1.01	*	*	*	*	*	*	*				
26UH Stevenage	74	47	3.5	0.88	62.2	4.6	1.04	*	*	*	*	*	*	*				

26UJ Three Rivers	126	71	3.2	0.78	71.5	3.2	0.96	4	2	1.0	0.96	2.1	1.0	0.96
26UK Watford	118	64	3.5	0.84	66.2	3.6	1.04	6	3	1.3	1.03	3.1	1.3	1.03
26UL Welwyn Hatfield	147	86	3.6	0.77	64.6	2.7	0.90	4	3	1.6	1.27	2.3	1.2	1.28
29UB Ashford	56	61	2.7	0.53	72.9	3.3	0.69	3	3	1.7	1.05	3.3	2.0	1.06
29UC Canterbury	96	52	2.7	0.72	53.7	2.8	0.79	4	2	1.1	1.12	2.2	1.2	1.12
29UD Dartford	76	57	3.7	0.77	67.0	4.3	0.92	3	3	1.9	1.22	3.4	2.2	1.22
29UE Dover	93	89	4.6	0.74	65.0	3.3	0.85	*	*	*	*	*	*	*
29UG Gravesham	95	55	3.8	0.88	53.1	3.7	0.95	3	3	2.0	1.43	2.9	1.9	1.43
29UH Maidstone	93	53	2.4	0.62	58.0	2.6	0.69	*	*	*	*	*	*	*
29UK Sevenoaks	128	70	3.7	0.78	62.7	3.3	0.94	*	*	*	*	*	*	*
29UL Shepway	103	62	3.7	0.81	52.1	3.1	0.89	6	5	2.0	1.23	4.0	1.7	1.24
29UM Swale	86	69	3.3	0.63	66.4	3.1	0.74	6	5	2.1	1.02	4.9	2.0	1.03
29UN Thanet	98	58	3.0	0.70	65.3	3.4	0.85	*	*	*	*	*	*	*
29UP Tonbridge and Malling	71	38	2.9	0.84	61.9	4.7	1.01	*	*	*	*	*	*	*
29UQ Tunbridge Wells	101	53	4.1	1.03	57.2	4.4	1.16	3	1	0.7	0.88	1.3	0.8	0.88
30UD Burnley	65	37	2.2	0.72	57.8	3.5	0.81	*	*	*	*	*	*	*
30UE Chorley	53	38	2.4	0.65	55.5	3.5	0.69	*	*	*	*	*	*	*
30UF Fylde	138	70	3.4	0.79	62.7	3.1	0.93	5	3	1.5	1.12	3.0	1.3	1.13
30UG Hyndburn	57	44	2.7	0.70	63.3	4.0	0.84	*	*	*	*	*	*	*
30UH Lancaster	126	63	4.1	0.96	61.1	4.0	1.15	3	2	1.3	1.26	2.2	1.3	1.27
30UJ Pendle	49	30	2.0	0.72	57.0	3.9	0.77	3	2	1.0	1.06	3.4	1.9	1.07
30UK Preston	55	35	1.9	0.54	66.8	3.6	0.67	*	*	*	*	*	*	*
30UL Ribble Valley	108	59	3.1	0.79	63.6	3.3	0.89	*	*	*	*	*	*	*
30UM Rossendale	86	50	4.0	1.01	53.4	4.3	1.10	8	4	1.7	1.10	4.5	1.8	1.10
30UN South Ribble	99	54	2.8	0.74	59.7	3.1	0.84	*	*	*	*	*	*	*
30UP West Lancashire	92	50	2.5	0.71	61.6	3.2	0.82	5	3	1.5	1.19	3.9	1.8	1.20
30UQ Wyre	152	100	4.6	0.88	67.9	3.1	1.05	*	*	*	*	*	*	*
31UB Blaby	109	46	2.4	0.77	62.0	3.3	0.90	3	1	0.8	1.07	1.9	1.1	1.08
31UC Charnwood	135	57	2.6	0.73	66.8	3.0	0.89	5	2	1.0	1.04	2.7	1.2	1.04
31UD Harborough	65	25	1.6	0.73	61.1	4.0	0.84	*	*	*	*	*	*	*
31UE Hinckley and Bosworth	112	47	4.1	1.19	57.0	5.0	1.33	5	3	1.9	1.62	3.6	2.3	1.62

31UG Melton	30	25	2.7	0.86	58.5	6.2	0.98	*	*	*	*	*	*	*
31UH North West Leicestershire	41	30	3.1	0.92	54.1	5.6	1.02	*	*	*	*	*	*	*
31UJ Oadby and Wigston	107	60	4.1	0.93	48.9	3.3	0.97	9	5	1.8	1.12	3.8	1.5	1.12
32UB Boston	91	42	3.8	1.12	52.8	4.8	1.23	7	4	2.3	1.56	5.6	2.8	1.57
32UC East Lindsey	123	54	3.0	0.83	59.5	3.3	0.95	4	2	1.2	1.23	2.2	1.3	1.23
32UD Lincoln	82	41	2.8	0.78	55.1	3.8	0.88	3	2	1.5	1.36	3.3	2.1	1.36
32UE North Kesteven	117	62	3.1	0.72	54.2	2.7	0.81	6	4	1.4	1.06	3.0	1.2	1.06
32UF South Holland	97	39	2.7	0.89	51.0	3.6	0.98	5	2	0.9	1.07	2.4	1.2	1.07
32UG South Kesteven	128	68	3.9	0.91	59.8	3.4	1.02	7	4	2.1	1.40	3.9	1.9	1.41
32UH West Lindsey	124	62	2.7	0.66	61.8	2.8	0.78	7	4	1.4	0.97	3.9	1.4	0.97
33UB Breckland	57	40	4.3	1.05	50.4	5.5	1.15	5	4	1.8	1.06	5.3	2.2	1.06
33UC Broadland	139	69	3.5	0.80	55.7	2.8	0.89	7	4	1.5	1.13	2.9	1.2	1.13
33UD Great Yarmouth	86	43	3.0	0.82	46.1	3.2	0.87	4	3	1.9	1.55	3.2	2.0	1.55
33UE Kings Lynn and West Norfolk	100	81	3.9	0.74	71.3	3.4	0.91	5	4	2.1	1.14	3.8	1.8	1.14
33UF North Norfolk	147	69	3.3	0.83	58.9	2.9	0.91	*	*	*	*	*	*	*
33UG Norwich	55	40	2.5	0.72	70.3	4.4	0.89	*	*	*	*	*	*	*
33UH South Norfolk	86	37	2.4	0.81	53.3	3.4	0.88	5	3	1.4	1.30	4.2	2.0	1.30
34UB Corby	100	47	2.9	0.87	64.1	3.9	1.01	3	2	1.5	1.41	3.4	2.1	1.42
34UC Daventry	86	55	2.6	0.70	68.1	3.3	0.85	*	*	*	*	*	*	*
34UD East Northamptonshire	205	113	4.8	0.85	61.7	2.6	0.98	13	9	3.0	1.36	5.0	1.7	1.37
34UE Kettering	100	46	2.9	0.86	63.0	4.0	1.00	3	2	0.8	0.78	2.6	1.0	0.79
34UF Northampton	67	44	2.0	0.56	67.1	3.1	0.65	*	*	*	*	*	*	*
34UG South Northamptonshire	44	14	1.4	0.98	49.7	4.9	1.04	*	*	*	*	*	*	*
34UH Wellingborough	32	11	1.1	0.78	51.3	4.9	0.84	*	*	*	*	*	*	*
35UB Alnwick	144	36	2.0	0.90	56.2	3.1	1.01	10	3	0.9	1.06	4.1	1.3	1.06

35UC Berwick-upon-Tweed	99	22	1.8	1.12	52.8	4.4	1.23	5	2	0.8	1.25	4.6	1.9	1.25
35UD Blyth Valley	114	30	1.4	0.72	59.3	2.8	0.80	*	*	*	*	*	*	*
35UE Castle Morpeth	94	26	1.8	0.90	52.2	3.6	0.99	9	3	1.1	1.26	5.6	2.1	1.27
35UF Tynedale	62	28	2.2	0.84	61.0	4.8	0.96	*	*	*	*	*	*	*
35UG Wansbeck	119	45	2.5	0.84	62.6	3.5	0.97	*	*	*	*	*	*	*
36UB Craven	171	80	3.1	0.71	60.5	2.4	0.79	4	2	1.0	1.01	1.4	0.7	1.01
36UC Hambleton	52	24	1.5	0.61	63.9	3.9	0.73	*	*	*	*	*	*	*
36UD Harrogate	63	24	2.0	0.91	51.1	4.4	0.98	*	*	*	*	*	*	*
36UE Richmondshire	90	44	3.2	0.92	48.0	3.5	0.98	5	3	1.5	1.24	3.6	1.7	1.24
36UF Ryedale	92	45	2.3	0.71	65.2	3.3	0.85	*	*	*	*	*	*	*
36UG Scarborough	107	60	2.9	0.70	64.5	3.1	0.85	4	2	1.1	1.02	2.3	1.2	1.03
36UH Selby	72	52	2.9	0.68	53.1	3.0	0.74	*	*	*	*	*	*	*
37UB Ashfield	115	55	2.8	0.78	61.1	3.1	0.90	4	2	1.0	1.06	2.1	1.1	1.06
37UC Bassetlaw	126	57	3.0	0.81	61.3	3.2	0.95	7	3	1.3	1.06	3.6	1.4	1.07
37UD Broxtowe	82	47	3.3	0.86	53.8	3.8	0.95	5	5	1.9	1.21	5.3	2.2	1.21
37UE Gedling	109	57	3.6	0.88	56.9	3.6	0.98	3	3	2.0	1.45	3.4	2.0	1.46
37UF Mansfield	121	54	2.9	0.79	54.7	2.9	0.86	6	3	1.3	1.13	3.1	1.4	1.13
37UG Newark and Sherwood	152	79	2.8	0.64	67.2	2.4	0.76	*	*	*	*	*	*	*
37UJ Rushcliffe	123	74	4.9	1.02	61.7	4.1	1.18	5	4	1.8	1.15	3.6	1.5	1.15
38UB Cherwell	144	76	3.7	0.89	66.1	3.3	1.03	3	2	1.9	1.77	1.9	1.6	1.77
38UC Oxford	156	74	2.8	0.72	73.2	2.7	0.90	3	2	1.5	1.67	1.8	1.5	1.67
38UD South Oxfordshire	104	54	2.6	0.70	61.7	3.1	0.81	3	2	1.0	1.01	2.0	1.1	1.01
38UE Vale of White Horse	85	26	1.6	0.80	50.7	3.1	0.83	*	*	*	*	*	*	*
38UF West Oxfordshire	127	32	1.4	0.76	62.0	2.8	0.88	6	2	0.8	1.25	3.2	1.5	1.25
39UB Bridgnorth	86	21	1.1	0.69	64.4	3.4	0.81	3	1	0.5	1.08	2.5	1.5	1.08
39UC North Shropshire	175	53	2.0	0.74	63.7	2.5	0.86	5	2	1.1	1.33	2.9	1.3	1.33
39UD Oswestry	55	19	2.2	1.22	49.4	5.6	1.30	*	*	*	*	*	*	*
39UE Shrewsbury and Atcham	112	59	2.9	0.76	64.5	3.1	0.88	5	3	1.5	1.27	3.1	1.6	1.27
39UF South Shropshire	134	57	3.4	0.97	58.0	3.5	1.10	4	2	1.1	1.21	2.0	1.1	1.21
40UB Mendip	151	75	3.6	0.83	54.3	2.7	0.92	*	*	*	*	*	*	*

40UC Sedgemoor	127	56	2.4	0.70	61.2	2.7	0.82	5	3	1.3	1.19	3.2	1.4	1.19
40UD South Somerset	35	18	1.8	0.88	59.3	5.9	0.92	*	*	*	*	*	*	*
40UE Taunton Deane	62	54	3.1	0.70	62.7	3.6	0.77	3	3	1.7	1.13	3.4	2.0	1.14
40UF West Somerset	101	56	2.4	0.59	60.6	2.6	0.69	4	3	1.3	1.09	3.1	1.5	1.09
41UB Cannock Chase	101	50	2.8	0.78	59.9	3.3	0.88	8	4	1.3	0.97	4.7	1.6	0.98
41UC East Staffordshire	96	59	3.3	0.78	55.2	3.1	0.87	10	7	2.0	1.08	6.2	1.9	1.09
41UD Lichfield	88	49	3.3	0.87	55.5	3.8	0.97	6	4	1.7	1.24	4.1	2.0	1.25
41UE Newcastle-under-Lyme	126	64	3.7	0.92	57.8	3.3	1.00	4	2	1.3	1.27	1.9	1.2	1.27
41UF South Staffordshire	87	50	2.5	0.69	63.1	3.1	0.79	*	*	*	*	*	*	*
41UG Stafford	70	40	2.5	0.81	66.3	4.1	0.96	*	*	*	*	*	*	*
41UH Staffordshire Moorlands	98	45	2.8	0.83	59.4	3.6	0.92	*	*	*	*	*	*	*
41UK Tamworth	45	33	3.1	0.92	66.8	6.3	1.12	4	2	1.1	1.04	3.7	2.3	1.04
42UB Babergh	138	69	4.2	0.94	61.1	3.7	1.08	3	3	1.4	1.16	2.5	1.3	1.16
42UC Forest Heath	115	49	2.8	0.83	59.7	3.4	0.95	3	1	0.8	0.96	1.8	0.9	0.96
42UD Ipswich	123	58	2.5	0.70	61.3	2.6	0.78	4	2	0.8	0.97	1.6	0.8	0.98
42UE Mid Suffolk	128	55	3.4	0.89	54.1	3.3	0.99	7	4	1.8	1.42	3.7	1.8	1.42
42UF St. Edmundsbury	86	49	3.5	0.89	49.7	3.6	0.97	4	2	1.3	1.10	2.5	1.3	1.10
42UG Suffolk Coastal	115	66	3.1	0.68	59.9	2.8	0.78	6	4	2.0	1.24	3.9	1.8	1.24
42UH Waveney	81	43	2.0	0.65	73.5	3.6	0.88	*	*	*	*	*	*	*
43UB Elmbridge	125	82	3.8	0.82	67.2	3.2	0.96	4	3	1.3	1.05	2.1	1.1	1.05
43UC Epsom and Ewell	100	43	2.3	0.72	65.7	3.5	0.88	5	2	1.2	1.11	3.7	1.8	1.11
43UD Guildford	110	77	3.4	0.67	64.8	2.9	0.79	3	2	1.2	1.05	1.6	1.0	1.05
43UE Mole Valley	79	52	2.5	0.68	70.9	3.3	0.80	*	*	*	*	*	*	*
43UF Reigate and Banstead	99	50	2.6	0.75	66.7	3.5	0.93	5	4	2.2	1.57	5.5	2.9	1.58
43UG Runnymede	62	46	2.5	0.64	62.6	3.4	0.74	3	2	1.1	0.96	2.9	1.6	0.96
43UH Spelthorne	55	46	3.5	0.84	59.1	4.4	0.89	3	2	1.3	0.95	2.9	1.6	0.96

43UJ Surrey Heath	140	64	2.3	0.62	69.3	2.5	0.77	5	2	1.1	1.10	2.3	1.2	1.10
43UK Tandridge	88	53	3.0	0.76	66.2	3.8	0.90	3	2	1.4	1.18	2.9	1.8	1.18
43UL Waverley	90	29	1.8	0.75	60.5	3.7	0.88	*	*	*	*	*	*	*
43UM Woking	154	63	2.6	0.71	62.9	2.7	0.83	5	2	1.0	1.02	2.1	1.0	1.02
44UB North Warwickshire	135	53	2.7	0.82	62.2	3.2	0.96	5	2	1.0	1.06	2.5	1.1	1.06
44UC Nuneaton and Bedworth	159	62	2.7	0.77	60.4	2.6	0.87	5	2	0.7	0.94	1.6	0.7	0.94
44UD Rugby	185	76	2.7	0.73	66.4	2.4	0.85	6	3	1.1	1.05	2.5	1.0	1.06
44UE Stratford-on-Avon	70	33	2.0	0.76	65.8	4.0	0.91	2	1	0.9	1.33	2.2	1.8	1.33
44UF Warwick	116	71	3.7	0.78	51.3	2.7	0.83	3	1	0.8	0.89	1.0	0.6	0.90
45UB Adur	99	55	3.1	0.79	53.9	3.1	0.86	*	*	*	*	*	*	*
45UC Arun	81	62	3.2	0.69	70.7	3.7	0.86	4	3	1.4	0.98	3.2	1.6	0.99
45UD Chichester	129	69	2.9	0.65	61.2	2.6	0.75	4	2	0.9	0.95	1.6	0.8	0.95
45UE Crawley	115	77	3.5	0.71	63.7	2.9	0.83	3	3	1.7	1.27	2.2	1.4	1.28
45UF Horsham	107	55	3.1	0.80	62.1	3.4	0.92	3	2	1.1	1.19	1.7	1.2	1.20
45UG Mid Sussex	102	45	2.1	0.70	64.3	3.0	0.83	*	*	*	*	*	*	*
45UH Worthing	166	71	2.9	0.75	64.4	2.6	0.90	3	1	0.8	1.10	1.1	0.7	1.10
46UB Kennet	181	58	2.6	0.80	56.7	2.5	0.89	7	3	1.1	1.20	2.5	1.1	1.21
46UC North Wiltshire	157	70	2.6	0.71	60.3	2.2	0.78	5	2	0.8	0.98	1.6	0.7	0.99
46UD Salisbury	118	47	2.5	0.77	60.3	3.2	0.88	*	*	*	*	*	*	*
46UF West Wiltshire	94	35	2.1	0.79	55.0	3.2	0.85	*	*	*	*	*	*	*
47UB Bromsgrove	101	43	2.4	0.78	66.5	3.7	0.95	8	3	1.2	1.00	5.3	1.9	1.01
47UC Malvern Hills	113	50	2.8	0.83	60.8	3.4	0.96	4	2	1.1	1.07	2.8	1.3	1.07
47UD Redditch	180	61	2.4	0.74	57.5	2.3	0.80	*	*	*	*	*	*	*
47UE Worcester	110	46	2.5	0.77	59.0	3.2	0.88	4	2	1.0	1.12	2.6	1.3	1.13
47UF Wychavon	47UF	180	61.0	2.40	0.7	57.5	2.30	*	*	*	*	*	*	*
47UG Wyre Forest	47UG	110	46.0	2.50	0.8	59.0	3.20	*	*	*	*	*	*	*

	Employment							ILO Unemployed						
	Total				Rate			Total				Rate		
	Sample Size	Estimate1	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor	Sample Size	Estimate1	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor
Wales	9,837	1,437	10.7	1.05	56.2	0.4	1.17	334	55	3.6	1.34	2.1	0.1	1.34
NA Anglesey, Isle of	514	31	0.8	0.78	52.6	1.3	0.84	26	2	0.4	1.17	2.9	0.6	1.17
NC Gwynedd	467	57	1.6	0.85	56.9	1.6	0.95	11	1	0.5	1.15	1.5	0.5	1.15
NE Conwy	417	50	1.3	0.78	52.8	1.4	0.85	18	2	0.6	1.18	2.5	0.6	1.18
NG Denbighshire	415	40	1.3	0.95	50.4	1.7	1.02	13	2	0.4	1.26	1.9	0.6	1.26
NJ Flintshire	497	78	1.9	0.78	61.6	1.5	0.89	13	2	0.6	1.09	1.6	0.5	1.09
NL Wrexham	469	65	2.0	0.96	57.4	1.8	1.07	11	2	0.6	1.17	1.7	0.5	1.17
NN Powys	419	61	1.8	0.89	55.5	1.7	0.97	15	3	0.8	1.26	2.8	0.7	1.26
NQ Ceredigion	478	36	1.0	0.89	55.1	1.5	0.96	17	2	0.5	1.49	2.6	0.8	1.49
NS Pembrokeshire	514	54	1.4	0.81	53.3	1.3	0.88	11	1	0.4	1.28	1.2	0.4	1.28
NU Carmarthenshire	542	79	2.3	0.92	52.5	1.5	1.01	15	2	0.8	1.46	1.4	0.5	1.46
NX Swansea	500	114	3.0	0.87	55.9	1.5	0.96	21	6	1.3	1.26	2.8	0.7	1.26
NZ Neath Port Talbot	349	62	2.1	0.88	53.7	1.8	0.96	6	1	0.5	1.11	1.0	0.4	1.11
PB Bridgend	422	65	1.8	0.78	56.7	1.5	0.87	8	1	0.5	1.11	1.1	0.4	1.11
PD Vale of Glamorgan, The	393	58	1.6	0.78	53.0	1.5	0.84	14	3	0.7	1.16	2.4	0.6	1.16
PF Rhondda, Cynon, Taff	387	100	3.5	0.94	51.3	1.8	1.02	20	6	1.4	1.20	2.9	0.7	1.20
PH Merthyr Tydfil	253	24	1.2	1.09	49.6	2.5	1.18	18	2	0.5	1.31	4.3	1.1	1.32
PK Caerphilly	502	86	2.1	0.81	58.3	1.5	0.92	25	5	1.0	1.18	3.2	0.7	1.18
PL Blaenau Gwent	286	31	1.1	0.89	54.6	2.0	0.98	13	1	0.4	1.11	2.4	0.7	1.11
PM Torfaen	412	41	1.2	0.86	55.7	1.6	0.96	11	2	0.5	1.38	2.1	0.7	1.39
PP Monmouthshire	553	45	1.1	0.80	59.7	1.4	0.89	19	2	0.5	1.29	2.4	0.6	1.29

PR Newport	504	73	1.9	0.86	61.9	1.6	1.00	17	3	0.8	1.32	2.6	0.7	1.32
PT Cardiff	544	186	6.6	1.17	63.0	2.2	1.36	12	5	1.6	1.22	1.7	0.5	1.22

	Employment							**ILO Unemployed**						
	Total				**Rate**			**Total**				**Rate**		
	Sample Size	Estimate1	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor	Sample Size	Estimate1	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor
Scotland	11,027	2,615	17.8	1.07	58.4	0.4	1.19	397	117	7.3	1.51	2.6	0.2	1.51
QA Aberdeen City	322	117	3.8	0.88	60.8	2.0	0.98	21	9	2.1	1.26	4.8	1.1	1.27
QB Aberdeenshire	426	139	3.3	0.76	65.7	1.6	0.90	9	4	1.3	1.27	1.8	0.6	1.28
QC Angus	446	52	1.4	0.81	55.4	1.5	0.90	13	2	0.5	1.20	2.0	0.6	1.21
QD Argyll & Bute	428	39	1.0	0.83	55.0	1.4	0.90	8	1	0.3	1.22	1.2	0.4	1.22
QE Scottish Borders, The	346	55	1.5	0.75	57.8	1.6	0.83	4	1	0.3	1.16	0.6	0.3	1.16
QF Clackmannanshire	172	23	1.0	0.85	57.8	2.4	0.94	9	2	0.5	1.18	3.7	1.2	1.19
QG West Dunbartonshire	411	42	1.2	0.88	55.4	1.6	0.96	17	2	0.6	1.28	3.0	0.7	1.28
QH Dumfries and Galloway	323	61	2.2	0.90	49.7	1.8	0.97	16	4	0.9	1.19	3.0	0.8	1.19
QJ Dundee City	404	69	2.1	0.90	57.3	1.8	1.00	21	4	1.1	1.41	3.5	0.9	1.42
QK East Ayrshire	341	54	1.8	0.85	56.5	1.8	0.96	13	2	0.6	1.05	2.1	0.6	1.05
QL East Dunbartonshire	523	50	1.2	0.81	56.3	1.3	0.90	11	1	0.3	1.14	1.3	0.4	1.14
QM East Lothian	330	50	1.3	0.70	57.8	1.6	0.78	11	2	0.6	1.20	2.2	0.7	1.20
QN East Renfrewshire	345	43	1.4	0.82	56.7	1.8	0.92	12	2	0.5	1.17	2.3	0.7	1.17
QP Edinburgh, City of	491	273	7.5	0.92	64.5	1.8	1.05	18	11	3.0	1.22	2.7	0.7	1.22
QQ Falkirk	331	79	2.4	0.82	58.9	1.8	0.92	13	4	1.1	1.20	2.8	0.8	1.21
QR Fife	456	164	5.3	0.93	55.5	1.8	1.03	22	11	2.5	1.27	3.8	0.8	1.27
QS Glasgow City	451	310	9.2	0.92	59.5	1.8	1.02	19	15	3.5	1.13	2.8	0.7	1.14
QT Highland	306	120	3.3	0.78	56.6	1.5	0.83	7	3	1.1	1.20	1.2	0.5	1.20

QU Inverclyde	310	33	1.2	0.92	51.6	1.9	1.00	15	2	0.4	1.12	2.5	0.7	1.12
QW Midlothian	280	44	1.3	0.76	59.2	1.8	0.85	5	1	0.4	1.22	1.3	0.6	1.22
QX Moray	358	47	1.6	0.94	56.5	1.9	1.02	13	2	0.5	1.09	1.9	0.6	1.09
QY North Ayrshire	294	56	2.3	0.98	49.1	2.0	1.05	13	3	0.8	1.19	2.6	0.7	1.20
QZ North Lanarkshire	352	155	5.3	0.91	55.7	1.9	1.01	19	10	2.3	1.14	3.7	0.8	1.14
RA Orkney Islands	60	11	0.6	0.57	57.9	2.9	0.62	*	*	*	*	*	*	*
RB Perth and Kinross	423	72	1.8	0.77	56.7	1.4	0.85	18	4	0.9	1.25	2.9	0.7	1.25
RC Renfrewshire	350	89	2.5	0.80	59.9	1.7	0.88	12	4	1.3	1.33	2.8	0.9	1.33
RD Shetland Islands	50	12	1.0	1.05	56.6	4.9	1.12	*	*	*	*	*	*	*
RE South Ayrshire	324	49	1.6	0.86	51.0	1.7	0.92	16	2	0.6	1.18	2.5	0.7	1.18
RF South Lanarkshire	412	158	4.2	0.77	63.9	1.7	0.91	12	6	1.8	1.22	2.4	0.7	1.22
RG Stirling	356	45	1.3	0.86	59.6	1.8	0.97	10	1	0.5	1.22	1.9	0.6	1.22
RH West Lothian	351	91	2.7	0.81	60.4	1.8	0.92	11	3	0.9	1.10	1.9	0.6	1.10
RJ Eilean Siar (Western Isles)	255	13	0.4	0.80	56.2	1.8	0.85	7	1	0.2	1.48	2.4	1.0	1.48
Northern Ireland	3,596	859	9.6	0.91	58.3	0.7	1.05	100	25	2.7	1.15	1.7	0.2	1.15

ANNEX D - Calculating thresholds for England, Wales & Scotland

This Annex explains how the publication thresholds were calculated for different areas for annual LFS data in GB. ONS does not use these thresholds now, but they can still be used as a simple way of identifying cells with high sampling variability.

It is the nature of sampling variability that the smaller the group whose size is being estimated, or from which an estimate is being derived, the less precise that estimate is relative to its size. Put another way, the size of the standard error increases with the level of the estimate, so that the larger the estimate the larger is the standard error. But the larger the estimate, the smaller is the standard error in relative terms. The standard error as a proportion of the estimate is known as the relative standard error or coefficient of variation (c.v.).

When thresholds were applied (such that estimates with a lower value than the threshold were not published), estimates below 10,000 from the quarterly survey and below 6,000 for annual data prior to 2000/1 were not published, as they were considered to be unreliable. These thresholds equate to a sample size of about 30 and a relative standard error of about 20 per cent.

The boosted sample, which combines with data from Wave 1 and Wave 5 from the main LFS to make up the annual LFS data for England, Wales and Scotland in 2003/04, is not spread evenly across the country. This means that for each local authority in England and for each unitary authority in Wales and Scotland, there may be a different sampling fraction. This in turn means that the relative standard errors for the same estimate may vary across local authorities, resulting in a requirement for individual thresholds for each area.

Approximate thresholds may be calculated for each local authority with the aim of providing a threshold value that ensures that the relative standard error is at most 20 per cent.

For a small subgroup from a large simple random sample, the subgroup sample size, n, is approximately distributed as a Poisson variable. For such a variable, the mean and the variance are equal and are estimated by n.

If Wi is the average grossing factor (mean weight) for cases in subgroup i, the value of the grossed estimate is Wi * ni.

Then ignoring the variable weights and the clustered design (approximately):

$\text{Var}(Ei=Wi * ni) = Wi^2 * ni \quad (1)$

The effect of both the grossing and the clustered design is reflected in the design effect, and this has been calculated for the quarterly survey for a range of different estimates. These combined design effects vary substantially for different variables - for estimates of

employment and economic activity they are substantially below 1, whereas for unemployment they are greater than 1.

So (1) should be modified to:

$Var(Ei) = Wi^2 * ni * deffi$ (2)

Thus:

Cv(Ei)=Square root (deffi/ni) (3)

For the threshold for this variable, we must have:

cv(Ei) < 0.2 (4)

So from (3) and (4) we obtain:

ni > 25 * deffi

Or in terms of the grossed estimate:

Ei > 25 * Wi * deffi (5)

The values of the right hand side of (5) provide the required thresholds.

Wi for a particular local authority is the average grossing factor taken directly from the annual LFS data.

One result of including the design effect in the calculation is to lead to different thresholds for different variables. However, variables are often used in combination - e.g. a tabulation of employment by ethnic group.

The design effect for employment is low, but the design effects for some ethnic groups are very high. This makes it very difficult to come up with design effects for every eventuality. For the quarterly LFS, a design effect of 1 is assumed for all estimates except those for characteristics of minority ethnic groups, where a design effect of 2.5 is assumed.

As noted above, this calculation leads to an individual threshold for each local authority. ONS recognises that this would be very complex to implement, and recommend the use of one of three threshold bands. The table below shows how the approximate thresholds have been used to assign areas to these bands.

Approximate threshold	Threshold band
5000+	6000
3000 – 4999	4000

0 – 2999	2000

For Wales, the theoretical threshold for each unitary authority was not banded as above but simply rounded to the nearest thousand. This resulted in thresholds for the 23 UAs in Wales ranging from 1,000 to 4,000.

For the 32 Scottish UAs, the ideal thresholds were rounded for the total employed and unemployed. Thresholds thus range from 1,000 to 5,000.

ANNEX E – Wave 1 variables

These are based on the JD20 dataset. These variables may have only been asked in wave 1 (in previous quarters they could have been asked in multiple waves).

Wave 1 variables only	
Variable	**Variable Name**
ATFROM	Type of business if working from home
DAYSPZ	Number of different days per week worked
EVDAY	Work during day
EVENG	Work in evening in past 4 weeks
EVEVE	Work during evening
EVHM98	Ever do any paid or unpaid work at home
EVNGHT	Work during night
EVSAT	Work on Saturdays
EVSUN	Work on Sundays
HOMED(1-3)	Locations of work in refwk (main job)
LSSOTH	Time off flexi or annual
NIGHT	Night work in the last 4 weeks
NOLWF	Main reason (family) for not looking for work
NWNCRE(1 -2)	Reason (care services) for not looking for work
OYCIRC	Employment situation 12 months ago
OYCRY	Country of residence 12 months ago
OYCRYO	Country of residence 12 months ago
OYCTY	County or Borough living at different address
OYEQM3	Whether living at same address 12 months ago
OYINDD	What the firm or organisation worked at 12 months ago mainly made or did.
OYINDT	Industry title of firm or organisation worked at 12 months ago
OYMNGE	Managerial duties 1 year ago
OYMPE02	Number of employees where worked 1 year ago
OYMPS02	Number of people employed 1 year ago
OYOCCD	What did respondent mainly do in their job 12 months ago?
OYOCCT	What was (main) job 12 months ago?
OYSIND	Work for same firm in refweek as 12 months ago
OYSOCC	Main occupation in refweek same as 12 months ago

OYSOLO	On own or with employees 1 year ago
OYSTAT	Employee or self-employed 1 year ago
OYSUPVI	Supervisory responsibilities 1 year ago.
PTNCRE7(1-2)	Reason (care services) for part time work
SATDY	How many Saturdays worked in past 4 weeks
SMESIT	Reason working from home
SUNDY	How many Sundays worked in past 4 weeks
TSUBJ4WK	Main subject received during nonformal tuition
T4PURP	Main purpose of training
T4WORK	Whether training during work hours
TAUTHRS	Total hours of instruction or tuition received
YNOTFT	Reason for not wanting a full-time job
YPTCIA	Reason for part time job

More information about these variables can be found in the user guide volume 2 and volume 3 (details of LFS variables): https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/labourforcesurveyuserguidance

ANNEX F – Geographies removed from A15M16

A list of the unsupported geographies are no longer included on APS datasets from A15M16 onwards:

Variable name	Description and (new 9 digit replacement variable)
TLEC99	Training and Enterprise Council (None)
ELWA	Education and Learning Wales (None)
SCOTER	Scottish Enterprise Regions (TECLEC9D)
WALESPCA	Welsh Parliamentary Constituency Areas (None)
WARD03	Ward codes 2003 (WARD)
SCOTPCA	Scottish Parliamentary Constituency Areas (None)
URINDSC	Rural-urban classification Scotland (RU11IND)
UKPCA	UK Parliamentary constituency (PCON9D)
TTWA07	Travel to work 2007 (TTWA9D)
URINDEW	Rural-urban classification Eng & Wales (RU11IND)
PCA	UK Parliamentary Constituency Areas (PCON9D)
PCA2010	UK Parliamentary Constituency Areas 2010 (PCON9D)
TTWA08	Travel to work 2008 (TTWA9D)
NUTS	NUTS level (NUTS10)
NUTS2	NUTS level 2 (NUTS102)
NUTS3	NUTS level 3 (NUTS103)
NUTS4	NUTS level 4 (NUTS104)