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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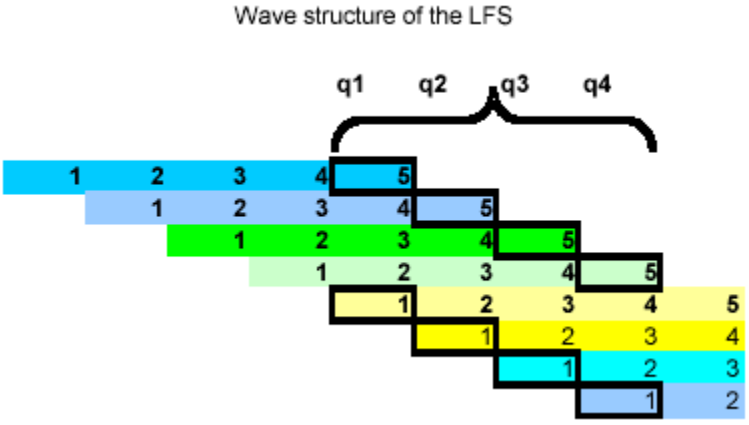
SECTION 1: INTRODUCTION

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. 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.

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.
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 2018 dataset.

	APS Dataset: January – December 2018			
	Jan – March 2018	**April – June 2018**	**July – Sept 2018**	**Oct – Dec 2018**
LFS cohort 1 *(first sampled January – March 2017)*	**Wave 5**			
LFS cohort 2 *(first sampled April – June 2017)*	**Wave 4**	**Wave5**		
LFS cohort 3 *(first sampled July – Sept 2017)*	**Wave 3**	**Wave 4**	**Wave 5**	
LFS cohort 4 *(First sampled Oct – Dec 2017)*	**Wave 2**	**Wave 3**	**Wave 4**	**Wave 5**
LFS cohort 5 *(First sampled Jan – March 2018)*	**Wave 1**	**Wave 2**	**Wave 3**	**Wave 4**
LFS cohort 6 *(first sampled April – June 2018)*		**Wave 1**	**Wave 2**	**Wave 3**
LFS cohort 7 *(first sampled July – Sept 2018)*			**Wave 1**	**Wave 2**
LFS cohort 8 *(First sampled Oct – Dec 2018)*				**Wave 1**
LLFS cohort 1 *(first sampled Jan– Dec 2015)*	**Wave 4**			
LLFS cohort 2 *(first sampled Jan– Dec 2016)*	**Wave 3**			
LLFS cohort 3 *(first sampled Jan– Dec 2017)*	**Wave 2**			
LLFS cohort 4 *(first sampled Jan– Dec 2018)*	**Wave 1**			

Weighting and Structure of the Local Area Annual Datasets

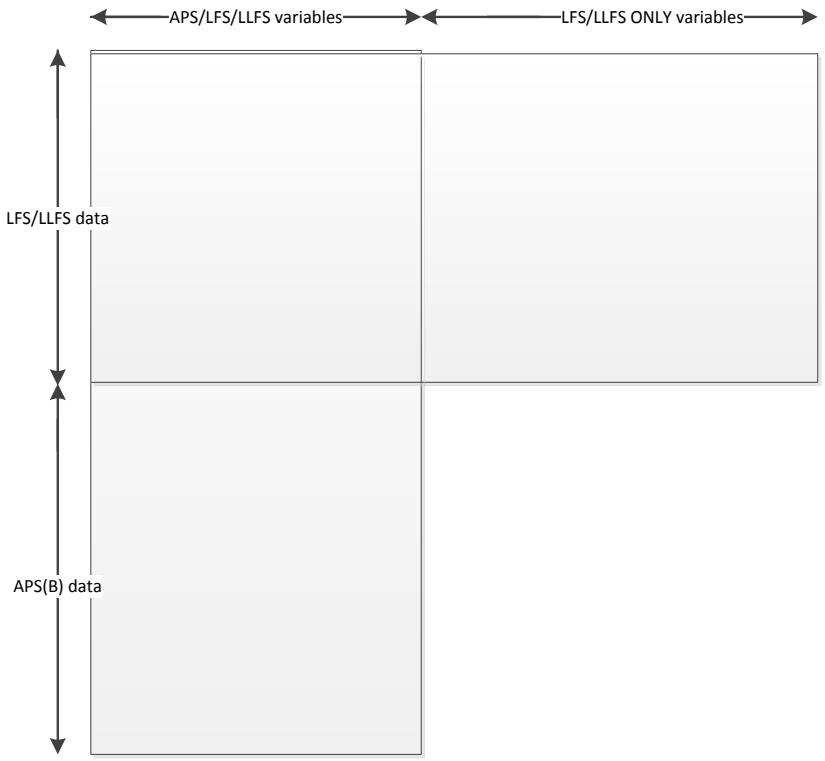
Weighting of the data is done in order to allow the sample to provide estimates relating to the total population and to minimise non-response bias. Each record's weight is the number of people in the population represented by that one sample member. The weights are based on the age and sex structures 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:

<u>The structure of the APS dataset</u>



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:

$\sqrt{(MT * Wi/1000)}$ (1)

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

Average grossing factors, from the 2018 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 2018 APS dataset, the estimate of the total number of people aged 16 and over who are in employment is 32,670,531. This is 61.5% 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 284,104. The standard error of 0.1% is calculated as:

√ ((0.62 * 0.38)/284,104)

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 2018 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% * 53,138,385 = 53,138 (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.

From 2009, 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 [1]
2016	Young people on the labour market
2017	Self-employment
2018	Reconciliation between work and family life
2019	Work organisation and working time arrangements

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

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

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 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

https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/bulletins/adultsmokinghabitsingreatbritain/2015

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). 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

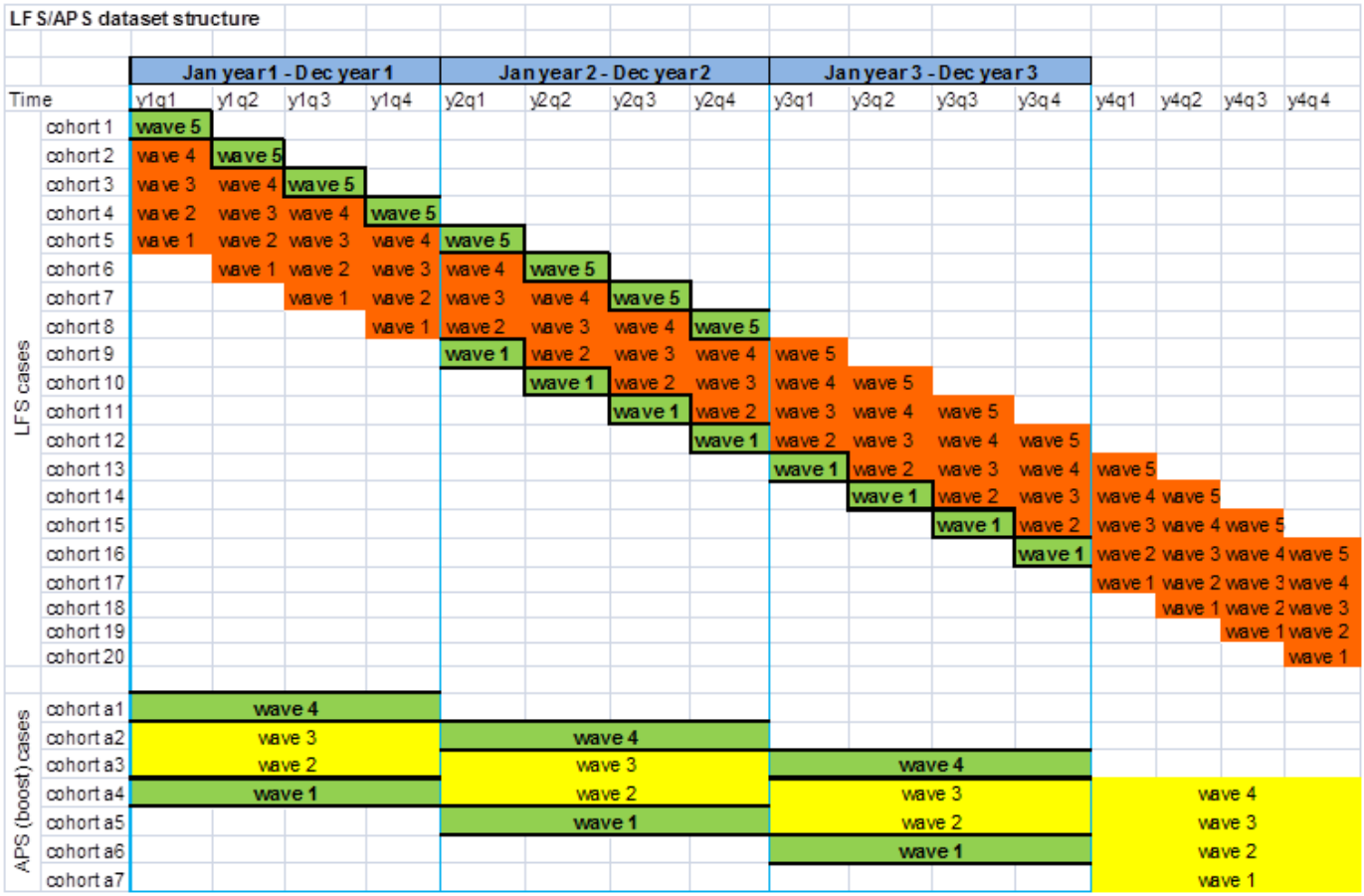
The APS 3 year pooled dataset is designed to allow more robust analysis at lower level geographies, that isn't always possible using the single year APS dataset, especially for certain topics whose achieved sample size is smaller.

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 2018 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	265.6	0.27
AB Barking and Dagenham	271.7	0.27
AC Barnet	496.5	0.50
AD Bexley	310.6	0.31
AE Brent	400.6	0.40
AF Bromley	443.1	0.44
AG Camden	389.8	0.39
AH Croydon	491.8	0.49
AJ Ealing	663.6	0.66
AK Enfield	463.8	0.46
AL Greenwich	406.4	0.41
AM Hackney	361.8	0.36
AN Hammersmith and Fulham	276.5	0.28
AP Haringey	327.1	0.33
AQ Harrow	288.1	0.29
AR Havering	325.9	0.33
AS Hillingdon	367.2	0.37
AT Hounslow	585.8	0.59
AU Islington	381.0	0.38
AW Kensington and Chelsea	221.0	0.22
AX Kingston upon Thames	242.9	0.24
AY Lambeth	525.9	0.53
AZ Lewisham	408.8	0.41
BA Merton	320.0	0.32
BB Newham	547.6	0.55
BC Redbridge	331.0	0.33
BD Richmond upon Thames	300.0	0.30
BE Southwark	434.2	0.43
BF Sutton	268.9	0.27
BG Tower Hamlets	571.0	0.57
BH Waltham Forest	408.4	0.41
BJ Wandsworth	488.1	0.49
BK Westminster	391.5	0.39
BL Bolton	185.4	0.19
BM Bury	120.1	0.12
BN Manchester	343.6	0.34
BP Oldham	152.0	0.15
BQ Rochdale	128.8	0.13
BR Salford	182.8	0.18
BS Stockport	202.8	0.20
BT Tameside	135.6	0.14

Local Authority Area	Average Grossing Factor	AGF / 1000
BU Trafford	145.9	0.15
BW Wigan	233.9	0.23
BX Knowsley	117.4	0.12
BY Liverpool	309.6	0.31
BZ St. Helens	128.1	0.13
CA Sefton	168.1	0.17
CB Wirral	240.2	0.24
CC Barnsley	169.1	0.17
CE Doncaster	195.7	0.20
CF Rotherham	179.5	0.18
CG Sheffield	443.5	0.44
CH Gateshead	137.9	0.14
CJ Newcastle upon Tyne	242.0	0.24
CK North Tyneside	156.9	0.16
CL South Tyneside	93.9	0.09
CM Sunderland	153.4	0.15
CN Birmingham	496.5	0.50
CQ Coventry	243.2	0.24
CR Dudley	222.1	0.22
CS Sandwell	201.5	0.20
CT Solihull	124.2	0.12
CU Walsall	186.7	0.19
CW Wolverhampton	152.9	0.15
CX Bradford	346.9	0.35
CY Calderdale	145.8	0.15
CZ Kirklees	283.1	0.28
DA Leeds	432.9	0.43
DB Wakefield	224.1	0.22
EB Hartlepool	58.3	0.06
EC Middlesbrough	77.3	0.08
EE Redcar and Cleveland	85.1	0.09
EF Stockton-on-Tees	131.7	0.13
EH Darlington	60.9	0.06
ET Halton	87.3	0.09
EU Warrington	149.3	0.15
EX Blackburn with Darwen	80.5	0.08
EY Blackpool	79.6	0.08
FA Kingston upon Hull, City of	200.0	0.20
FB East Riding of Yorkshire	214.1	0.21
FC North East Lincolnshire	102.6	0.10
FD North Lincolnshire	124.7	0.12
FF York	142.7	0.14
FK Derby	158.9	0.16
FN Leicester	268.2	0.27
FP Rutland	73.3	0.07
FY Nottingham	203.7	0.20

Local Authority Area	Average Grossing Factor	AGF / 1000
GA Herefordshire, County of	115.2	0.12
GF Telford and Wrekin	117.6	0.12
GL Stoke-on-Trent	155.5	0.16
HA Bath and North East Somerset	115.8	0.12
HB Bristol, City of	292.2	0.29
HC North Somerset	144.1	0.14
HD South Gloucestershire	186.3	0.19
HG Plymouth	168.6	0.17
HH Torbay	73.9	0.07
HN Bournemouth	137.3	0.14
HP Poole	105.8	0.11
HX Swindon	139.2	0.14
JA Peterborough	150.8	0.15
KA Luton	120.7	0.12
KF Southend-on-Sea	105.3	0.11
KG Thurrock	113.4	0.11
LC Medway	233.6	0.23
MA Bracknell Forest	79.8	0.08
MB West Berkshire	129.6	0.13
MC Reading	156.4	0.16
MD Slough	95.4	0.10
ME Windsor and Maidenhead	88.7	0.09
MF Wokingham	115.3	0.12
MG Milton Keynes	184.4	0.18
ML Brighton and Hove	239.4	0.24
MR Portsmouth	174.5	0.17
MS Southampton	159.8	0.16
MW Isle of Wight	73.3	0.07
09UC Mid Bedfordshire	307.9	0.31
09UD Bedford	376.7	0.38
09UE South Bedfordshire	379.8	0.38
11UB Aylesbury Vale	377.0	0.38
11UC Chiltern	299.9	0.30
11UE South Bucks	337.3	0.34
11UF Wycombe	301.1	0.30
12UB Cambridge	419.6	0.42
12UC East Cambridgeshire	521.8	0.52
12UD Fenland	485.6	0.49
12UE Huntingdonshire	487.1	0.49
12UG South Cambridgeshire	420.6	0.42
13UB Chester	474.9	0.47
13UC Congleton	398.2	0.40
13UD Crewe and Nantwich	483.9	0.48
13UE Ellesmere Port and Neston	465.2	0.47
13UG Macclesfield	433.3	0.43
13UH Vale Royal	422.1	0.42

Local Authority Area	Average Grossing Factor	AGF / 1000
15UB Caradon	326.4	0.33
15UC Carrick	484.9	0.48
15UD Kerrier	381.4	0.38
15UE North Cornwall	269.0	0.27
15UF Penwith	585.9	0.59
15UG Restormel	311.7	0.31
16UB Allerdale	304.2	0.30
16UC Barrow-in-Furness	299.3	0.30
16UD Carlisle	269.8	0.27
16UE Copeland	298.0	0.30
16UF Eden	278.1	0.28
16UG South Lakeland	287.9	0.29
17UB Amber Valley	399.9	0.40
17UC Bolsover	361.0	0.36
17UD Chesterfield	419.6	0.42
17UF Derbyshire Dales	326.5	0.33
17UG Erewash	416.3	0.42
17UH High Peak	492.1	0.49
17UJ North East Derbyshire	389.3	0.39
17UK South Derbyshire	410.8	0.41
18UB East Devon	329.2	0.33
18UC Exeter	452.3	0.45
18UD Mid Devon	421.3	0.42
18UE North Devon	506.6	0.51
18UG South Hams	405.7	0.41
18UH Teignbridge	431.6	0.43
18UK Torridge	444.3	0.44
18UL West Devon	383.9	0.38
19UC Christchurch	332.0	0.33
19UD East Dorset	296.6	0.30
19UE North Dorset	273.6	0.27
19UG Purbeck	342.5	0.34
19UH West Dorset	273.0	0.27
19UJ Weymouth and Portland	241.7	0.24
20UB Chester-le-Street	341.2	0.34
20UD Derwentside	331.8	0.33
20UE Durham	333.4	0.33
20UF Easington	356.0	0.36
20UG Sedgefield	301.8	0.30
20UH Teesdale	252.2	0.25
20UJ Wear Valley	300.0	0.30
21UC Eastbourne	426.1	0.43
21UD Hastings	498.8	0.50
21UF Lewes	384.4	0.38
21UG Rother	351.6	0.35
21UH Wealden	319.1	0.32

Local Authority Area	Average Grossing Factor	AGF / 1000
22UB Basildon	510.6	0.51
22UC Braintree	486.5	0.49
22UD Brentwood	533.9	0.53
22UE Castle Point	524.6	0.52
22UF Chelmsford	492.4	0.49
22UG Colchester	398.8	0.40
22UH Epping Forest	509.0	0.51
22UJ Harlow	525.3	0.53
22UK Maldon	390.8	0.39
22UL Rochford	462.2	0.46
22UN Tendring	484.0	0.48
22UQ Uttlesford	486.2	0.49
23UB Cheltenham	356.6	0.36
23UC Cotswold	405.2	0.41
23UD Forest of Dean	413.9	0.41
23UE Gloucester	405.1	0.41
23UF Stroud	396.5	0.40
23UG Tewkesbury	317.9	0.32
24UB Basingstoke and Deane	539.4	0.54
24UC East Hampshire	524.2	0.52
24UD Eastleigh	471.0	0.47
24UE Fareham	487.9	0.49
24UF Gosport	587.8	0.59
24UG Hart	390.5	0.39
24UH Havant	539.5	0.54
24UJ New Forest	452.8	0.45
24UL Rushmoor	473.7	0.47
24UN Test Valley	414.1	0.41
24UP Winchester	448.1	0.45
26UB Broxbourne	655.0	0.65
26UC Dacorum	433.9	0.43
26UD East Hertfordshire	443.2	0.44
26UE Hertsmere	625.4	0.63
26UF North Hertfordshire	378.3	0.38
26UG St. Albans	538.9	0.54
26UH Stevenage	434.6	0.43
26UJ Three Rivers	637.0	0.64
26UK Watford	555.9	0.56
26UL Welwyn Hatfield	529.1	0.53
29UB Ashford	452.2	0.45
29UC Canterbury	493.4	0.49
29UD Dartford	528.9	0.53
29UE Dover	426.1	0.43
29UG Gravesham	685.6	0.69
29UH Maidstone	634.6	0.63
29UK Sevenoaks	716.1	0.72

Local Authority Area	Average Grossing Factor	AGF / 1000
29UL Shepway	442.8	0.44
29UM Swale	454.4	0.45
29UN Thanet	527.8	0.53
29UP Tonbridge and Malling	575.9	0.58
29UQ Tunbridge Wells	408.8	0.41
30UD Burnley	418.3	0.42
30UE Chorley	422.0	0.42
30UF Fylde	472.0	0.47
30UG Hyndburn	441.3	0.44
30UH Lancaster	367.0	0.37
30UJ Pendle	476.6	0.48
30UK Preston	541.8	0.54
30UL Ribble Valley	431.8	0.43
30UM Rossendale	390.5	0.39
30UN South Ribble	366.2	0.37
30UP West Lancashire	417.3	0.42
30UQ Wyre	395.7	0.40
31UB Blaby	475.6	0.48
31UC Charnwood	432.2	0.43
31UD Harborough	451.3	0.45
31UE Hinckley and Bosworth	480.8	0.48
31UG Melton	353.9	0.35
31UH North West Leicestershire	481.7	0.48
31UJ Oadby and Wigston	529.2	0.53
32UB Boston	508.2	0.51
32UC East Lindsey	443.7	0.44
32UD Lincoln	422.4	0.42
32UE North Kesteven	422.1	0.42
32UF South Holland	409.1	0.41
32UG South Kesteven	401.4	0.40
32UH West Lindsey	403.1	0.40
33UB Breckland	428.5	0.43
33UC Broadland	431.5	0.43
33UD Great Yarmouth	465.9	0.47
33UE Kings Lynn and West Norfolk	414.7	0.41
33UF North Norfolk	423.9	0.42
33UG Norwich	458.2	0.46
33UH South Norfolk	454.2	0.45
34UB Corby	463.1	0.46
34UC Daventry	427.5	0.43
34UD East Northamptonshire	434.4	0.43
34UE Kettering	488.9	0.49
34UF Northampton	465.3	0.47
34UG South Northamptonshire	441.4	0.44
34UH Wellingborough	464.9	0.46
35UB Alnwick	174.6	0.17
35UC Berwick-upon-Tweed	166.8	0.17

Local Authority Area	Average Grossing Factor	AGF / 1000
35UD Blyth Valley	206.4	0.21
35UE Castle Morpeth	228.6	0.23
35UF Tynedale	187.8	0.19
35UG Wansbeck	184.8	0.18
36UB Craven	443.2	0.44
36UC Hambleton	351.8	0.35
36UD Harrogate	393.2	0.39
36UE Richmondshire	521.6	0.52
36UF Ryedale	375.4	0.38
36UG Scarborough	384.3	0.38
36UH Selby	384.7	0.38
37UB Ashfield	441.9	0.44
37UC Bassetlaw	468.6	0.47
37UD Broxtowe	368.2	0.37
37UE Gedling	451.1	0.45
37UF Mansfield	524.1	0.52
37UG Newark and Sherwood	442.5	0.44
37UJ Rushcliffe	444.9	0.44
38UB Cherwell	466.8	0.47
38UC Oxford	818.8	0.82
38UD South Oxfordshire	438.6	0.44
38UE Vale of White Horse	507.5	0.51
38UF West Oxfordshire	471.2	0.47
39UB Bridgnorth	252.9	0.25
39UC North Shropshire	214.4	0.21
39UD Oswestry	181.8	0.18
39UE Shrewsbury and Atcham	203.7	0.20
39UF South Shropshire	159.9	0.16
40UB Mendip	388.7	0.39
40UC Sedgemoor	359.6	0.36
40UD South Somerset	373.2	0.37
40UE Taunton Deane	320.8	0.32
40UF West Somerset	372.0	0.37
41UB Cannock Chase	510.3	0.51
41UC East Staffordshire	378.0	0.38
41UD Lichfield	478.1	0.48
41UE Newcastle-under-Lyme	562.5	0.56
41UF South Staffordshire	463.5	0.46
41UG Stafford	478.5	0.48
41UH Staffordshire Moorlands	379.1	0.38
41UK Tamworth	463.3	0.46
42UB Babergh	338.2	0.34
42UC Forest Heath	437.9	0.44
42UD Ipswich	356.1	0.36
42UE Mid Suffolk	484.3	0.48
42UF St. Edmundsbury	417.0	0.42
42UG Suffolk Coastal	324.9	0.32

Local Authority Area	Average Grossing Factor	AGF / 1000
42UH Waveney	436.9	0.44
43UB Elmbridge	465.2	0.47
43UC Epsom and Ewell	547.3	0.55
43UD Guildford	679.0	0.68
43UE Mole Valley	463.1	0.46
43UF Reigate and Banstead	610.1	0.61
43UG Runnymede	500.8	0.50
43UH Spelthorne	541.8	0.54
43UJ Surrey Heath	651.8	0.65
43UK Tandridge	464.5	0.46
43UL Waverley	504.3	0.50
43UM Woking	590.4	0.59
44UB North Warwickshire	363.6	0.36
44UC Nuneaton and Bedworth	478.0	0.48
44UD Rugby	407.7	0.41
44UE Stratford-on-Avon	367.0	0.37
44UF Warwick	376.1	0.38
45UB Adur	523.1	0.52
45UC Arun	489.2	0.49
45UD Chichester	430.1	0.43
45UE Crawley	613.2	0.61
45UF Horsham	438.7	0.44
45UG Mid Sussex	634.9	0.63
45UH Worthing	513.9	0.51
46UB Kennet	349.3	0.35
46UC North Wiltshire	305.8	0.31
46UD Salisbury	301.7	0.30
46UF West Wiltshire	293.9	0.29
47UB Bromsgrove	337.7	0.34
47UC Malvern Hills	350.8	0.35
47UD Redditch	333.6	0.33
47UE Worcester	357.0	0.36
47UF Wychavon	492.7	0.49
47UG Wyre Forest	345.6	0.35

Local Authority Area	Average Grossing Factor	AGF / 1000
Wales	98.1	0.10
NA Anglesey, Isle of	44.2	0.04
NC Gwynedd	86.5	0.09
NE Conwy	74.1	0.07
NG Denbighshire	64.0	0.06
NJ Flintshire	115.0	0.11
NL Wrexham	97.1	0.10
NN Powys	101.1	0.10
NQ Ceredigion	55.4	0.06
NS Pembrokeshire	78.7	0.08
NU Carmarthenshire	108.6	0.11
NX Swansea	138.9	0.14
NZ Neath Port Talbot	108.2	0.11
PB Bridgend	106.3	0.11
PD Vale of Glamorgan, The	97.8	0.10
PF Rhondda, Cynon, Taff	157.9	0.16
PH Merthyr Tydfil	64.3	0.06
PK Caerphilly	105.7	0.11
PL Blaenau Gwent	65.5	0.07
PM Torfaen	62.4	0.06
PP Monmouthshire	59.2	0.06
PR Newport	98.2	0.10
PT Cardiff	239.3	0.24

Local Authority Area	Average Grossing Factor	AGF / 1000
Scotland	147.6	0.15
QA Aberdeen City	218.1	0.22
QB Aberdeenshire	255.3	0.26
QC Angus	79.4	0.08
QD Argyll & Bute	60.5	0.06
QE Scottish Borders, The	96.0	0.10
QF Clackmannanshire	66.7	0.07
QG West Dunbartonshire	62.8	0.06
QH Dumfries and Galloway	113.0	0.11
QJ Dundee City	102.0	0.10
QK East Ayrshire	102.9	0.10
QL East Dunbartonshire	73.9	0.07
QM East Lothian	85.8	0.09
QN East Renfrewshire	85.4	0.09
QP Edinburgh, City of	407.4	0.41
QQ Falkirk	124.5	0.12
QR Fife	309.3	0.31
QS Glasgow City	474.4	0.47
QT Highland	203.6	0.20
QU Inverclyde	69.6	0.07
QW Midlothian	83.0	0.08
QX Moray	78.9	0.08
QY North Ayrshire	99.3	0.10
QZ North Lanarkshire	303.4	0.30
RA Orkney Islands	97.8	0.10
RB Perth and Kinross	114.0	0.11
RC Renfrewshire	164.1	0.16
RD Shetland Islands	119.4	0.12
RE South Ayrshire	94.4	0.09
RF South Lanarkshire	283.4	0.28
RG Stirling	69.6	0.07
RH West Lothian	144.7	0.14
RJ Eilean Siar (Western Isles)	34.1	0.03
Northern Ireland	233.8	0.23

ANNEX C – Sampling Variability for employment and ILO unemployment (of persons aged 16+) for Unitary Authorities/Local Authority District areas from the January-December 2018 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 Unemployment						
	Total				Rate			Total				Rate		
	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor
England	95,368	27,224	54.5	0.90	61.1	0.1	1.03	4,054	1,175	22.3	1.27	2.6	0.1	1.28
AB Barking and Dagenham	323	95	2.7	0.72	60.9	1.8	0.86	17	5	1.1	1.00	3.1	0.7	1.01
AC Barnet	360	192	5.6	0.80	61.2	1.8	0.92	18	10	2.4	1.10	3.1	0.8	1.11
AD Bexley	398	124	3.6	0.82	63.5	1.8	0.96	12	4	1.2	1.07	2.0	0.6	1.07
AE Brent	364	161	4.5	0.78	65.3	1.8	0.95	18	8	2.2	1.21	3.4	0.9	1.21
AF Bromley	373	164	4.9	0.80	62.5	1.9	0.93	15	9	3.1	1.56	3.5	1.2	1.56
AG Camden	319	138	4.0	0.79	64.3	1.9	0.91	15	5	1.4	1.00	2.3	0.6	1.00
AH Croydon	396	201	5.2	0.76	67.6	1.8	0.93	15	7	1.9	1.03	2.4	0.6	1.04
AJ Ealing	240	171	5.7	0.75	62.4	2.1	0.86	19	12	2.9	1.03	4.5	1.1	1.04
AK Enfield	319	157	5.0	0.80	60.1	1.9	0.93	16	8	1.9	1.01	3.1	0.7	1.02
AL Greenwich	333	141	5.0	0.93	62.7	2.2	1.08	22	10	2.2	1.11	4.4	1.0	1.11
AM Hackney	342	144	4.2	0.83	65.9	1.9	1.00	22	9	2.0	1.15	4.1	0.9	1.15
AN Hammersmith and Fulham	304	100	3.0	0.84	69.0	2.1	1.01	19	6	1.5	1.17	3.9	1.0	1.18
AP Haringey	402	149	4.2	0.89	67.2	1.9	1.06	21	8	1.7	1.11	3.4	0.8	1.12
AQ Harrow	418	126	3.1	0.74	65.9	1.6	0.89	11	4	1.1	1.05	1.8	0.6	1.05
AR Havering	413	131	3.3	0.71	62.8	1.6	0.82	20	7	1.7	1.14	3.2	0.8	1.15
AS Hillingdon	380	153	4.0	0.74	64.8	1.7	0.89	16	7	1.7	1.10	2.8	0.7	1.11
AT Hounslow	223	143	5.4	0.86	65.4	2.5	1.01	10	9	3.6	1.56	4.3	1.6	1.56
AU Islington	319	140	4.6	0.98	67.4	2.2	1.09	18	8	2.0	1.19	3.7	1.0	1.19
AW Kensington and Chelsea	276	68	2.6	0.90	52.7	2.0	0.98	20	6	1.4	1.27	4.5	1.1	1.28
AX Kingston upon Thames	333	90	2.5	0.75	63.3	1.7	0.88	21	7	1.6	1.26	4.8	1.1	1.27
AY Lambeth	325	190	5.9	0.91	70.8	2.2	1.09	27	15	2.7	0.99	5.4	1.0	1.00
AZ Lewisham	375	171	4.1	0.74	71.2	1.7	0.92	16	8	1.9	1.09	3.3	0.8	1.10
BA Merton	343	117	2.7	0.65	69.5	1.6	0.79	14	5	1.2	1.02	2.8	0.7	1.02
BB Newham	272	172	5.8	0.84	64.1	2.2	1.00	15	10	2.7	1.18	3.8	1.0	1.18
BC Redbridge	425	142	3.5	0.70	59.9	1.5	0.82	23	8	1.6	1.02	3.3	0.7	1.02
BD Richmond upon Thames	343	105	2.7	0.71	67.6	1.8	0.85	11	4	1.1	1.03	2.3	0.7	1.03
BE Southwark	402	186	5.1	0.87	72.3	2.0	1.07	27	12	2.4	1.04	4.8	0.9	1.05
BF Sutton	378	107	2.5	0.68	67.5	1.6	0.82	16	5	1.3	1.12	3.0	0.8	1.13
BG Tower Hamlets	274	168	5.1	0.77	68.5	2.1	0.94	15	10	2.7	1.13	4.1	1.1	1.14
BH Waltham Forest	338	150	4.1	0.78	71.3	2.0	0.99	9	4	1.5	1.10	2.1	0.7	1.11
BJ Wandsworth	358	194	4.3	0.69	73.0	1.6	0.85	14	8	2.2	1.15	2.9	0.8	1.15
BK Westminster	285	124	4.4	0.90	60.9	2.2	1.00	17	7	1.6	0.99	3.3	0.8	0.99
BL Bolton	621	127	3.0	0.84	56.9	1.4	0.95	30	7	1.2	1.05	3.0	0.5	1.05
BM Bury	671	85	1.8	0.77	57.4	1.2	0.87	28	4	0.7	1.07	2.5	0.5	1.08
BN Manchester	695	270	6.6	0.96	62.2	1.5	1.11	38	14	2.5	1.16	3.2	0.6	1.16
BP Oldham	599	100	2.5	0.85	55.1	1.4	0.96	31	5	1.0	1.11	3.0	0.5	1.11
BQ Rochdale	713	96	2.0	0.77	58.1	1.2	0.89	38	5	0.9	1.07	3.3	0.5	1.07
BR Salford	666	129	2.7	0.81	64.1	1.4	0.94	40	8	1.2	1.02	3.8	0.6	1.03
BS Stockport	670	148	2.6	0.68	63.3	1.1	0.79	16	4	1.0	1.16	1.7	0.4	1.16
BT Tameside	723	106	2.1	0.76	58.5	1.2	0.86	39	6	1.0	1.10	3.3	0.5	1.10

	Employment							ILO Unemployment						
	Total				Rate			Total				Rate		
	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor
BU Trafford	742	113	2.6	0.88	61.0	1.4	1.01	26	5	1.1	1.26	2.6	0.6	1.27
BW Wigan	612	156	3.5	0.81	59.9	1.4	0.92	23	6	1.2	1.05	2.3	0.5	1.06
BX Knowsley	540	67	1.7	0.81	55.5	1.4	0.90	19	3	0.6	1.18	2.1	0.5	1.18
BY Liverpool	673	232	6.0	0.98	57.1	1.5	1.09	28	10	2.0	1.16	2.4	0.5	1.16
BZ St. Helens	613	82	2.2	0.94	57.2	1.6	1.05	24	3	0.7	1.11	2.3	0.5	1.11
CA Sefton	711	127	2.7	0.79	57.3	1.2	0.88	18	4	1.0	1.22	1.7	0.4	1.23
CB Wirral	581	149	3.4	0.78	58.4	1.4	0.89	13	4	1.1	1.10	1.5	0.4	1.10
CC Barnsley	614	112	2.6	0.81	56.0	1.3	0.89	31	7	1.3	1.27	3.4	0.7	1.27
CE Doncaster	677	141	3.2	0.82	58.1	1.3	0.93	43	9	1.6	1.19	3.7	0.6	1.20
CF Rotherham	616	120	2.8	0.82	56.2	1.3	0.92	33	7	1.2	1.11	3.2	0.6	1.11
CG Sheffield	587	283	6.7	0.84	60.6	1.4	0.95	30	15	2.8	1.08	3.3	0.6	1.08
CH Gateshead	649	97	2.2	0.82	59.1	1.3	0.92	28	4	0.9	1.13	2.7	0.5	1.13
CJ Newcastle upon Tyne	552	141	3.9	0.92	57.6	1.6	1.03	23	7	1.4	1.09	2.8	0.6	1.09
CK North Tyneside	557	95	2.1	0.76	56.0	1.3	0.83	25	4	0.9	1.04	2.6	0.5	1.04
CL South Tyneside	613	64	1.5	0.82	53.5	1.3	0.90	46	5	0.7	1.10	4.2	0.6	1.10
CM Sunderland	788	126	2.8	0.86	56.4	1.2	0.96	54	10	1.3	1.07	4.3	0.6	1.08
CN Birmingham	938	488	10.9	0.92	56.7	1.3	1.06	73	41	5.0	1.14	4.7	0.6	1.14
CQ Coventry	645	178	3.9	0.83	59.9	1.3	0.93	32	9	1.7	1.16	3.1	0.6	1.17
CR Dudley	596	138	3.4	0.81	54.5	1.3	0.91	31	7	1.5	1.17	3.0	0.6	1.17
CS Sandwell	683	141	3.3	0.81	57.3	1.3	0.93	44	9	1.4	1.04	3.8	0.6	1.05
CT Solihull	735	100	1.9	0.76	58.4	1.1	0.85	31	5	0.8	1.14	2.6	0.5	1.14
CU Walsall	619	124	3.0	0.83	54.9	1.3	0.93	32	7	1.2	1.10	3.1	0.6	1.10
CW Wolverhampton	618	110	2.7	0.87	51.9	1.3	0.95	47	9	1.3	1.17	4.3	0.6	1.17
CX Bradford	600	216	5.7	0.85	54.9	1.4	0.98	26	9	1.9	1.05	2.4	0.5	1.05
CY Calderdale	673	105	2.1	0.76	59.7	1.2	0.84	20	4	0.8	1.09	2.0	0.4	1.09
CZ Kirklees	672	200	5.0	0.89	57.0	1.4	1.00	32	11	2.2	1.25	3.1	0.6	1.25
DA Leeds	896	399	7.4	0.80	63.2	1.2	0.93	28	13	2.5	1.06	2.1	0.4	1.06
DB Wakefield	687	157	3.3	0.76	58.0	1.2	0.86	38	10	1.7	1.14	3.7	0.6	1.15
EB Hartlepool	569	38	1.0	0.90	49.4	1.3	0.97	67	5	0.6	1.12	5.9	0.7	1.13
EC Middlesbrough	671	57	1.5	0.93	52.3	1.4	1.04	58	5	0.8	1.20	4.9	0.7	1.21
EE Redcar and Cleveland	606	57	1.4	0.84	51.1	1.3	0.91	33	4	0.6	1.12	3.1	0.5	1.12
EF Stockton-on-Tees	595	86	2.1	0.84	56.6	1.4	0.95	40	6	1.0	1.09	4.1	0.6	1.09
EH Darlington	747	50	0.9	0.74	57.3	1.1	0.82	34	2	0.4	1.04	2.7	0.4	1.04
ET Halton	647	59	1.4	0.81	56.5	1.3	0.90	26	3	0.5	1.12	2.5	0.5	1.13
EU Warrington	650	101	2.0	0.72	60.1	1.2	0.81	26	4	0.8	1.02	2.3	0.5	1.02
EX Blackburn with Darwen	760	63	1.4	0.81	54.4	1.2	0.91	38	4	0.6	1.07	3.0	0.5	1.07
EY Blackpool	717	60	1.5	0.89	52.1	1.3	0.96	56	5	0.7	1.14	4.2	0.6	1.14
FA Kingston upon Hull, City of	598	127	3.2	0.88	61.3	1.5	1.00	40	9	1.4	1.08	4.2	0.7	1.09
FB East Riding of Yorkshire	686	155	3.2	0.75	57.0	1.2	0.84	22	5	1.1	1.03	1.9	0.4	1.03
FC North East Lincolnshire	660	72	1.7	0.84	56.1	1.3	0.93	43	5	0.8	1.11	3.9	0.6	1.12
FD North Lincolnshire	558	75	2.0	0.88	53.3	1.4	0.96	36	5	1.0	1.21	3.8	0.7	1.21
FF York	748	112	2.2	0.82	62.9	1.3	0.91	15	3	0.8	1.26	1.5	0.4	1.26
FK Derby	713	123	2.6	0.81	59.1	1.2	0.91	29	5	0.9	1.04	2.5	0.4	1.04
FN Leicester	572	159	3.8	0.78	56.7	1.3	0.87	30	8	1.5	1.01	2.9	0.5	1.02
FP Rutland	221	17	0.6	0.73	56.0	1.9	0.80	11	1	0.2	1.00	2.6	0.8	1.00
FY Nottingham	658	146	4.0	1.00	53.7	1.5	1.09	42	9	1.5	1.11	3.4	0.6	1.11

	Employment							ILO Unemployment						
	Total				Rate			Total				Rate		
	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor
GA Herefordshire, County of	756	97	1.8	0.77	59.0	1.1	0.84	18	2	0.6	1.17	1.5	0.4	1.17
GF Telford and Wrekin	677	83	1.9	0.83	58.4	1.3	0.93	25	3	0.7	1.09	2.3	0.5	1.09
GL Stoke-on-Trent	707	113	2.8	0.88	54.3	1.3	0.97	48	9	1.3	1.16	4.1	0.6	1.17
HA Bath and North East Somerset	773	100	2.0	0.85	63.7	1.3	0.97	18	3	0.8	1.35	1.8	0.5	1.35
HB Bristol, City of	809	251	5.0	0.87	66.8	1.3	1.02	30	10	1.9	1.13	2.6	0.5	1.13
HC North Somerset	675	104	1.9	0.69	60.2	1.1	0.78	14	2	0.7	1.13	1.4	0.4	1.13
HD South Gloucestershire	745	147	2.6	0.73	64.0	1.1	0.83	25	6	1.1	1.14	2.4	0.5	1.14
HG Plymouth	727	130	2.6	0.79	60.4	1.2	0.89	33	6	1.2	1.19	2.9	0.6	1.19
HH Torbay	718	60	1.3	0.81	53.3	1.1	0.88	34	3	0.6	1.21	2.7	0.5	1.22
HN Bournemouth	685	101	2.1	0.80	60.4	1.2	0.88	20	3	0.8	1.18	1.9	0.5	1.19
HP Poole	652	73	1.4	0.71	58.9	1.1	0.79	21	2	0.5	1.05	1.9	0.4	1.05
HX Swindon	769	113	1.9	0.69	65.2	1.1	0.82	35	5	0.8	1.04	2.8	0.5	1.05
JA Peterborough	571	95	2.2	0.80	60.4	1.4	0.92	31	6	1.1	1.17	3.6	0.7	1.18
KA Luton	778	102	1.9	0.76	60.5	1.2	0.88	40	5	0.9	1.10	3.1	0.5	1.11
KF Southend-on-Sea	791	92	1.5	0.69	60.8	1.0	0.77	18	2	0.5	1.02	1.3	0.3	1.02
KG Thurrock	688	85	1.6	0.71	62.3	1.2	0.82	28	3	0.7	1.06	2.5	0.5	1.07
LC Medway	555	143	2.9	0.73	62.3	1.3	0.83	21	6	1.2	1.05	2.4	0.5	1.06
MA Bracknell Forest	809	68	0.9	0.60	71.5	1.0	0.74	14	1	0.3	1.05	1.3	0.3	1.05
MB West Berkshire	598	83	1.5	0.66	66.7	1.2	0.78	17	2	0.6	1.01	2.0	0.5	1.01
MC Reading	484	87	1.9	0.75	65.4	1.4	0.88	21	4	0.9	1.14	3.0	0.7	1.15
MD Slough	727	73	1.4	0.73	67.3	1.3	0.91	28	3	0.6	1.17	2.9	0.6	1.18
ME Windsor and Maidenhead	856	77	1.2	0.67	65.3	1.0	0.78	22	2	0.4	1.03	1.7	0.4	1.03
MF Wokingham	690	83	1.4	0.64	65.7	1.1	0.76	15	2	0.5	1.10	1.4	0.4	1.11
MG Milton Keynes	674	129	2.7	0.76	59.7	1.2	0.87	34	7	1.2	1.10	3.1	0.6	1.10
ML Brighton and Hove	604	151	3.7	0.90	61.2	1.5	1.00	44	12	2.2	1.29	5.0	0.9	1.30
MR Portsmouth	519	108	2.4	0.80	59.3	1.3	0.88	24	6	1.1	1.10	3.1	0.6	1.10
MS Southampton	762	130	2.7	0.86	62.5	1.3	0.98	45	9	1.3	1.17	4.1	0.6	1.17
MW Isle of Wight	770	59	1.3	0.83	51.2	1.1	0.89	35	3	0.5	1.16	2.6	0.5	1.16
09UC Mid Bedfordshire	240	81	2.1	0.62	70.8	1.8	0.77	7	2	0.8	0.97	1.7	0.7	0.97
09UD Bedford	237	91	2.8	0.69	67.2	2.1	0.83	7	3	1.0	1.00	2.0	0.7	1.00
09UE South Bedfordshire	177	67	2.5	0.70	62.2	2.3	0.81	6	2	1.1	1.19	2.1	1.0	1.19
11UB Aylesbury Vale	269	103	2.8	0.65	68.2	1.9	0.79	4	1	0.9	1.19	1.0	0.6	1.19
11UC Chiltern	154	45	1.9	0.73	59.3	2.6	0.83	*	*	*	*	*	*	*
11UE South Bucks	108	35	1.6	0.67	64.1	3.0	0.80	*	*	*	*	*	*	*
11UF Wycombe	289	89	2.9	0.78	64.3	2.1	0.91	10	4	1.5	1.30	3.1	1.1	1.31
12UB Cambridge	157	68	3.2	0.90	69.7	3.3	1.09	6	3	1.6	1.39	3.4	1.7	1.40
12UC East Cambridgeshire	82	45	2.2	0.63	64.0	3.1	0.74	*	*	*	*	*	*	*
12UD Fenland	92	47	2.4	0.70	56.5	2.9	0.77	4	2	1.3	1.29	2.7	1.6	1.29
12UE Huntingdonshire	186	94	3.2	0.69	66.5	2.3	0.81	5	3	1.3	1.07	2.0	0.9	1.07
12UG South Cambridgeshire	196	86	2.7	0.67	69.0	2.2	0.82	*	*	*	*	*	*	*
13UB Chester	139	64	2.6	0.68	59.4	2.5	0.76	*	*	*	*	*	*	*
13UC Congleton	97	44	2.1	0.69	58.0	2.8	0.79	*	*	*	*	*	*	*
13UD Crewe and Nantwich	128	66	3.1	0.80	66.2	3.1	0.92	3	2	0.9	1.05	1.6	0.9	1.05
13UE Ellesmere Port and Neston	62	35	2.3	0.75	55.9	3.7	0.85	4	2	1.1	1.07	3.5	1.7	1.07
13UG Macclesfield	178	75	3.0	0.72	58.7	2.4	0.82	7	3	1.3	1.04	2.7	1.0	1.04
13UH Vale Royal	141	64	2.6	0.71	62.7	2.6	0.83	7	3	1.3	1.05	3.4	1.2	1.06

	Employment							ILO Unemployment						
	Total				Rate			Total				Rate		
	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor
15UB Caradon	125	42	2.2	0.83	56.9	3.0	0.92	*	*	*	*	*	*	*
15UC Carrick	82	42	2.7	0.77	50.3	3.2	0.83	3	1	0.8	0.94	1.6	0.9	0.94
15UD Kerrier	119	50	2.6	0.82	58.9	3.1	0.93	3	1	0.7	1.03	1.5	0.8	1.03
15UE North Cornwall	172	48	2.2	0.87	63.7	2.9	0.99	5	1	0.6	1.00	1.9	0.8	1.00
15UF Penwith	51	30	3.4	1.06	46.6	5.2	1.09	*	*	*	*	*	*	*
15UG Restormel	164	54	2.0	0.70	63.0	2.4	0.82	3	1	0.6	1.07	1.2	0.7	1.07
16UB Allerdale	155	47	1.6	0.60	60.7	2.1	0.68	*	*	*	*	*	*	*
16UC Barrow-in-Furness	98	31	1.8	0.80	54.9	3.2	0.87	3	1	0.6	1.03	1.8	1.0	1.03
16UD Carlisle	193	53	1.8	0.65	61.4	2.1	0.75	*	*	*	*	*	*	*
16UE Copeland	111	33	1.5	0.67	57.2	2.6	0.73	4	1	0.6	0.97	2.0	1.0	0.97
16UF Eden	101	29	1.5	0.76	64.4	3.2	0.84	*	*	*	*	*	*	*
16UG South Lakeland	170	49	1.8	0.67	57.6	2.1	0.74	3	1	0.5	0.96	1.1	0.6	0.96
17UB Amber Valley	174	66	2.4	0.68	62.3	2.4	0.78	3	1	0.8	1.05	1.4	0.8	1.05
17UC Bolsover	105	41	2.2	0.83	64.5	3.5	0.95	5	2	0.8	0.96	2.8	1.2	0.96
17UD Chesterfield	119	50	2.6	0.80	57.6	3.1	0.89	7	3	1.0	0.95	3.2	1.2	0.95
17UF Derbyshire Dales	115	38	1.7	0.69	65.1	2.9	0.81	*	*	*	*	*	*	*
17UG Erewash	140	57	2.7	0.77	59.3	2.9	0.87	4	2	0.8	0.94	1.7	0.8	0.94
17UH High Peak	89	45	2.6	0.76	59.2	3.4	0.86	3	2	0.9	0.97	2.1	1.1	0.97
17UJ North East Derbyshire	123	49	2.5	0.79	60.2	3.0	0.88	5	2	1.0	1.16	2.4	1.2	1.16
17UK South Derbyshire	129	52	2.2	0.67	70.0	2.9	0.86	6	2	1.0	0.96	3.3	1.3	0.96
18UB East Devon	197	67	2.4	0.71	61.1	2.3	0.84	*	*	*	*	*	*	*
18UC Exeter	134	67	3.4	0.89	60.3	3.0	0.96	8	4	1.4	1.03	3.6	1.2	1.03
18UD Mid Devon	94	42	1.9	0.64	66.1	3.0	0.75	4	2	1.0	1.07	3.1	1.5	1.07
18UE North Devon	104	54	3.1	0.91	65.7	3.7	0.98	*	*	*	*	*	*	*
18UG South Hams	96	42	2.4	0.81	58.8	3.4	0.91	3	2	1.4	1.45	3.0	1.9	1.45
18UH Teignbridge	143	62	2.9	0.77	60.3	2.8	0.89	4	2	0.9	1.01	1.7	0.8	1.01
18UK Torridge	63	31	2.0	0.75	58.7	3.9	0.86	*	*	*	*	*	*	*
18UL West Devon	58	23	2.1	0.93	57.6	5.3	1.09	*	*	*	*	*	*	*
19UC Christchurch	70	25	1.4	0.70	55.0	3.2	0.73	4	2	0.7	1.03	3.4	1.6	1.03
19UD East Dorset	150	44	1.9	0.72	58.2	2.5	0.80	3	1	0.5	0.96	1.2	0.7	0.96
19UE North Dorset	117	33	1.5	0.68	62.3	2.8	0.80	4	1	0.6	0.98	2.2	1.1	0.99
19UG Purbeck	59	21	1.4	0.73	56.6	3.8	0.81	*	*	*	*	*	*	*
19UH West Dorset	137	41	1.9	0.73	50.6	2.3	0.79	4	1	0.7	1.11	1.7	0.8	1.11
19UJ Weymouth and Portland	121	29	1.4	0.74	56.4	2.9	0.83	4	1	0.4	0.95	1.6	0.8	0.95
20UB Chester-le-Street	74	27	1.7	0.76	56.3	3.5	0.83	*	*	*	*	*	*	*
20UD Derwentside	129	47	2.1	0.75	63.7	2.9	0.89	3	1	0.6	1.01	1.4	0.8	1.01
20UE Durham	136	50	2.6	0.93	62.3	3.2	1.04	5	2	0.8	1.01	2.2	0.9	1.01
20UF Easington	113	41	2.5	0.86	56.9	3.5	1.00	7	2	0.9	0.96	3.1	1.2	0.97
20UG Sedgefield	139	43	1.9	0.74	58.7	2.6	0.83	5	2	0.9	1.18	2.8	1.3	1.18
20UH Teesdale	51	13	1.1	0.83	62.6	5.0	0.93	*	*	*	*	*	*	*
20UJ Wear Valley	103	31	1.9	0.84	57.5	3.5	0.94	4	1	0.6	0.99	2.4	1.2	0.99
21UC Eastbourne	101	47	2.2	0.68	54.9	2.7	0.75	*	*	*	*	*	*	*
21UD Hastings	82	45	3.2	0.94	56.0	4.0	1.02	*	*	*	*	*	*	*
21UF Lewes	121	48	2.2	0.69	56.7	2.5	0.76	4	2	0.9	1.10	2.1	1.1	1.10
21UG Rother	108	39	2.5	0.89	51.6	3.3	0.96	*	*	*	*	*	*	*
21UH Wealden	222	71	2.4	0.67	58.7	2.0	0.78	8	2	0.9	1.02	1.9	0.7	1.02

	Employment							ILO Unemployment						
	Total				Rate			Total				Rate		
	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor
22UB Basildon	173	87	3.6	0.73	58.0	2.4	0.82	3	2	1.0	1.04	1.2	0.7	1.04
22UC Braintree	162	80	2.8	0.65	67.6	2.4	0.79	8	4	1.4	1.00	3.4	1.2	1.01
22UD Brentwood	64	34	2.2	0.67	54.9	3.4	0.74	*	*	*	*	*	*	*
22UE Castle Point	88	47	2.1	0.61	62.9	2.9	0.71	*	*	*	*	*	*	*
22UF Chelmsford	178	91	3.3	0.71	64.1	2.3	0.82	10	5	1.6	1.00	3.7	1.1	1.00
22UG Colchester	230	97	2.9	0.66	66.3	2.0	0.80	6	2	1.1	1.12	1.7	0.8	1.12
22UH Epping Forest	128	66	2.8	0.69	66.7	2.8	0.84	5	3	1.7	1.43	2.7	1.7	1.43
22UJ Harlow	81	42	2.1	0.60	64.1	3.2	0.73	4	2	1.1	1.11	2.6	1.6	1.12
22UK Maldon	70	28	2.2	0.86	53.7	4.3	0.96	3	1	0.6	0.88	2.7	1.3	0.88
22UL Rochford	107	46	2.1	0.65	63.1	2.8	0.72	*	*	*	*	*	*	*
22UN Tendring	136	63	3.2	0.76	53.3	2.7	0.83	5	2	0.9	0.92	1.8	0.8	0.92
22UQ Uttlesford	82	41	2.6	0.78	55.6	3.5	0.85	4	2	0.9	0.95	2.5	1.2	0.95
23UB Cheltenham	163	62	2.2	0.70	68.2	2.5	0.84	3	1	0.7	1.02	1.2	0.7	1.02
23UC Cotswold	88	41	2.2	0.73	56.9	3.0	0.81	*	*	*	*	*	*	*
23UD Forest of Dean	100	43	2.1	0.69	59.6	2.9	0.76	3	1	0.6	0.88	1.3	0.8	0.88
23UE Gloucester	161	68	2.8	0.76	68.0	2.8	0.94	3	1	0.7	0.98	1.1	0.7	0.98
23UF Stroud	147	65	2.6	0.76	63.6	2.6	0.85	5	3	1.3	1.26	2.5	1.2	1.26
23UG Tewkesbury	152	47	1.6	0.60	67.2	2.4	0.74	*	*	*	*	*	*	*
24UB Basingstoke and Deane	185	101	2.7	0.56	72.0	2.0	0.70	*	*	*	*	*	*	*
24UC East Hampshire	119	63	3.1	0.77	63.4	3.0	0.85	*	*	*	*	*	*	*
24UD Eastleigh	122	65	2.5	0.64	64.1	2.5	0.76	5	2	1.0	0.97	2.2	1.0	0.97
24UE Fareham	116	59	2.7	0.70	63.2	2.9	0.82	3	1	0.9	1.06	1.6	1.0	1.07
24UF Gosport	69	40	3.0	0.84	57.1	4.3	0.93	*	*	*	*	*	*	*
24UG Hart	127	48	1.8	0.60	66.8	2.7	0.76	5	2	1.1	1.12	3.5	1.5	1.12
24UH Havant	99	57	2.9	0.72	54.7	2.8	0.79	7	4	1.8	1.24	4.0	1.8	1.25
24UJ New Forest	178	82	3.0	0.67	59.4	2.2	0.78	4	2	1.2	1.15	1.8	0.9	1.15
24UL Rushmoor	120	56	2.4	0.72	77.1	3.2	0.93	4	2	0.9	1.02	2.5	1.3	1.02
24UN Test Valley	163	64	2.5	0.71	64.2	2.6	0.84	5	2	0.8	0.96	1.9	0.8	0.96
24UP Winchester	127	65	2.8	0.74	64.9	2.7	0.84	5	2	1.1	1.02	2.3	1.0	1.02
26UB Broxbourne	69	50	2.6	0.64	66.1	3.4	0.77	*	*	*	*	*	*	*
26UC Dacorum	177	80	2.7	0.67	70.3	2.4	0.85	6	3	1.1	1.04	2.4	1.0	1.04
26UD East Hertfordshire	174	77	3.4	0.85	63.8	2.9	0.97	5	2	0.9	0.97	1.7	0.8	0.97
26UE Hertsmere	79	48	3.0	0.74	59.3	3.7	0.85	7	4	1.9	1.13	5.5	2.3	1.14
26UF North Hertfordshire	165	66	2.6	0.72	62.1	2.4	0.83	6	2	0.9	1.01	2.1	0.9	1.01
26UG St. Albans	126	73	3.0	0.67	62.9	2.6	0.79	4	3	1.3	1.09	2.5	1.2	1.09
26UH Stevenage	107	48	2.1	0.68	74.1	3.2	0.90	*	*	*	*	*	*	*
26UJ Three Rivers	59	46	3.3	0.83	56.8	4.1	0.91	4	3	1.4	1.03	3.4	1.7	1.04
26UK Watford	86	50	2.4	0.64	66.2	3.2	0.78	*	*	*	*	*	*	*
26UL Welwyn Hatfield	120	66	2.8	0.68	65.7	2.7	0.79	4	2	1.1	0.98	2.3	1.1	0.98
29UB Ashford	143	65	3.3	0.88	64.0	3.3	1.03	4	3	1.6	1.48	2.6	1.6	1.48
29UC Canterbury	130	70	4.6	1.02	52.0	3.4	1.12	9	6	2.1	1.22	4.3	1.5	1.23
29UD Dartford	113	60	2.3	0.61	71.8	2.9	0.79	3	1	0.7	0.89	1.4	0.8	0.89
29UE Dover	130	58	2.5	0.72	64.1	2.8	0.85	*	*	*	*	*	*	*
29UG Gravesham	85	56	3.5	0.82	70.1	4.4	1.03	5	3	1.3	0.87	4.2	1.6	0.88
29UH Maidstone	127	88	4.1	0.80	62.0	2.9	0.89	3	2	1.3	1.12	1.5	0.9	1.12
29UK Sevenoaks	69	53	3.4	0.74	55.2	3.6	0.83	4	3	1.6	1.00	3.6	1.6	1.00

	Employment							ILO Unemployment						
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	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor
29UL Shepway	111	48	2.5	0.71	52.3	2.7	0.78	*	*	*	*	*	*	*
29UM Swale	132	61	3.7	0.92	55.2	3.4	1.05	11	6	2.0	1.22	5.4	1.8	1.23
29UN Thanet	108	62	3.6	0.84	56.4	3.3	0.96	5	3	1.4	1.17	2.5	1.3	1.18
29UP Tonbridge and Malling	114	66	3.1	0.71	61.9	2.9	0.81	4	2	1.2	1.02	2.2	1.1	1.02
29UQ Tunbridge Wells	140	54	2.7	0.79	66.4	3.4	1.00	7	4	1.5	1.30	4.3	1.9	1.31
30UD Burnley	94	40	2.4	0.80	55.9	3.4	0.89	6	3	1.0	0.98	3.8	1.4	0.99
30UE Chorley	125	63	2.4	0.69	68.0	2.6	0.82	*	*	*	*	*	*	*
30UF Fylde	75	35	2.6	0.85	56.2	4.2	0.96	*	*	*	*	*	*	*
30UG Hyndburn	83	37	2	0.68	64.6	3.5	0.83	5	2	1.0	0.96	3.9	1.7	0.97
30UH Lancaster	166	69	3.2	0.89	60.0	2.8	1.00	8	3	1.2	1.12	2.7	1.0	1.13
30UJ Pendle	77	39	2.9	0.88	53.0	3.9	0.97	4	2	0.8	0.88	2.5	1.1	0.88
30UK Preston	130	72	3.6	0.83	62.6	3.2	0.94	6	3	1.7	1.26	2.8	1.4	1.26
30UL Ribble Valley	62	26	1.7	0.65	54.7	3.6	0.74	*	*	*	*	*	*	*
30UM Rossendale	91	35	1.9	0.71	65.5	3.6	0.87	3	1	0.6	0.98	1.7	1.1	0.98
30UN South Ribble	153	56	2	0.62	65.2	2.3	0.74	7	3	1.3	1.20	3.7	1.5	1.21
30UP West Lancashire	114	49	2.4	0.71	55.0	2.7	0.79	10	5	1.5	1.12	5.1	1.7	1.12
30UQ Wyre	126	51	2.4	0.74	56.4	2.7	0.81	4	2	0.8	0.98	1.8	0.9	0.98
31UB Blaby	106	51	2.6	0.75	66.9	3.4	0.90	8	4	1.3	0.94	5.0	1.6	0.95
31UC Charnwood	197	88	3.7	0.84	59.0	2.5	0.94	8	4	1.4	1.08	2.5	0.9	1.08
31UD Harborough	95	49	2.4	0.76	64.7	3.3	0.89	3	2	1.2	1.25	2.8	1.6	1.25
31UE Hinckley and Bosworth	101	54	3.1	0.84	59.3	3.4	0.94	3	2	1.0	1.08	1.8	1.1	1.08
31UG Melton	76	26	1.4	0.68	61.3	3.4	0.76	4	1	0.7	0.94	3.3	1.5	0.94
31UH North West Leicestershire	88	46	2.3	0.67	55.9	2.8	0.74	6	4	1.7	1.26	4.5	2.0	1.27
31UJ Oadby and Wigston	37	26	2.3	0.83	56.5	5.1	0.93	*	*	*	*	*	*	*
32UB Boston	59	34	2.1	0.71	61.7	3.9	0.82	*	*	*	*	*	*	*
32UC East Lindsey	116	52	3.1	0.79	46.2	2.7	0.85	8	4	1.3	0.99	3.5	1.2	0.99
32UD Lincoln	108	45	3.4	1.05	54.9	4.1	1.14	5	2	1.0	1.06	2.6	1.2	1.07
32UE North Kesteven	132	59	2.6	0.75	63.4	2.8	0.85	4	2	1.2	1.25	2.5	1.3	1.25
32UF South Holland	109	44	2.2	0.73	59.8	3.1	0.84	4	2	0.8	1.02	2.1	1.1	1.02
32UG South Kesteven	177	74	2.9	0.78	64.0	2.6	0.90	6	4	1.8	1.46	3.5	1.6	1.46
32UH West Lindsey	98	44	2.4	0.77	54.6	3.0	0.84	3	2	0.9	1.13	2.1	1.2	1.14
33UB Breckland	155	65	2.8	0.74	58.2	2.6	0.84	8	3	1.0	0.92	2.7	0.9	0.92
33UC Broadland	150	63	2.6	0.69	58.1	2.4	0.77	6	3	1.0	0.96	2.4	0.9	0.96
33UD Great Yarmouth	78	38	2.3	0.70	52.2	3.3	0.80	5	2	1.0	0.99	3.3	1.4	0.99
33UE Kings Lynn and West Norfolk	150	66	3.2	0.82	52.3	2.5	0.89	7	3	1.2	1.04	2.7	1.0	1.04
33UF North Norfolk	100	48	2.4	0.73	53.7	2.7	0.78	*	*	*	*	*	*	*
33UG Norwich	140	73	3.4	0.85	62.9	3.0	0.97	6	3	1.3	1.08	2.8	1.1	1.08
33UH South Norfolk	147	64	2.9	0.75	57.2	2.7	0.83	4	2	1.1	1.11	1.9	1.0	1.11
34UB Corby	75	35	1.8	0.64	69.3	3.7	0.82	4	2	0.8	0.89	3.2	1.5	0.90
34UC Daventry	99	45	1.9	0.65	72.7	3.1	0.82	*	*	*	*	*	*	*
34UD East Northamptonshire	111	49	1.9	0.60	65.5	2.6	0.72	*	*	*	*	*	*	*
34UE Kettering	87	45	2.4	0.69	58.0	3.1	0.80	5	3	1.1	0.99	3.4	1.4	0.99
34UF Northampton	250	115	4	0.77	67.4	2.4	0.96	17	7	1.8	0.95	4.4	1.0	0.95
34UG South Northamptonshire	104	47	2.4	0.76	60.1	3.1	0.84	4	2	0.8	0.96	2.1	1.0	0.96
34UH Wellingborough	89	39	2.7	0.90	61.8	4.4	1.03	*	*	*	*	*	*	*
35UB Alnwick	73	13	1	0.84	45.1	3.5	0.89	*	*	*	*	*	*	*
35UC Berwick-upon-Tweed	73	13	1	0.89	56.9	4.3	0.99	4	1	0.3	0.88	2.7	1.3	0.88

	Employment							ILO Unemployment						
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	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor
35UD Blyth Valley	162	36	1.8	0.89	53.6	2.7	0.97	8	2	0.6	1.05	2.8	1.0	1.06
35UE Castle Morpeth	91	25	1.3	0.74	53.7	2.8	0.78	5	2	0.7	1.11	3.3	1.4	1.11
35UF Tynedale	145	28	1.2	0.74	58.1	2.6	0.83	*	*	*	*	*	*	*
35UG Wansbeck	135	27	1.4	0.82	51.2	2.6	0.88	6	1	0.6	1.12	2.7	1.1	1.12
36UB Craven	58	25	2.4	0.95	58.0	5.4	1.07	*	*	*	*	*	*	*
36UC Hambleton	114	43	2.1	0.74	57.3	2.8	0.83	*	*	*	*	*	*	*
36UD Harrogate	209	84	2.5	0.63	65.5	2.0	0.74	5	2	0.8	0.95	1.4	0.6	0.95
36UE Richmondshire	46	23	2.1	0.81	52.4	4.7	0.86	*	*	*	*	*	*	*
36UF Ryedale	73	26	1.7	0.75	61.7	4.0	0.87	4	1	0.6	0.87	2.8	1.4	0.87
36UG Scarborough	127	48	2.5	0.77	57.3	3.0	0.88	9	3	1.0	0.93	3.8	1.2	0.93
36UH Selby	116	45	2.5	0.86	62.0	3.4	0.96	*	*	*	*	*	*	*
37UB Ashfield	126	58	3.3	0.89	57.2	3.3	1.00	7	3	1.4	1.13	3.3	1.3	1.13
37UC Bassetlaw	112	52	3.1	0.85	55.9	3.4	0.95	5	3	1.3	1.20	2.8	1.4	1.20
37UD Broxtowe	140	52	2.7	0.85	58.0	3.1	0.96	6	3	1.2	1.11	3.3	1.3	1.12
37UE Gedling	127	58	2.8	0.76	61.8	3.0	0.88	6	3	1.2	1.09	3.2	1.3	1.09
37UF Mansfield	92	50	3.0	0.79	56.1	3.4	0.89	3	2	1.0	1.04	1.8	1.1	1.04
37UG Newark and Sherwood	129	55	2.8	0.76	57.3	2.9	0.86	8	4	1.4	1.09	4.1	1.5	1.09
37UJ Rushcliffe	118	56	3.6	1.00	62.5	4.0	1.17	5	3	2.6	2.12	3.8	2.9	2.13
38UB Cherwell	158	77	2.6	0.63	67.6	2.3	0.77	*	*	*	*	*	*	*
38UC Oxford	101	89	4.8	0.86	72.8	3.9	1.06	*	*	*	*	*	*	*
38UD South Oxfordshire	162	72	2.8	0.72	64.9	2.6	0.85	3	2	1.0	1.17	1.6	0.9	1.17
38UE Vale of White Horse	120	62	3.1	0.77	59.1	3.0	0.87	4	2	0.9	0.95	1.8	0.9	0.95
38UF West Oxfordshire	138	61	2.2	0.62	72.9	2.7	0.79	3	1	0.6	0.87	1.3	0.7	0.87
39UB Bridgnorth	102	27	1.3	0.68	58.5	2.8	0.76	4	1	0.5	0.96	2.3	1.1	0.97
39UC North Shropshire	140	33	1.2	0.67	63.7	2.4	0.77	4	1	0.6	1.10	2.3	1.1	1.10
39UD Oswestry	109	22	0.9	0.69	62.2	2.7	0.77	*	*	*	*	*	*	*
39UE Shrewsbury and Atcham	269	56	1.5	0.66	67.9	1.8	0.78	3	1	0.4	1.10	0.7	0.5	1.10
39UF South Shropshire	118	21	1.1	0.81	54.3	2.9	0.88	5	1	0.6	1.27	3.3	1.5	1.27
40UB Mendip	145	56	2.6	0.78	60.7	2.8	0.88	11	5	1.6	1.16	5.5	1.7	1.16
40UC Sedgemoor	155	62	2.7	0.82	61.3	2.7	0.93	4	2	0.9	1.11	1.6	0.9	1.11
40UD South Somerset	214	83	2.4	0.62	63.4	1.9	0.72	4	1	0.7	1.02	1.0	0.6	1.02
40UE Taunton Deane	165	58	2.2	0.72	63.9	2.4	0.84	4	1	0.7	1.03	1.4	0.7	1.03
40UF West Somerset	41	13	1.5	0.85	47.8	5.4	0.92	*	*	*	*	*	*	*
41UB Cannock Chase	86	47	2.2	0.62	59.3	2.8	0.70	4	2	1.1	1.00	2.8	1.4	1.00
41UC East Staffordshire	180	64	2.2	0.67	70.9	2.5	0.83	*	*	*	*	*	*	*
41UD Lichfield	97	48	2.5	0.73	56.1	3.0	0.80	4	2	1.0	1.03	2.3	1.2	1.03
41UE Newcastle-under-Lyme	114	66	3.2	0.74	60.7	2.9	0.82	*	*	*	*	*	*	*
41UF South Staffordshire	106	55	2.6	0.71	63.6	3.0	0.83	5	3	1.1	1.00	2.9	1.3	1.00
41UG Stafford	134	66	2.6	0.65	58.3	2.3	0.71	3	2	0.8	1.00	1.3	0.7	1.00
41UH Staffordshire Moorlands	133	49	2.2	0.72	62.4	2.8	0.83	*	*	*	*	*	*	*
41UK Tamworth	92	40	2.6	0.87	70.0	4.6	1.11	3	2	1.7	1.64	4.1	3.0	1.65
42UB Babergh	132	46	2.3	0.82	65.0	3.2	0.96	5	2	1.1	1.33	2.8	1.5	1.33
42UC Forest Heath	72	30	2.1	0.78	58.7	4.1	0.89	3	2	0.9	1.08	3.0	1.7	1.09
42UD Ipswich	183	69	3.0	0.84	63.5	2.8	1.00	6	2	0.8	0.99	1.8	0.8	0.99
42UE Mid Suffolk	102	48	2.4	0.69	56.4	2.9	0.77	6	3	1.0	0.90	3.0	1.2	0.91
42UF St. Edmundsbury	139	59	2.1	0.61	64.3	2.3	0.71	*	*	*	*	*	*	*
42UG Suffolk Coastal	182	62	2.4	0.75	59.2	2.4	0.85	7	3	0.9	1.03	2.4	0.9	1.04

	Employment							ILO Unemployment						
	Total				Rate			Total				Rate		
	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor
42UH Waveney	117	51	2.8	0.78	53.3	2.9	0.86	6	2	1.2	1.11	2.6	1.2	1.11
43UB Elmbridge	134	64	2.5	0.62	61.5	2.4	0.74	*	*	*	*	*	*	*
43UC Epsom and Ewell	83	42	2.4	0.73	65.6	3.8	0.86	4	2	1.1	0.98	3.6	1.7	0.99
43UD Guildford	103	75	4.2	0.84	62.2	3.5	0.95	4	3	1.7	1.09	2.8	1.4	1.09
43UE Mole Valley	87	41	2.2	0.68	58.0	3.1	0.77	*	*	*	*	*	*	*
43UF Reigate and Banstead	107	71	4.2	0.88	60.9	3.6	1.00	4	3	1.6	1.12	2.8	1.3	1.12
43UG Runnymede	91	45	2.9	0.86	63.2	4.0	0.99	*	*	*	*	*	*	*
43UH Spelthorne	102	56	2.5	0.68	74.4	3.3	0.89	*	*	*	*	*	*	*
43UJ Surrey Heath	67	43	2.1	0.55	59.1	2.9	0.63	3	2	1.1	0.98	2.6	1.5	0.99
43UK Tandridge	83	42	2.4	0.75	64.1	3.7	0.91	*	*	*	*	*	*	*
43UL Waverley	119	61	2.7	0.68	66.1	2.9	0.81	3	1	0.8	0.95	1.5	0.9	0.95
43UM Woking	97	57	2.3	0.60	67.1	2.8	0.70	*	*	*	*	*	*	*
44UB North Warwickshire	82	31	1.5	0.62	65.1	3.1	0.75	*	*	*	*	*	*	*
44UC Nuneaton and Bedworth	137	66	2.6	0.67	62.7	2.5	0.77	*	*	*	*	*	*	*
44UD Rugby	127	54	2.1	0.62	67.0	2.6	0.76	4	2	1.0	1.06	2.5	1.2	1.07
44UE Stratford-on-Avon	161	59	2.5	0.75	55.6	2.4	0.81	3	1	0.8	1.10	1.2	0.7	1.10
44UF Warwick	203	78	2.2	0.62	67.8	2.0	0.74	5	2	0.9	1.03	1.9	0.8	1.03
45UB Adur	46	31	2.1	0.71	56.1	3.9	0.79	*	*	*	*	*	*	*
45UC Arun	127	69	3.6	0.81	50.1	2.6	0.87	*	*	*	*	*	*	*
45UD Chichester	134	59	2.4	0.66	61.1	2.5	0.76	5	2	1.1	1.04	2.5	1.1	1.04
45UE Crawley	79	54	3.2	0.77	63.3	3.8	0.93	7	5	2.0	1.12	6.4	2.4	1.13
45UF Horsham	140	65	3.5	0.89	60.6	3.3	1.04	5	2	1.0	1.00	2.1	0.9	1.00
45UG Mid Sussex	118	80	3.6	0.73	64.9	2.9	0.84	*	*	*	*	*	*	*
45UH Worthing	121	58	2.6	0.70	68.2	3.2	0.87	*	*	*	*	*	*	*
46UB Kennet	130	45	1.9	0.70	66.4	2.8	0.84	3	1	0.6	1.01	1.6	0.9	1.01
46UC North Wiltshire	225	74	2.3	0.69	66.0	2.0	0.82	8	3	1.1	1.12	2.9	1.0	1.13
46UD Salisbury	204	63	2.1	0.69	60.7	2.0	0.77	3	1	0.5	0.92	0.8	0.4	0.92
46UF West Wiltshire	226	65	2.4	0.75	59.4	2.2	0.85	9	3	0.9	1.03	2.4	0.8	1.03
47UB Bromsgrove	146	45	2.1	0.73	59.7	2.8	0.84	6	2	0.9	1.03	3.1	1.2	1.04
47UC Malvern Hills	95	34	2.4	0.93	55.9	3.9	1.03	5	2	1.0	1.10	3.7	1.6	1.10
47UD Redditch	129	44	2.0	0.74	66.7	3.0	0.89	6	2	0.9	1.03	3.2	1.3	1.03
47UE Worcester	159	54	1.8	0.59	69.6	2.3	0.74	4	1	0.7	0.98	1.7	0.9	0.98
47UF Wychavon	124	67	2.8	0.72	62.9	2.6	0.80	*	*	*	*	*	*	*
47UG Wyre Forest	141	49	1.9	0.66	60.9	2.5	0.76	*	*	*	*	*	*	*

	Employment							ILO Unemployment						
	Total				Rate			Total				Rate		
	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estimate	Standard Error	Design Factor
Wales	13,613	1,459	8.3	0.95	57.4	0.3	1.06	549	68	3.4	1.33	2.7	0.1	1.33
NA Anglesey, Isle of	634	32	0.7	0.79	56.6	1.2	0.88	29	2	0.3	1.26	2.9	0.6	1.26
NC Gwynedd	616	58	1.4	0.84	57.5	1.3	0.93	31	3	0.7	1.23	3.3	0.6	1.23
NE Conwy	597	50	1.2	0.80	52.2	1.2	0.87	20	2	0.4	1.17	1.9	0.4	1.17
NG Denbighshire	613	44	1.0	0.82	56.4	1.3	0.91	14	1	0.3	1.11	1.3	0.4	1.11
NJ Flintshire	601	76	1.7	0.78	60.2	1.3	0.89	20	3	0.7	1.17	2.2	0.5	1.18
NL Wrexham	663	70	1.4	0.75	62.8	1.2	0.86	23	3	0.6	1.13	2.4	0.5	1.13
NN Powys	578	63	1.5	0.81	57.4	1.3	0.89	11	1	0.4	1.08	1.2	0.4	1.08
NQ Ceredigion	604	35	1.0	1.01	54.6	1.6	1.09	10	1	0.3	1.36	1.4	0.5	1.36
NS Pembrokeshire	592	54	1.3	0.85	53.5	1.3	0.94	20	2	0.5	1.14	2.0	0.4	1.14
NU Carmarthenshire	724	84	1.9	0.85	55.0	1.3	0.94	26	3	0.6	1.03	1.9	0.4	1.03
NX Swansea	702	107	2.7	0.93	53.0	1.3	1.01	43	7	1.2	1.18	3.5	0.6	1.18
NZ Neath Port Talbot	541	64	1.6	0.84	54.9	1.4	0.92	23	3	0.6	1.04	2.5	0.5	1.05
PB Bridgend	520	64	1.6	0.84	55.0	1.4	0.92	22	3	0.6	1.10	2.4	0.5	1.11
PD Vale of Glamorgan, The	626	63	1.3	0.75	61.6	1.3	0.85	18	2	0.6	1.37	2.2	0.6	1.37
PF Rhondda, Cynon, Taff	668	109	2.4	0.78	56.6	1.2	0.88	45	8	1.3	1.18	4.3	0.7	1.18
PH Merthyr Tydfil	370	27	0.8	0.81	56.9	1.6	0.91	22	2	0.4	1.11	3.6	0.8	1.11
PK Caerphilly	712	82	1.9	0.86	55.9	1.3	0.96	38	5	0.9	1.28	3.4	0.6	1.28
PL Blaenau Gwent	469	32	0.9	0.84	55.7	1.6	0.93	22	2	0.3	1.08	2.7	0.6	1.08
PM Torfaen	620	41	0.9	0.77	55.2	1.2	0.85	33	2	0.4	1.15	3.0	0.6	1.15
PP Monmouthshire	711	44	0.9	0.75	57.7	1.1	0.83	21	1	0.3	1.13	1.9	0.4	1.13
PR Newport	683	71	1.6	0.84	60.2	1.4	0.96	22	3	0.8	1.52	2.6	0.7	1.52
PT Cardiff	770	188	4.6	0.98	63.7	1.6	1.13	36	10	1.7	1.16	3.3	0.6	1.16

	Employment							ILO Unemployment						
	Total				Rate			Total				Rate		
	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estim ate	Standard Error	Design Factor	Sample Size	Estimate[1]	Standard Error[1]	Design Factor	Estim ate	Standard Error	Design Factor
Scotland	16,066	2,638	14.5	1.03	59.3	0.3	1.15	609	117	6.0	1.45	2.6	0.1	1.45
QA Aberdeen City	482	120	3.5	0.99	62.7	1.8	1.10	31	9	2.1	1.47	4.9	1.1	1.48
QB Aberdeenshire	493	136	2.8	0.69	63.5	1.3	0.80	18	5	1.3	1.09	2.5	0.6	1.10
QC Angus	660	55	1.2	0.79	57.1	1.2	0.87	25	2	0.4	1.06	2.3	0.5	1.06
QD Argyll & Bute	560	41	0.9	0.80	57.3	1.3	0.88	15	1	0.3	1.24	1.8	0.5	1.25
QE Scottish Borders, The	505	52	1.2	0.75	55.3	1.3	0.82	18	2	0.5	1.11	2.0	0.5	1.11
QF Clackmannanshire	331	24	0.8	0.84	57.9	1.9	0.94	10	1	0.3	1.16	2.0	0.7	1.16
QG West Dunbartonshire	573	42	1.0	0.84	57.0	1.4	0.94	23	2	0.4	1.15	2.5	0.5	1.16
QH Dumfries and Galloway	516	66	1.7	0.85	53.5	1.4	0.93	11	1	0.5	1.12	1.2	0.4	1.12
QJ Dundee City	608	66	2.1	1.07	54.5	1.7	1.17	41	5	0.8	1.14	3.8	0.6	1.15
QK East Ayrshire	472	54	1.5	0.84	53.7	1.5	0.92	29	4	0.7	1.11	3.6	0.7	1.12
QL East Dunbartonshire	618	52	1.1	0.75	58.6	1.2	0.83	14	2	0.4	1.21	1.7	0.5	1.22
QM East Lothian	584	54	1.0	0.69	63.7	1.2	0.79	11	1	0.4	1.13	1.4	0.4	1.13
QN East Renfrewshire	476	44	1.0	0.74	57.8	1.4	0.84	17	1	0.3	1.00	1.9	0.5	1.00
QP Edinburgh, City of	652	279	5.6	0.79	65.1	1.3	0.89	30	14	2.7	1.12	3.3	0.6	1.12
QQ Falkirk	596	78	1.7	0.78	59.8	1.3	0.88	16	2	0.6	1.13	1.6	0.4	1.14
QR Fife	547	177	4.5	0.85	58.5	1.5	0.94	20	7	1.6	1.07	2.3	0.5	1.07
QS Glasgow City	568	282	7.9	0.92	55.1	1.5	1.01	36	19	3.0	1.02	3.6	0.6	1.03
QT Highland	483	121	2.9	0.84	62.6	1.5	0.96	12	3	0.9	1.19	1.6	0.5	1.19
QU Inverclyde	500	37	0.9	0.81	56.4	1.5	0.90	23	2	0.4	1.14	2.8	0.6	1.14
QW Midlothian	500	46	1.0	0.70	63.3	1.3	0.81	13	1	0.4	1.13	1.9	0.5	1.14
QX Moray	522	45	1.1	0.82	56.9	1.4	0.91	24	3	0.5	1.23	3.2	0.7	1.23
QY North Ayrshire	537	59	1.6	0.87	53.4	1.4	0.95	28	4	0.7	1.15	3.2	0.6	1.15
QZ North Lanarkshire	551	169	3.9	0.77	61.2	1.4	0.87	21	7	1.5	1.05	2.4	0.5	1.06
RA Orkney Islands	129	12	0.4	0.61	66.9	2.4	0.70	*	*	*	*	*	*	*
RB Perth and Kinross	603	74	1.6	0.79	59.6	1.3	0.88	23	3	0.6	1.11	2.2	0.5	1.11
RC Renfrewshire	486	86	2.1	0.78	59.1	1.4	0.87	27	5	1.0	1.18	3.3	0.7	1.18
RD Shetland Islands	89	13	0.7	0.83	69.5	3.6	0.99	*	*	*	*	*	*	*
RE South Ayrshire	443	48	1.3	0.84	50.8	1.4	0.90	14	2	0.5	1.22	1.7	0.5	1.22
RF South Lanarkshire	532	159	3.2	0.67	61.0	1.2	0.76	17	6	1.4	1.12	2.1	0.5	1.13
RG Stirling	554	44	1.2	0.96	58.6	1.6	1.07	13	1	0.3	1.15	1.5	0.4	1.16
RH West Lothian	582	90	2.0	0.76	61.5	1.3	0.87	23	4	0.8	1.15	2.5	0.6	1.15
RJ Eilean Siar (Western Isles)	314	13	0.4	0.79	58.0	1.7	0.87	5	-	0.1	1.22	1.0	0.5	1.22
Northern Ireland	3,483	848	8.7	0.84	58.0	0.6	0.95	126	33	3.0	1.10	2.2	0.2	1.11

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 JD14 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		**Wave 1 and Wave 5**	
Variable	**Variable Name**	**Variable**	**Variable Name**
ATFROM	Type of business if working from home	**DAYSPZ**	Number of different days per week worked
EVDAY	Work during day	**EVHM98**	Ever do any paid or unpaid work at home
EVENG	Work in evening in past 4 weeks	**FLEX10(1-3)**	Type of working hours arrangement
EVEVE	Work during evening	**HOMED(1-3)**	Locations of work in refwk (main job)
EVNGHT	Work during night	**LSSOTH**	Time off flexi or annual
EVSAT	Work on Saturdays	**NOLWF**	Main reason (family) for not looking for work
EVSUN	Work on Sundays	**OYCIRC**	Employment situation 12 months ago
NIGHT	Night work in the last 4 weeks	**OYMNGE**	Managerial duties 1 year ago
NWNCRE(1 -2)	Reason (care services) for not looking for work	**OYMPE02**	Number of employees where worked 1 year ago
PTNCRE7(1-2)	Reason (care services) for part time work	**OYMPS02**	Number of people employed 1 year ago
SATDY	How many Saturdays worked in past 4 weeks	**OYSIND**	Work for same firm in refwk as 12 months ago
SMESIT	Reason working from home	**OYSOCC**	Main occupation in refwek same as 12 months ago
SUNDY	How many Sundays worked in past 4 weeks	**OYSOLO**	On own or with employees 1 year ago
YNOTFT	Reason for not wanting a full time job	**OYSTAT**	Employee or self-employed 1 year ago
YPTCIA	Reason for part time job	**OYSUPVI**	Supervisory responsibilities 1 year ago.
		SHFTYP	Type of shift pattern
		SHFTWK99	Shiftwork in main job
		USUWRKM(1-3)	Regular/normal work pattern
		WCHDAY(1-7)	Which days usually worked

More information about these variables can be found in the user guide 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)