Office for National Statistics

Labour Force Survey

User Guide

VOLUME 6 – ANNUAL POPULATION SURVEY (LOCAL AREA DATABASE)

ANNUAL POPULATION SURVEY/LOCAL AREA DATABASE

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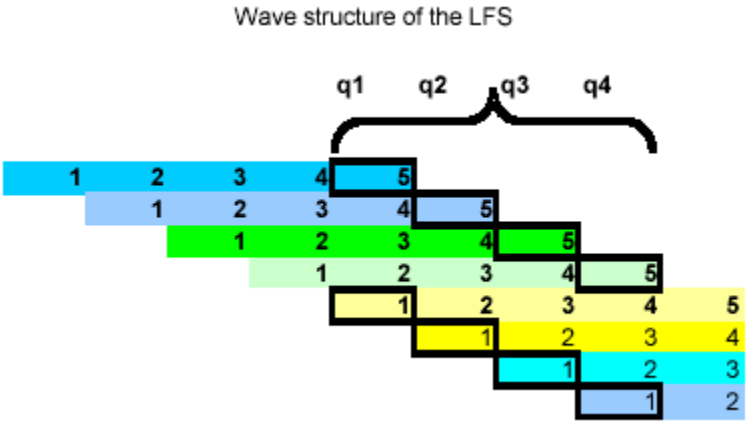
SECTION 1: INTRODUCTION

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

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 2019 dataset.

	APS Dataset: January – December 2019			
	Jan – March 2019	**April – June 2019**	**July – Sept 2019**	**Oct – Dec 2019**
LFS cohort 1 *(first sampled January – March 2018)*	**Wave 5**			
LFS cohort 2 *(first sampled April – June 2018)*	**Wave 4**	**Wave5**		
LFS cohort 3 *(first sampled July – Sept 2018)*	**Wave 3**	**Wave 4**	**Wave 5**	
LFS cohort 4 *(First sampled Oct – Dec 2018)*	**Wave 2**	**Wave 3**	**Wave 4**	**Wave 5**
LFS cohort 5 *(First sampled Jan – March 2019)*	**Wave 1**	**Wave 2**	**Wave 3**	**Wave 4**
LFS cohort 6 *(first sampled April – June 2019)*		**Wave 1**	**Wave 2**	**Wave 3**
LFS cohort 7 *(first sampled July – Sept 2019)*			**Wave 1**	**Wave 2**
LFS cohort 8 *(First sampled Oct – Dec 2019)*				**Wave 1**
LLFS cohort 1 *(first sampled Jan– Dec 2016)*	**Wave 4**			
LLFS cohort 2 *(first sampled Jan– Dec 2017)*	**Wave 3**			
LLFS cohort 3 *(first sampled Jan– Dec 2018)*	**Wave 2**			
LLFS cohort 4 *(first sampled Jan– Dec 2019)*	**Wave 1**			

Weighting and Structure of the Local Area Annual Datasets

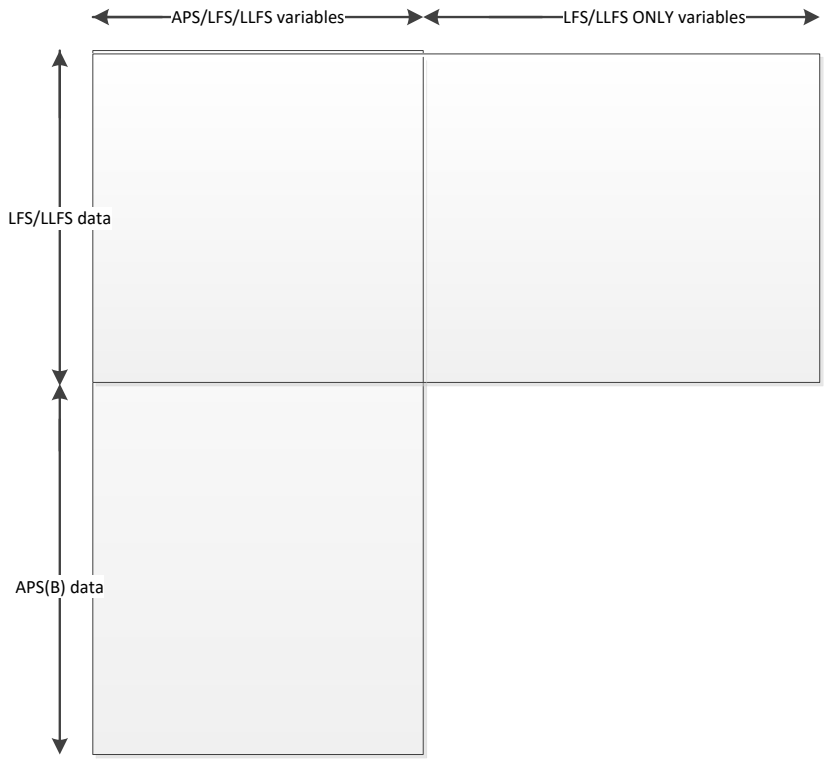
Weighting of the data is done in order to allow the sample to provide estimates relating to the total population and to minimise non-response bias. Each record's weight is the number of people in the population represented by that one sample member. The weights are based on the age and sex structures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

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

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

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

The structure of the APS dataset



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

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

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

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

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

From April 05-May06 (A05M) the APS boost was removed, with the structure of the APS dataset comprising of LFS and LLFS data. As these data were asked both the CORE and

NON CORE questions, a single weight (PWTA14) was present on subsequent APS dataset.
The 2011 census resulted in revisions to the population estimates and in 2014/15 a reweighted exercise was carried out to reweight the APS historical datasets from JD04 to update the population totals. Datasets from this exercise will have a weight with a 14 as the last two digits. Another reweighting exercise was undertaken in 2018 going back to A11M, the last two digits on the weight for these datasets is 18.

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

Sampling variability of the Local Area Annual Datasets

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

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

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

Where the sampling fraction is consistent over all areas, the standard error of an estimate of a level is proportional to the size of the estimate. It is not possible to provide a table of size of estimate against standard error for the later, boosted, annual LFS datasets because of the different sampling fractions in different areas; however, there is a simple conservative formula that can be used to derive the standard errors of estimates of levels.

A useful benchmark to assess the relative magnitude of a standard error is to calculate the ratio of the standard error derived from a particular (complex) sample design with the standard error that would have arisen from a simple random sample of the same size. This ratio (of the standard errors) is the design factor. It indicates the relative gain (or loss) in the

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

SE estimates for levels

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

√(MT * Wi/1000) (1)

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

Average grossing factors, from the 2019 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 2019 APS dataset, the estimate of the total number of people aged 16 and over who are in employment is 32,551,866. This is 61.1% 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 222,709. The standard error of 0.1% is calculated as:

√ ((0.61 * 0.39)/222,709)

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 2019 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% * 53,297,902 = 53,297 (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
2020	Accidents at work and other work-related health problems

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

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

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

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

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/2019

Health Variable

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

APS Household datasets

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

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

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

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

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

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

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

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

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

Geography variables

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

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

Variable name	Description
PARK	National Parks
LEA	Local Education Authority
CTRY9D	Country
NUTS162/NUTS132	NUTS 2 areas (2016/13)
NUTS163/NUTS133	NUTS 3 areas (2016/13)
TTWA9D	Travel to work area
RU11IND	2011 Census rural-urban classification
OA11	2011 Census output area
GOR9D	Region
PCON9D	Westminster parliamentary constituency (UK)
LAUA	Local Authority District
TECLEC	Local Learning and Skills Council (England) Enterprise Region (Scotland) DCELLS (Wales)
LSOA11	2011 Census Lower layer super output area
MSOA11	2011 Census Middle layer super output area
WARD	Electoral Ward
CCG	Clinical Commissioning Groups
CTY	Counties
LEP	Local Enterprise Partnerships (DV not supported by ONS Geography)

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

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

APS 3 Year Pooled datasets

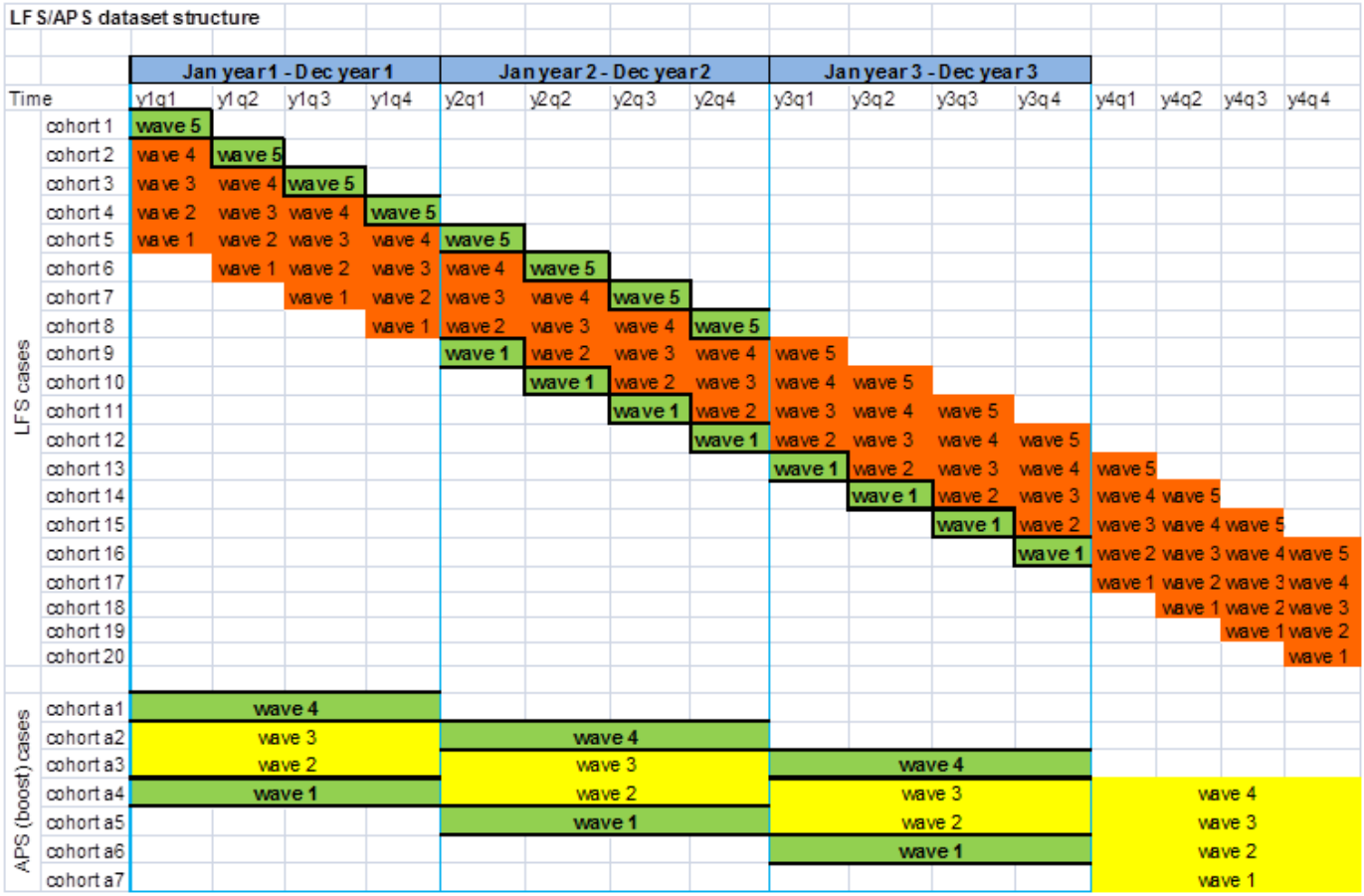
The APS 3 year pooled dataset is designed to allow more robust analysis at lower level geographies, that isn't always possible using the single year APS dataset, especially for certain topics whose achieved sample size is smaller.

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

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

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

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



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

The APS pooled dataset is weighted to UK population totals just like the single year APS dataset (the same calibration groups and design weights are also used). The population

totals used are the average of the 6th month of each of the three years (e.g. for J15D17 the mean of the population totals for June 2015, June 2016 and June 2017 is used).

There are several different weights on the dataset:

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

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

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

SECTION 3: ACCESSING LOCAL AREA DATA

Local area LFS data are available via four routes:

(i) ONS website

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

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

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

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

(ii) Nomis

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

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

- Countries

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

(iii) ONS local area LFS Dataservice

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

(iv) Access to APS micro-data

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

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

Further Information

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

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

ANNEX A – Core variables for JD04 to JD05 periods

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

2005 Only
Ilodef05y
Inecac05y
hitqual05y
hiqual05y
levqual05y

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

ANNEX B – Average grossing factors (mean weights) for Unitary Authorities/ Local Authority District areas from the January-December 2019 APS data

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

Local Authority Area	Average Grossing Factor	AGF / 1000
England	277.7	0.28
AB Barking and Dagenham	326.6	0.33
AC Barnet	628.5	0.63
AD Bexley	305.1	0.31
AE Brent	658.1	0.66
AF Bromley	420.8	0.42
AG Camden	434.8	0.43
AH Croydon	489.9	0.49
AJ Ealing	621.0	0.62
AK Enfield	551.1	0.55
AL Greenwich	374.1	0.37
AM Hackney	400.7	0.40
AN Hammersmith and Fulham	328.5	0.33
AP Haringey	417.8	0.42
AQ Harrow	448.2	0.45
AR Havering	325.6	0.33
AS Hillingdon	526.1	0.53
AT Hounslow	615.4	0.62
AU Islington	384.3	0.38
AW Kensington and Chelsea	239.5	0.24
AX Kingston upon Thames	262.4	0.26
AY Lambeth	515.3	0.52
AZ Lewisham	424.7	0.42
BA Merton	272.5	0.27
BB Newham	617.8	0.62
BC Redbridge	387.7	0.39
BD Richmond upon Thames	314.0	0.31
BE Southwark	476.7	0.48
BF Sutton	240.3	0.24
BG Tower Hamlets	534.9	0.53
BH Waltham Forest	531.7	0.53
BJ Wandsworth	566.8	0.57
BK Westminster	470.2	0.47
BL Bolton	184.2	0.18
BM Bury	124.5	0.12
BN Manchester	394.8	0.39
BP Oldham	149.3	0.15
BQ Rochdale	130.3	0.13
BR Salford	189.4	0.19
BS Stockport	239.8	0.24
BT Tameside	152.0	0.15

Local Authority Area	Average Grossing Factor	AGF / 1000
BU Trafford	166.9	0.17
BW Wigan	239.1	0.24
BX Knowsley	113.0	0.11
BY Liverpool	344.0	0.34
BZ St. Helens	139.4	0.14
CA Sefton	187.7	0.19
CB Wirral	216.5	0.22
CC Barnsley	165.0	0.16
CE Doncaster	227.6	0.23
CF Rotherham	200.0	0.20
CG Sheffield	431.8	0.43
CH Gateshead	155.6	0.16
CJ Newcastle upon Tyne	239.0	0.24
CK North Tyneside	171.4	0.17
CL South Tyneside	99.8	0.10
CM Sunderland	173.5	0.17
CN Birmingham	515.0	0.51
CQ Coventry	236.8	0.24
CR Dudley	228.4	0.23
CS Sandwell	216.6	0.22
CT Solihull	135.8	0.14
CU Walsall	186.0	0.19
CW Wolverhampton	164.3	0.16
CX Bradford	348.0	0.35
CY Calderdale	135.2	0.14
CZ Kirklees	274.7	0.27
DA Leeds	433.1	0.43
DB Wakefield	232.8	0.23
EB Hartlepool	59.3	0.06
EC Middlesbrough	84.1	0.08
EE Redcar and Cleveland	86.2	0.09
EF Stockton-on-Tees	137.3	0.14
EH Darlington	65.7	0.07
ET Halton	98.0	0.10
EU Warrington	158.0	0.16
EX Blackburn with Darwen	80.6	0.08
EY Blackpool	74.9	0.07
FA Kingston upon Hull, City of	228.2	0.23
FB East Riding of Yorkshire	232.1	0.23
FC North East Lincolnshire	99.7	0.10
FD North Lincolnshire	128.6	0.13
FF York	152.7	0.15
FK Derby	172.4	0.17
FN Leicester	315.0	0.32
FP Rutland	73.9	0.07
FY Nottingham	202.1	0.20

Local Authority Area	Average Grossing Factor	AGF / 1000
GA Herefordshire, County of	117.1	0.12
GF Telford and Wrekin	118.3	0.12
GL Stoke-on-Trent	167.3	0.17
HA Bath and North East Somerset	124.9	0.12
HB Bristol, City of	292.5	0.29
HC North Somerset	140.7	0.14
HD South Gloucestershire	198.1	0.20
HG Plymouth	187.8	0.19
HH Torbay	84.9	0.08
HN Bournemouth	158.0	0.16
HP Poole	126.6	0.13
HX Swindon	138.5	0.14
JA Peterborough	144.3	0.14
KA Luton	107.5	0.11
KF Southend-on-Sea	96.2	0.10
KG Thurrock	122.1	0.12
LC Medway	258.7	0.26
MA Bracknell Forest	82.2	0.08
MB West Berkshire	129.5	0.13
MC Reading	134.5	0.13
MD Slough	115.7	0.12
ME Windsor and Maidenhead	88.0	0.09
MF Wokingham	110.2	0.11
MG Milton Keynes	190.8	0.19
ML Brighton and Hove	251.4	0.25
MR Portsmouth	154.9	0.15
MS Southampton	166.7	0.17
MW Isle of Wight	83.2	0.08
09UC Mid Bedfordshire	348.1	0.35
09UD Bedford	326.8	0.33
09UE South Bedfordshire	320.2	0.32
11UB Aylesbury Vale	412.8	0.41
11UC Chiltern	304.9	0.30
11UE South Bucks	371.9	0.37
11UF Wycombe	347.1	0.35
12UB Cambridge	452.1	0.45
12UC East Cambridgeshire	449.0	0.45
12UD Fenland	559.6	0.56
12UE Huntingdonshire	433.4	0.43
12UG South Cambridgeshire	438.0	0.44
13UB Chester	497.2	0.50
13UC Congleton	421.3	0.42
13UD Crewe and Nantwich	473.6	0.47
13UE Ellesmere Port and Neston	520.4	0.52
13UG Macclesfield	454.8	0.45
13UH Vale Royal	482.3	0.48

Local Authority Area	Average Grossing Factor	AGF / 1000
15UB Caradon	383.5	0.38
15UC Carrick	473.9	0.47
15UD Kerrier	439.6	0.44
15UE North Cornwall	289.8	0.29
15UF Penwith	461.2	0.46
15UG Restormel	322.2	0.32
16UB Allerdale	291.5	0.29
16UC Barrow-in-Furness	324.3	0.32
16UD Carlisle	321.9	0.32
16UE Copeland	304.9	0.30
16UF Eden	306.2	0.31
16UG South Lakeland	269.9	0.27
17UB Amber Valley	507.3	0.51
17UC Bolsover	550.3	0.55
17UD Chesterfield	416.9	0.42
17UF Derbyshire Dales	423.7	0.42
17UG Erewash	401.0	0.40
17UH High Peak	451.4	0.45
17UJ North East Derbyshire	498.9	0.50
17UK South Derbyshire	435.7	0.44
18UB East Devon	375.8	0.38
18UC Exeter	474.5	0.47
18UD Mid Devon	418.8	0.42
18UE North Devon	507.7	0.51
18UG South Hams	547.4	0.55
18UH Teignbridge	441.2	0.44
18UK Torridge	524.2	0.52
18UL West Devon	356.9	0.36
19UC Christchurch	373.8	0.37
19UD East Dorset	296.8	0.30
19UE North Dorset	298.5	0.30
19UG Purbeck	348.7	0.35
19UH West Dorset	311.9	0.31
19UJ Weymouth and Portland	305.9	0.31
20UB Chester-le-Street	307.8	0.31
20UD Derwentside	320.2	0.32
20UE Durham	364.7	0.36
20UF Easington	361.2	0.36
20UG Sedgefield	260.2	0.26
20UH Teesdale	258.5	0.26
20UJ Wear Valley	310.9	0.31
21UC Eastbourne	434.9	0.43
21UD Hastings	555.7	0.56
21UF Lewes	405.8	0.41
21UG Rother	427.2	0.43
21UH Wealden	394.0	0.39

Local Authority Area	Average Grossing Factor	AGF / 1000
22UB Basildon	512.4	0.51
22UC Braintree	513.8	0.51
22UD Brentwood	610.0	0.61
22UE Castle Point	596.8	0.60
22UF Chelmsford	505.5	0.51
22UG Colchester	416.7	0.42
22UH Epping Forest	527.4	0.53
22UJ Harlow	477.0	0.48
22UK Maldon	504.9	0.50
22UL Rochford	517.7	0.52
22UN Tendring	473.6	0.47
22UQ Uttlesford	461.0	0.46
23UB Cheltenham	386.5	0.39
23UC Cotswold	366.3	0.37
23UD Forest of Dean	391.6	0.39
23UE Gloucester	397.5	0.40
23UF Stroud	396.6	0.40
23UG Tewkesbury	354.1	0.35
24UB Basingstoke and Deane	476.8	0.48
24UC East Hampshire	459.1	0.46
24UD Eastleigh	446.3	0.45
24UE Fareham	413.7	0.41
24UF Gosport	489.1	0.49
24UG Hart	437.6	0.44
24UH Havant	517.4	0.52
24UJ New Forest	427.1	0.43
24UL Rushmoor	458.1	0.46
24UN Test Valley	457.4	0.46
24UP Winchester	400.8	0.40
26UB Broxbourne	530.8	0.53
26UC Dacorum	513.4	0.51
26UD East Hertfordshire	444.8	0.44
26UE Hertsmere	792.9	0.79
26UF North Hertfordshire	464.3	0.46
26UG St. Albans	590.2	0.59
26UH Stevenage	457.8	0.46
26UJ Three Rivers	554.9	0.55
26UK Watford	677.1	0.68
26UL Welwyn Hatfield	569.3	0.57
29UB Ashford	560.3	0.56
29UC Canterbury	500.7	0.50
29UD Dartford	633.2	0.63
29UE Dover	465.0	0.46
29UG Gravesham	748.3	0.75
29UH Maidstone	730.3	0.73
29UK Sevenoaks	807.8	0.81

Local Authority Area	Average Grossing Factor	AGF / 1000
29UL Shepway	520.4	0.52
29UM Swale	483.5	0.48
29UN Thanet	551.2	0.55
29UP Tonbridge and Malling	588.4	0.59
29UQ Tunbridge Wells	587.0	0.59
30UD Burnley	442.1	0.44
30UE Chorley	447.8	0.45
30UF Fylde	451.9	0.45
30UG Hyndburn	435.9	0.44
30UH Lancaster	432.6	0.43
30UJ Pendle	408.0	0.41
30UK Preston	592.3	0.59
30UL Ribble Valley	475.8	0.48
30UM Rossendale	401.1	0.40
30UN South Ribble	430.0	0.43
30UP West Lancashire	444.1	0.44
30UQ Wyre	418.4	0.42
31UB Blaby	448.9	0.45
31UC Charnwood	482.0	0.48
31UD Harborough	401.1	0.40
31UE Hinckley and Bosworth	490.9	0.49
31UG Melton	362.0	0.36
31UH North West Leicestershire	454.8	0.45
31UJ Oadby and Wigston	407.0	0.41
32UB Boston	591.1	0.59
32UC East Lindsey	527.4	0.53
32UD Lincoln	446.9	0.45
32UE North Kesteven	431.3	0.43
32UF South Holland	447.6	0.45
32UG South Kesteven	453.3	0.45
32UH West Lindsey	468.6	0.47
33UB Breckland	490.5	0.49
33UC Broadland	524.6	0.52
33UD Great Yarmouth	557.0	0.56
33UE Kings Lynn and West Norfolk	420.3	0.42
33UF North Norfolk	495.8	0.50
33UG Norwich	465.4	0.47
33UH South Norfolk	435.5	0.44
34UB Corby	518.7	0.52
34UC Daventry	428.0	0.43
34UD East Northamptonshire	486.7	0.49
34UE Kettering	500.5	0.50
34UF Northampton	561.9	0.56
34UG South Northamptonshire	412.7	0.41
34UH Wellingborough	560.8	0.56
35UB Alnwick	199.0	0.20
35UC Berwick-upon-Tweed	200.9	0.20

Local Authority Area	Average Grossing Factor	AGF / 1000
35UD Blyth Valley	188.0	0.19
35UE Castle Morpeth	209.8	0.21
35UF Tynedale	214.3	0.21
35UG Wansbeck	187.5	0.19
36UB Craven	444.2	0.44
36UC Hambleton	346.6	0.35
36UD Harrogate	385.8	0.39
36UE Richmondshire	581.3	0.58
36UF Ryedale	364.8	0.36
36UG Scarborough	363.3	0.36
36UH Selby	350.5	0.35
37UB Ashfield	451.6	0.45
37UC Bassetlaw	462.4	0.46
37UD Broxtowe	359.6	0.36
37UE Gedling	442.0	0.44
37UF Mansfield	476.1	0.48
37UG Newark and Sherwood	408.0	0.41
37UJ Rushcliffe	432.9	0.43
38UB Cherwell	464.2	0.46
38UC Oxford	522.5	0.52
38UD South Oxfordshire	410.5	0.41
38UE Vale of White Horse	388.2	0.39
38UF West Oxfordshire	430.9	0.43
39UB Bridgnorth	219.2	0.22
39UC North Shropshire	215.2	0.22
39UD Oswestry	182.4	0.18
39UE Shrewsbury and Atcham	203.9	0.20
39UF South Shropshire	197.1	0.20
40UB Mendip	414.2	0.41
40UC Sedgemoor	343.7	0.34
40UD South Somerset	374.9	0.37
40UE Taunton Deane	336.6	0.34
40UF West Somerset	368.3	0.37
41UB Cannock Chase	583.9	0.58
41UC East Staffordshire	414.8	0.41
41UD Lichfield	451.7	0.45
41UE Newcastle-under-Lyme	560.3	0.56
41UF South Staffordshire	512.3	0.51
41UG Stafford	487.3	0.49
41UH Staffordshire Moorlands	508.9	0.51
41UK Tamworth	439.2	0.44
42UB Babergh	378.2	0.38
42UC Forest Heath	540.0	0.54
42UD Ipswich	436.7	0.44
42UE Mid Suffolk	427.4	0.43
42UF St. Edmundsbury	475.5	0.48
42UG Suffolk Coastal	371.2	0.37

Local Authority Area	Average Grossing Factor	AGF / 1000
42UH Waveney	486.1	0.49
43UB Elmbridge	466.2	0.47
43UC Epsom and Ewell	488.0	0.49
43UD Guildford	557.2	0.56
43UE Mole Valley	461.9	0.46
43UF Reigate and Banstead	539.7	0.54
43UG Runnymede	589.7	0.59
43UH Spelthorne	427.9	0.43
43UJ Surrey Heath	521.5	0.52
43UK Tandridge	534.6	0.53
43UL Waverley	453.1	0.45
43UM Woking	662.2	0.66
44UB North Warwickshire	417.8	0.42
44UC Nuneaton and Bedworth	396.7	0.40
44UD Rugby	413.9	0.41
44UE Stratford-on-Avon	345.3	0.35
44UF Warwick	341.7	0.34
45UB Adur	618.6	0.62
45UC Arun	600.9	0.60
45UD Chichester	515.7	0.52
45UE Crawley	518.0	0.52
45UF Horsham	476.9	0.48
45UG Mid Sussex	611.6	0.61
45UH Worthing	490.3	0.49
46UB Kennet	411.8	0.41
46UC North Wiltshire	322.8	0.32
46UD Salisbury	321.6	0.32
46UF West Wiltshire	323.2	0.32
47UB Bromsgrove	370.2	0.37
47UC Malvern Hills	377.2	0.38
47UD Redditch	312.9	0.31
47UE Worcester	348.9	0.35
47UF Wychavon	380.1	0.38
47UG Wyre Forest	394.7	0.39

Local Authority Area	Average Grossing Factor	AGF / 1000
Wales	103.2	0.10
NA Anglesey, Isle of	45.6	0.05
NC Gwynedd	98.6	0.10
NE Conwy	86.0	0.09
NG Denbighshire	65.4	0.07
NJ Flintshire	117.5	0.12
NL Wrexham	105.9	0.11
NN Powys	104.5	0.10
NQ Ceredigion	57.4	0.06
NS Pembrokeshire	78.6	0.08
NU Carmarthenshire	113.0	0.11
NX Swansea	144.1	0.14
NZ Neath Port Talbot	110.4	0.11
PB Bridgend	103.8	0.10
PD Vale of Glamorgan, The	106.5	0.11
PF Rhondda, Cynon, Taff	162.7	0.16
PH Merthyr Tydfil	63.1	0.06
PK Caerphilly	112.4	0.11
PL Blaenau Gwent	66.6	0.07
PM Torfaen	67.4	0.07
PP Monmouthshire	65.9	0.07
PR Newport	99.3	0.10
PT Cardiff	271.5	0.27

Local Authority Area	Average Grossing Factor	AGF / 1000
Scotland	151.6	0.15
QA Aberdeen City	215.7	0.22
QB Aberdeenshire	252.7	0.25
QC Angus	82.0	0.08
QD Argyll & Bute	58.7	0.06
QE Scottish Borders, The	99.1	0.10
QF Clackmannanshire	68.6	0.07
QG West Dunbartonshire	59.6	0.06
QH Dumfries and Galloway	125.5	0.13
QJ Dundee City	104.2	0.10
QK East Ayrshire	115.2	0.12
QL East Dunbartonshire	64.1	0.06
QM East Lothian	99.2	0.10
QN East Renfrewshire	86.5	0.09
QP Edinburgh, City of	417.1	0.42
QQ Falkirk	133.5	0.13
QR Fife	296.8	0.30
QS Glasgow City	411.1	0.41
QT Highland	249.9	0.25
QU Inverclyde	67.7	0.07
QW Midlothian	90.6	0.09
QX Moray	81.1	0.08
QY North Ayrshire	107.7	0.11
QZ North Lanarkshire	280.5	0.28
RA Orkney Islands	120.8	0.12
RB Perth and Kinross	127.9	0.13
RC Renfrewshire	162.4	0.16
RD Shetland Islands	137.4	0.14
RE South Ayrshire	98.9	0.10
RF South Lanarkshire	296.4	0.30
RG Stirling	72.2	0.07
RH West Lothian	159.1	0.16
RJ Eilean Siar (Western Isles)	39.0	0.04
Northern Ireland	168.1	0.17

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

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

	Employment							ILO 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	92,550	27,555	54.7	0.88	61.5	0.1	1.01	3,759	1,130	21.6	1.23	2.5	0.0	1.23
AB Barking and Dagenham	290	98	3.5	0.83	60.9	2.2	0.99	16	6	1.6	1.15	3.8	1.0	1.15
AC Barnet	311	202	6.3	0.80	63.8	2.0	0.93	17	12	3.0	1.11	3.8	1.0	1.12
AD Bexley	375	122	3.2	0.73	61.3	1.6	0.84	20	6	1.3	1.00	3.0	0.7	1.00
AE Brent	224	166	5.3	0.71	63.6	2.0	0.83	12	11	3.5	1.34	4.2	1.4	1.34
AF Bromley	400	171	4.0	0.67	65.5	1.5	0.80	8	3	1.1	0.96	1.2	0.4	0.96
AG Camden	280	135	4.6	0.86	62.1	2.1	0.97	17	8	2.0	1.07	3.7	0.9	1.07
AH Croydon	400	198	5.2	0.76	65.7	1.7	0.91	15	7	1.9	1.03	2.4	0.6	1.03
AJ Ealing	233	166	5.5	0.75	64.2	2.1	0.90	11	8	2.3	1.07	3.0	0.9	1.07
AK Enfield	254	151	5.7	0.83	57.4	2.2	0.95	17	12	2.6	1.04	4.5	1.0	1.05
AL Greenwich	378	154	3.5	0.67	67.5	1.5	0.81	18	7	1.7	1.05	3.3	0.8	1.06
AM Hackney	326	150	4.4	0.82	67.7	2.0	1.00	15	7	1.7	1.04	3.1	0.8	1.05
AN Hammersmith and Fulham	266	98	3.0	0.79	67.8	2.1	0.94	11	4	1.3	1.20	2.6	0.9	1.20
AP Haringey	338	156	4.2	0.78	70.4	1.9	0.96	10	4	1.4	1.03	2.0	0.6	1.03
AQ Harrow	237	113	4.7	0.89	55.7	2.3	0.99	13	6	1.7	1.04	3.0	0.8	1.05
AR Havering	378	127	3.4	0.74	60.8	1.6	0.85	18	7	1.6	1.12	3.2	0.8	1.13
AS Hillingdon	264	148	4.8	0.75	63.3	2.1	0.90	14	8	2.0	1.01	3.2	0.9	1.02
AT Hounslow	201	136	5.2	0.80	63.0	2.4	0.94	8	5	1.8	1.01	2.4	0.8	1.01
AU Islington	322	142	4.1	0.86	69.3	2.0	0.99	15	6	1.7	1.09	3.0	0.8	1.10
AW Kensington and Chelsea	262	72	3.0	1.00	57.3	2.4	1.11	16	4	1.1	1.07	3.3	0.8	1.08
AX Kingston upon Thames	325	96	2.7	0.79	67.0	1.9	0.94	10	3	0.9	1.05	2.0	0.6	1.05
AY Lambeth	359	194	5.0	0.77	72.0	1.8	0.93	25	12	2.5	1.00	4.6	0.9	1.01
AZ Lewisham	381	174	3.9	0.69	71.8	1.6	0.86	18	9	2.0	1.05	3.6	0.8	1.05
BA Merton	391	114	2.6	0.69	68.8	1.6	0.83	18	5	1.5	1.26	3.2	0.9	1.27
BB Newham	271	182	5.3	0.72	65.8	1.9	0.86	13	9	2.6	1.09	3.4	0.9	1.09
BC Redbridge	362	149	4.2	0.77	62.4	1.8	0.91	13	6	1.6	1.07	2.5	0.7	1.08
BD Richmond upon Thames	328	109	2.7	0.68	70.0	1.7	0.84	3	1	0.7	1.12	0.7	0.4	1.12
BE Southwark	364	185	4.3	0.71	71.8	1.7	0.87	16	8	1.9	0.99	3.1	0.7	1.00
BF Sutton	421	107	2.5	0.72	66.6	1.6	0.87	24	7	1.4	1.12	4.1	0.9	1.13
BG Tower Hamlets	282	171	5.8	0.88	66.9	2.3	1.05	13	7	2.3	1.18	2.8	0.9	1.18
BH Waltham Forest	270	145	4.9	0.80	67.9	2.3	0.99	16	10	2.8	1.22	4.7	1.3	1.23
BJ Wandsworth	328	199	4.6	0.69	73.6	1.7	0.84	15	9	2.4	1.07	3.4	0.9	1.07
BK Westminster	252	127	4.6	0.86	62.4	2.2	0.96	12	6	1.9	1.09	3.2	0.9	1.09
BL Bolton	622	126	3.0	0.82	56.4	1.3	0.93	45	10	1.6	1.21	4.4	0.7	1.21
BM Bury	673	88	1.8	0.74	58.7	1.2	0.84	29	4	0.8	1.07	2.7	0.5	1.07
BN Manchester	608	262	6.3	0.85	60.5	1.5	0.99	39	17	2.8	1.09	4.0	0.7	1.10
BP Oldham	649	105	2.6	0.87	57.1	1.4	0.99	20	4	0.9	1.26	2.1	0.5	1.27
BQ Rochdale	683	96	2.2	0.83	57.7	1.3	0.95	43	6	1.0	1.12	3.9	0.6	1.12
BR Salford	658	129	2.7	0.77	63.8	1.3	0.89	34	7	1.2	1.05	3.4	0.6	1.05
BS Stockport	554	143	3.3	0.78	59.8	1.4	0.88	23	7	1.5	1.15	2.9	0.6	1.15
BT Tameside	671	108	2.3	0.78	59.9	1.3	0.88	28	5	0.9	1.12	2.5	0.5	1.12

	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	669	118	2.3	0.74	63.3	1.2	0.86	30	6	1.1	1.17	3.1	0.6	1.18
BW Wigan	636	160	3.3	0.75	62.0	1.3	0.86	17	5	1.1	1.05	1.8	0.4	1.05
BX Knowsley	591	72	1.6	0.76	60.2	1.3	0.87	16	2	0.5	1.11	1.8	0.5	1.11
BY Liverpool	590	230	5.8	0.89	56.2	1.4	0.98	29	11	2.1	1.09	2.7	0.5	1.09
BZ St. Helens	564	84	1.9	0.76	57.7	1.3	0.85	32	5	0.9	1.12	3.4	0.6	1.12
CA Sefton	650	130	2.6	0.74	57.5	1.2	0.82	17	3	0.9	1.14	1.5	0.4	1.14
CB Wirral	668	152	3.2	0.76	60.6	1.3	0.88	33	8	1.3	1.04	3.0	0.5	1.05
CC Barnsley	666	116	2.5	0.79	58.1	1.2	0.88	31	6	1.0	1.09	2.8	0.5	1.09
CE Doncaster	574	139	3.6	0.88	55.8	1.5	0.97	36	11	1.9	1.23	4.3	0.8	1.24
CF Rotherham	550	117	3.2	0.89	54.8	1.5	0.98	30	7	1.7	1.40	3.4	0.8	1.40
CG Sheffield	613	289	6.3	0.80	62.2	1.4	0.92	26	13	2.5	1.07	2.8	0.5	1.08
CH Gateshead	572	95	2.3	0.81	57.8	1.4	0.90	33	6	1.0	1.09	3.4	0.6	1.09
CJ Newcastle upon Tyne	530	138	3.7	0.88	56.6	1.5	0.98	24	7	1.5	1.15	3.0	0.6	1.15
CK North Tyneside	548	101	2.0	0.67	59.3	1.2	0.74	15	3	0.9	1.20	1.8	0.5	1.20
CL South Tyneside	572	63	1.6	0.85	53.7	1.4	0.94	46	6	0.8	1.12	4.7	0.7	1.12
CM Sunderland	661	124	3.0	0.88	54.8	1.3	0.97	43	9	1.4	1.14	4.1	0.6	1.14
CN Birmingham	932	490	10.6	0.88	57.0	1.2	1.02	83	46	5.0	1.05	5.3	0.6	1.06
CQ Coventry	714	184	4.0	0.85	61.1	1.3	0.96	38	10	1.6	1.04	3.4	0.5	1.05
CR Dudley	563	143	3.5	0.82	56.5	1.4	0.92	28	7	1.4	1.08	2.8	0.5	1.08
CS Sandwell	646	147	3.4	0.80	57.4	1.3	0.92	34	8	1.4	1.07	3.2	0.5	1.07
CT Solihull	705	102	2.0	0.75	58.8	1.2	0.84	26	4	0.8	1.06	2.3	0.5	1.06
CU Walsall	628	124	3.0	0.84	56.4	1.4	0.95	44	9	1.4	1.09	4.0	0.6	1.10
CW Wolverhampton	608	113	2.9	0.91	53.1	1.4	0.99	42	8	1.3	1.11	3.9	0.6	1.12
CX Bradford	603	223	5.6	0.84	54.6	1.4	0.95	40	16	2.7	1.16	3.9	0.7	1.17
CY Calderdale	701	98	2.1	0.81	56.5	1.2	0.89	20	3	0.7	1.08	1.8	0.4	1.08
CZ Kirklees	703	202	4.2	0.77	58.8	1.2	0.88	19	6	1.3	1.08	1.6	0.4	1.08
DA Leeds	905	398	7.6	0.82	63.4	1.2	0.95	38	17	2.8	1.05	2.7	0.4	1.05
DB Wakefield	660	161	3.4	0.76	58.4	1.2	0.86	35	9	1.5	1.07	3.3	0.6	1.08
EB Hartlepool	592	39	1.0	0.89	52.3	1.4	0.98	47	3	0.5	1.09	4.3	0.6	1.09
EC Middlesbrough	616	57	1.5	0.91	52.1	1.4	1.02	46	5	0.7	1.12	4.1	0.6	1.13
EE Redcar and Cleveland	594	56	1.4	0.84	50.7	1.3	0.92	31	3	0.6	1.19	2.9	0.6	1.20
EF Stockton-on-Tees	587	89	2.2	0.85	57.6	1.4	0.96	36	6	0.9	1.08	3.6	0.6	1.08
EH Darlington	699	49	1.0	0.75	55.9	1.1	0.83	48	3	0.5	1.04	3.8	0.5	1.04
ET Halton	600	63	1.3	0.76	61.3	1.3	0.87	17	2	0.4	1.06	1.8	0.4	1.06
EU Warrington	620	107	2.0	0.71	63.3	1.2	0.81	16	3	0.8	1.11	1.8	0.5	1.11
EX Blackburn with Darwen	761	64	1.4	0.80	53.9	1.2	0.89	40	4	0.6	1.13	3.0	0.5	1.13
EY Blackpool	777	62	1.3	0.84	54.2	1.2	0.91	44	4	0.6	1.07	3.3	0.5	1.08
FA Kingston upon Hull, City of	505	123	3.4	0.87	59.3	1.6	0.99	40	10	1.7	1.16	5.0	0.8	1.16
FB East Riding of Yorkshire	638	160	3.2	0.72	58.5	1.2	0.80	21	6	1.3	1.10	2.1	0.5	1.10
FC North East Lincolnshire	638	70	1.7	0.87	55.3	1.4	0.98	34	4	0.8	1.21	3.2	0.6	1.22
FD North Lincolnshire	550	77	2.0	0.86	54.4	1.4	0.94	24	4	0.8	1.13	2.6	0.5	1.14
FF York	668	110	2.3	0.81	61.7	1.3	0.90	16	3	0.7	1.09	1.6	0.4	1.09
FK Derby	682	123	2.6	0.77	59.2	1.2	0.87	28	5	1.0	1.06	2.6	0.5	1.06
FN Leicester	514	171	4.7	0.89	61.0	1.7	1.03	28	9	1.8	1.11	3.2	0.7	1.11
FP Rutland	215	17	0.6	0.74	52.5	1.9	0.80	6	-	0.2	1.00	1.3	0.5	1.00
FY Nottingham	677	148	3.7	0.91	54.1	1.4	1.00	55	13	1.8	1.11	4.7	0.6	1.12

	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	748	98	1.7	0.71	59.8	1.0	0.78	14	2	0.7	1.42	1.4	0.5	1.42
GF Telford and Wrekin	686	88	1.8	0.77	61.3	1.2	0.88	30	4	0.7	1.03	2.8	0.5	1.03
GL Stoke-on-Trent	675	119	2.6	0.81	56.9	1.3	0.90	29	5	1.0	1.04	2.5	0.5	1.05
HA Bath and North East Somerset	717	98	2.1	0.85	62.5	1.3	0.96	23	3	0.7	1.13	2.2	0.5	1.14
HB Bristol, City of	802	252	5.1	0.88	66.6	1.4	1.03	34	12	2.0	1.10	3.1	0.5	1.10
HC North Somerset	720	104	1.9	0.69	61.3	1.1	0.80	20	4	0.9	1.22	2.4	0.5	1.23
HD South Gloucestershire	693	148	2.5	0.68	63.9	1.1	0.78	17	4	1.0	1.17	1.7	0.4	1.18
HG Plymouth	633	127	2.8	0.81	57.6	1.3	0.89	25	6	1.2	1.13	2.7	0.5	1.14
HH Torbay	620	61	1.4	0.83	52.0	1.2	0.88	22	2	0.5	1.13	2.1	0.4	1.13
HN Bournemouth	638	109	2.4	0.85	64.6	1.4	0.95	12	2	0.7	1.13	1.3	0.4	1.14
HP Poole	531	74	1.5	0.69	58.5	1.2	0.77	16	2	0.6	1.04	1.8	0.4	1.05
HX Swindon	813	115	1.9	0.69	66.5	1.1	0.83	27	4	0.8	1.07	2.4	0.5	1.07
JA Peterborough	623	95	2.2	0.82	60.0	1.4	0.94	37	6	1.0	1.05	3.9	0.6	1.05
KA Luton	853	100	2.0	0.81	59.2	1.2	0.94	44	5	0.8	1.02	3.0	0.4	1.03
KF Southend-on-Sea	854	90	1.6	0.78	60.6	1.1	0.89	31	4	0.7	1.14	2.4	0.4	1.14
KG Thurrock	653	86	1.6	0.71	63.0	1.2	0.83	37	5	0.8	1.05	3.6	0.6	1.06
LC Medway	494	142	3.0	0.70	59.1	1.2	0.77	18	5	1.2	1.03	2.1	0.5	1.03
MA Bracknell Forest	750	66	1.0	0.62	70.1	1.0	0.76	17	2	0.4	1.12	1.8	0.4	1.12
MB West Berkshire	626	85	1.5	0.67	67.5	1.2	0.80	15	2	0.6	1.04	1.8	0.4	1.04
MC Reading	628	90	1.8	0.75	68.9	1.3	0.90	23	3	0.7	1.02	2.4	0.5	1.03
MD Slough	618	73	1.6	0.77	66.0	1.5	0.95	26	3	0.7	1.09	2.9	0.6	1.09
ME Windsor and Maidenhead	854	78	1.2	0.69	66.2	1.1	0.82	20	2	0.4	1.09	1.6	0.4	1.09
MF Wokingham	717	83	1.4	0.66	64.5	1.1	0.78	14	2	0.5	1.11	1.2	0.4	1.11
MG Milton Keynes	694	137	2.5	0.70	63.5	1.2	0.82	32	7	1.2	1.09	3.2	0.6	1.09
ML Brighton and Hove	589	162	3.5	0.83	64.8	1.4	0.93	22	6	1.2	1.05	2.3	0.5	1.05
MR Portsmouth	573	104	2.4	0.83	57.1	1.3	0.91	21	4	0.9	1.10	2.4	0.5	1.10
MS Southampton	752	134	3.0	0.93	63.2	1.4	1.05	35	8	1.6	1.46	3.7	0.8	1.47
MW Isle of Wight	655	60	1.3	0.80	50.2	1.1	0.85	21	2	0.4	1.08	1.7	0.4	1.08
09UC Mid Bedfordshire	213	80	2.4	0.66	67.0	2.0	0.79	*	*	*	*	*	*	*
09UD Bedford	265	87	2.6	0.70	64.5	2.0	0.83	9	3	1.0	1.05	2.1	0.8	1.06
09UE South Bedfordshire	213	71	2.2	0.67	64.9	2.0	0.79	3	1	0.6	0.99	0.9	0.5	0.99
11UB Aylesbury Vale	242	104	3.1	0.67	64.9	1.9	0.79	9	4	1.2	1.00	2.3	0.8	1.00
11UC Chiltern	154	46	2.1	0.77	61.5	2.8	0.89	3	1	0.7	1.16	1.5	0.9	1.16
11UE South Bucks	93	33	1.9	0.73	63.7	3.7	0.90	*	*	*	*	*	*	*
11UF Wycombe	254	91	2.6	0.66	65.4	1.9	0.79	13	5	1.6	1.19	3.5	1.1	1.20
12UB Cambridge	147	71	2.7	0.74	72.8	2.8	0.90	3	1	0.6	0.94	1.0	0.7	0.95
12UC East Cambridgeshire	113	46	1.7	0.53	69.0	2.6	0.68	*	*	*	*	*	*	*
12UD Fenland	73	46	3.3	0.87	53.1	3.8	0.93	3	2	1.3	1.15	2.5	1.5	1.16
12UE Huntingdonshire	209	89	3.2	0.72	62.2	2.3	0.83	6	3	1.4	1.14	2.3	1.0	1.15
12UG South Cambridgeshire	184	83	2.6	0.61	65.7	2.1	0.74	3	2	1.2	1.22	1.6	0.9	1.22
13UB Chester	131	64	2.9	0.72	58.4	2.7	0.80	*	*	*	*	*	*	*
13UC Congleton	116	46	2.4	0.77	63.1	3.3	0.90	8	3	1.1	0.98	4.5	1.6	0.98
13UD Crewe and Nantwich	124	64	2.6	0.66	64.9	2.6	0.79	*	*	*	*	*	*	*
13UE Ellesmere Port and Neston	69	38	2.3	0.71	59.4	3.7	0.82	*	*	*	*	*	*	*
13UG Macclesfield	182	78	2.8	0.66	60.3	2.2	0.77	12	5	1.5	0.97	4.1	1.1	0.97
13UH Vale Royal	111	60	3.1	0.77	57.3	2.9	0.86	4	2	1.3	1.24	2.2	1.3	1.25

	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	103	40	1.9	0.64	52.4	2.5	0.69	3	1	0.7	1.00	1.6	0.9	1.01
15UC Carrick	87	46	2.7	0.79	53.4	3.2	0.85	5	3	1.3	1.07	3.4	1.5	1.08
15UD Kerrier	95	48	2.4	0.70	54.3	2.7	0.77	*	*	*	*	*	*	*
15UE North Cornwall	142	43	2.0	0.78	58.5	2.8	0.89	4	1	0.7	1.15	1.8	1.0	1.15
15UF Penwith	63	31	2.4	0.86	51.3	4.0	0.91	4	2	0.9	0.99	3.0	1.5	0.99
15UG Restormel	173	55	2.2	0.73	65.6	2.6	0.88	4	1	0.6	1.02	1.5	0.8	1.02
16UB Allerdale	162	48	1.6	0.62	60.8	2.1	0.70	6	2	0.7	0.96	2.1	0.8	0.96
16UC Barrow-in-Furness	84	26	2.1	0.93	46.8	3.9	0.99	3	1	0.5	0.95	1.7	0.9	0.95
16UD Carlisle	153	54	2.0	0.66	59.0	2.2	0.74	3	1	0.6	0.94	1.2	0.6	0.94
16UE Copeland	95	30	1.9	0.82	53.4	3.3	0.89	4	1	0.6	1.03	2.2	1.1	1.03
16UF Eden	99	30	1.5	0.75	69.7	3.4	0.87	*	*	*	*	*	*	*
16UG South Lakeland	194	50	1.6	0.63	61.7	2.0	0.73	4	1	0.5	0.94	1.2	0.6	0.94
17UB Amber Valley	142	71	3.0	0.75	63.7	2.7	0.82	4	2	0.9	0.94	1.7	0.8	0.94
17UC Bolsover	64	37	2.5	0.74	55.8	3.8	0.83	*	*	*	*	*	*	*
17UD Chesterfield	105	45	2.7	0.81	54.3	3.3	0.91	8	4	1.3	1.05	4.5	1.6	1.06
17UF Derbyshire Dales	92	37	2.2	0.80	65.5	3.7	0.89	*	*	*	*	*	*	*
17UG Erewash	151	60	2.2	0.64	66.3	2.5	0.78	*	*	*	*	*	*	*
17UH High Peak	95	44	2.6	0.81	60.7	3.6	0.93	*	*	*	*	*	*	*
17UJ North East Derbyshire	92	48	2.7	0.74	55.2	3.1	0.82	3	1	1.0	1.17	1.6	1.1	1.17
17UK South Derbyshire	131	57	2.0	0.60	74.9	2.6	0.79	3	1	0.7	0.99	1.7	1.0	0.99
18UB East Devon	179	66	2.7	0.73	59.5	2.4	0.84	*	*	*	*	*	*	*
18UC Exeter	155	72	3.6	0.93	69.2	3.5	1.11	3	2	1.5	1.60	1.7	1.4	1.61
18UD Mid Devon	109	43	1.8	0.63	68.4	3.0	0.79	6	3	1.3	1.22	4.3	2.0	1.22
18UE North Devon	83	48	2.5	0.72	61.3	3.2	0.81	*	*	*	*	*	*	*
18UG South Hams	69	40	2.8	0.82	56.6	4.0	0.91	*	*	*	*	*	*	*
18UH Teignbridge	152	62	3.1	0.81	61.4	3.0	0.94	6	3	1.1	1.01	2.9	1.1	1.01
18UK Torridge	75	38	2.0	0.67	64.5	3.4	0.76	*	*	*	*	*	*	*
18UL West Devon	66	25	1.6	0.74	59.5	3.9	0.85	*	*	*	*	*	*	*
19UC Christchurch	62	26	1.7	0.80	58.9	4.0	0.87	*	*	*	*	*	*	*
19UD East Dorset	118	37	2.0	0.77	51.7	2.7	0.85	3	1	0.6	1.23	1.1	0.8	1.24
19UE North Dorset	103	31	1.9	0.83	58.1	3.6	0.95	3	1	0.5	1.00	1.7	1.0	1.00
19UG Purbeck	54	22	1.7	0.83	56.5	4.2	0.89	3	1	0.6	1.04	2.7	1.6	1.04
19UH West Dorset	134	43	2.2	0.80	52.2	2.7	0.87	3	1	0.5	0.97	1.1	0.6	0.97
19UJ Weymouth and Portland	94	29	1.6	0.70	59.1	3.1	0.81	3	1	0.6	1.03	1.9	1.1	1.03
20UB Chester-le-Street	84	25	1.6	0.75	55.2	3.4	0.83	4	1	0.6	1.04	2.7	1.4	1.04
20UD Derwentside	134	46	2.2	0.79	60.9	2.9	0.91	7	3	0.9	0.98	3.5	1.2	0.99
20UE Durham	128	49	2.5	0.85	59.0	3.1	0.93	9	3	1.2	1.06	4.0	1.4	1.07
20UF Easington	110	39	2.5	0.87	54.0	3.5	0.98	8	3	1.0	0.95	4.0	1.3	0.96
20UG Sedgefield	158	43	1.7	0.72	59.7	2.4	0.82	6	2	0.6	1.00	2.2	0.9	1.01
20UH Teesdale	43	12	0.8	0.63	56.0	3.8	0.69	3	1	0.6	1.35	4.1	3.0	1.35
20UJ Wear Valley	90	28	2.1	0.91	53.4	4.0	1.02	5	2	0.8	1.18	3.2	1.6	1.18
21UC Eastbourne	93	46	2.6	0.77	55.9	3.2	0.87	4	2	0.8	0.94	2.2	1.0	0.94
21UD Hastings	77	49	2.7	0.73	62.9	3.4	0.83	*	*	*	*	*	*	*
21UF Lewes	119	48	2.5	0.76	55.8	2.8	0.83	4	2	0.9	1.04	2.2	1.0	1.04
21UG Rother	104	47	2.2	0.68	58.9	2.7	0.75	3	1	0.6	0.83	1.7	0.8	0.84
21UH Wealden	182	75	2.5	0.63	60.4	2.1	0.74	6	3	1.1	1.07	2.1	0.9	1.07

	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	187	91	3.2	0.65	64.1	2.3	0.79	7	3	1.2	0.92	2.2	0.8	0.92
22UC Braintree	146	76	3.6	0.80	62.9	3.0	0.93	6	3	1.3	1.01	2.8	1.1	1.02
22UD Brentwood	67	41	2.3	0.67	60.3	3.4	0.73	*	*	*	*	*	*	*
22UE Castle Point	77	46	2.4	0.65	60.3	3.2	0.75	*	*	*	*	*	*	*
22UF Chelmsford	173	94	3.9	0.82	62.7	2.6	0.92	*	*	*	*	*	*	*
22UG Colchester	215	93	4.0	0.89	61.4	2.7	1.03	8	3	1.2	0.98	2.2	0.8	0.98
22UH Epping Forest	125	65	2.8	0.66	63.3	2.7	0.78	4	2	1.0	0.97	1.9	1.0	0.97
22UJ Harlow	87	39	2.5	0.76	60.6	3.9	0.91	7	3	1.0	0.91	4.4	1.6	0.91
22UK Maldon	65	33	2.1	0.71	66.4	4.2	0.87	*	*	*	*	*	*	*
22UL Rochford	92	47	2.6	0.76	66.5	3.6	0.89	*	*	*	*	*	*	*
22UN Tendring	123	58	3.5	0.85	47.2	2.9	0.92	6	3	1.1	0.96	2.2	0.9	0.96
22UQ Uttlesford	94	47	2.2	0.67	67.1	3.2	0.81	*	*	*	*	*	*	*
23UB Cheltenham	151	64	2.2	0.67	68.3	2.4	0.80	6	2	1.3	1.31	2.6	1.4	1.31
23UC Cotswold	113	44	2.3	0.81	60.1	3.1	0.90	*	*	*	*	*	*	*
23UD Forest of Dean	101	42	1.9	0.63	60.7	2.7	0.72	5	2	1.0	1.03	3.2	1.4	1.04
23UE Gloucester	177	70	2.5	0.69	69.1	2.5	0.85	7	3	1.2	1.05	3.1	1.1	1.05
23UF Stroud	149	64	2.3	0.67	62.4	2.3	0.75	*	*	*	*	*	*	*
23UG Tewkesbury	131	44	1.9	0.65	60.8	2.6	0.75	4	2	0.9	1.23	2.1	1.3	1.23
24UB Basingstoke and Deane	198	96	3.0	0.66	67.9	2.2	0.80	5	2	1.0	0.99	1.6	0.7	0.99
24UC East Hampshire	133	60	2.3	0.61	64.4	2.5	0.75	*	*	*	*	*	*	*
24UD Eastleigh	137	64	2.6	0.66	63.0	2.5	0.78	6	3	1.2	1.05	2.9	1.2	1.06
24UE Fareham	147	59	2.1	0.60	64.0	2.3	0.71	3	1	0.7	0.97	1.3	0.8	0.98
24UF Gosport	82	42	2.6	0.80	57.9	3.6	0.89	7	4	1.3	1.02	5.1	1.9	1.02
24UG Hart	110	49	2.0	0.60	72.8	2.9	0.80	3	1	0.7	0.93	1.7	1.0	0.93
24UH Havant	102	59	3.7	0.92	55.0	3.5	1.00	*	*	*	*	*	*	*
24UJ New Forest	205	88	3.0	0.69	62.7	2.2	0.81	*	*	*	*	*	*	*
24UL Rushmoor	120	55	2.5	0.77	72.5	3.3	0.95	*	*	*	*	*	*	*
24UN Test Valley	137	62	3.4	0.88	60.9	3.3	1.00	4	2	1.2	1.15	2.4	1.2	1.15
24UP Winchester	134	56	2.8	0.79	58.0	2.9	0.90	6	2	0.9	0.96	2.4	1.0	0.97
26UB Broxbourne	79	50	2.7	0.75	63.1	3.5	0.87	4	3	1.2	1.06	3.3	1.6	1.06
26UC Dacorum	154	80	3.4	0.76	69.8	2.9	0.94	4	2	1.2	1.07	2.0	1.0	1.07
26UD East Hertfordshire	160	72	3.2	0.78	61.5	2.7	0.90	3	1	0.8	1.08	1.2	0.7	1.08
26UE Hertsmere	64	54	3.0	0.65	64.0	3.6	0.76	*	*	*	*	*	*	*
26UF North Hertfordshire	161	71	2.7	0.67	66.9	2.5	0.80	6	3	1.2	1.02	3.1	1.2	1.02
26UG St. Albans	115	72	3.6	0.78	59.4	3.0	0.88	7	5	1.8	1.07	4.2	1.5	1.08
26UH Stevenage	100	47	2.2	0.67	70.5	3.3	0.86	3	1	0.8	0.99	2.1	1.2	0.99
26UJ Three Rivers	84	47	2.4	0.66	60.6	3.1	0.75	5	4	1.8	1.28	4.9	2.3	1.28
26UK Watford	77	55	2.3	0.57	70.8	3.0	0.70	*	*	*	*	*	*	*
26UL Welwyn Hatfield	123	68	2.4	0.57	68.0	2.4	0.68	3	2	0.9	0.95	1.7	0.9	0.95
29UB Ashford	114	67	3.6	0.84	62.0	3.4	0.97	6	4	1.6	1.12	3.6	1.5	1.13
29UC Canterbury	139	74	4.5	0.99	54.8	3.4	1.10	3	2	1.0	1.11	1.3	0.8	1.11
29UD Dartford	95	63	2.7	0.66	77.5	3.4	0.92	*	*	*	*	*	*	*
29UE Dover	115	51	2.9	0.79	58.3	3.3	0.91	9	5	1.8	1.22	5.5	2.1	1.23
29UG Gravesham	78	53	2.7	0.60	63.1	3.4	0.74	5	4	1.6	0.98	4.5	1.9	0.99
29UH Maidstone	112	88	4.0	0.72	62.4	2.9	0.83	*	*	*	*	*	*	*
29UK Sevenoaks	75	59	3.8	0.76	62.2	4.0	0.89	3	3	1.6	1.07	3.0	1.7	1.07

	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	99	55	3	0.77	59.6	3.2	0.86	*	*	*	*	*	*	*
29UM Swale	146	65	3.4	0.81	61.5	3.3	0.98	7	3	1.0	0.79	3.0	0.9	0.79
29UN Thanet	94	61	3.5	0.78	51.1	3.0	0.87	3	2	1.3	1.14	1.9	1.1	1.14
29UP Tonbridge and Malling	121	72	3.1	0.71	72.4	3.2	0.91	6	3	1.4	0.99	3.4	1.4	0.99
29UQ Tunbridge Wells	99	58	2.9	0.70	68.1	3.5	0.89	3	2	0.9	0.94	1.9	1.1	0.94
30UD Burnley	87	38	2.5	0.81	56.7	3.8	0.93	5	2	1.0	0.99	3.4	1.5	1.00
30UE Chorley	119	56	2.5	0.70	61.3	2.8	0.81	*	*	*	*	*	*	*
30UF Fylde	85	42	2.5	0.83	61.9	3.7	0.92	*	*	*	*	*	*	*
30UG Hyndburn	90	41	2.2	0.73	62.7	3.3	0.83	*	*	*	*	*	*	*
30UH Lancaster	137	63	4.4	1.12	53.0	3.7	1.22	6	3	1.3	1.15	2.5	1.1	1.15
30UJ Pendle	95	38	2.4	0.79	57.2	3.6	0.92	4	2	1.1	1.08	3.7	1.6	1.08
30UK Preston	112	72	3.3	0.73	66.8	3.1	0.89	3	2	1.2	1.09	1.9	1.1	1.09
30UL Ribble Valley	64	31	1.9	0.72	64.5	3.9	0.83	*	*	*	*	*	*	*
30UM Rossendale	96	35	2.1	0.78	64.3	3.8	0.93	3	1	0.7	1.14	1.9	1.3	1.14
30UN South Ribble	130	59	1.8	0.53	66.7	2.1	0.64	*	*	*	*	*	*	*
30UP West Lancashire	104	50	3	0.85	55.5	3.3	0.94	3	2	0.9	1.09	1.8	1.0	1.09
30UQ Wyre	121	52	2.5	0.74	58.1	2.8	0.82	*	*	*	*	*	*	*
31UB Blaby	115	51	2.5	0.75	65.5	3.3	0.90	*	*	*	*	*	*	*
31UC Charnwood	196	96	3.4	0.74	65.0	2.3	0.85	7	3	1.4	1.12	2.3	1.0	1.12
31UD Harborough	112	49	2.1	0.70	68.0	3.0	0.84	3	1	0.8	1.10	1.8	1.1	1.10
31UE Hinckley and Bosworth	117	61	2.3	0.62	68.1	2.6	0.74	4	2	1.1	0.99	2.5	1.2	1.00
31UG Melton	73	25	1.6	0.72	58.9	3.7	0.81	*	*	*	*	*	*	*
31UH North West Leicestershire	105	48	3.8	1.12	59.8	4.7	1.26	6	3	1.1	0.97	3.7	1.4	0.98
31UJ Oadby and Wigston	62	26	1.8	0.77	59.1	4.1	0.87	3	1	0.6	0.89	2.6	1.4	0.89
32UB Boston	53	32	2.4	0.76	59.8	4.6	0.88	3	2	1.1	1.05	3.6	2.1	1.06
32UC East Lindsey	109	56	3.5	0.83	48.6	3.1	0.89	6	3	1.2	0.96	2.6	1.0	0.96
32UD Lincoln	110	48	2.4	0.73	61.7	3.1	0.84	7	3	1.3	1.15	4.0	1.7	1.16
32UE North Kesteven	132	56	2.7	0.77	59.3	2.9	0.87	3	1	0.7	0.99	1.4	0.8	0.99
32UF South Holland	93	44	2.1	0.65	55.1	2.8	0.73	3	1	0.7	0.90	1.5	0.8	0.90
32UG South Kesteven	138	70	2.8	0.70	60.9	2.5	0.80	3	1	0.8	1.01	1.2	0.7	1.01
32UH West Lindsey	85	46	2.6	0.76	59.8	3.4	0.87	*	*	*	*	*	*	*
33UB Breckland	136	66	3.1	0.76	58.5	2.8	0.86	4	2	0.9	0.97	1.7	0.8	0.97
33UC Broadland	135	70	2.8	0.68	63.2	2.5	0.75	4	2	1.6	1.49	1.9	1.4	1.50
33UD Great Yarmouth	73	43	2.9	0.80	54.3	3.7	0.89	3	2	1.0	0.99	2.1	1.2	0.99
33UE Kings Lynn and West Norfolk	172	72	2.5	0.61	59.0	2.1	0.71	5	2	0.9	0.97	1.8	0.8	0.97
33UF North Norfolk	85	43	2.8	0.79	50.2	3.3	0.86	4	2	1.1	1.05	2.5	1.2	1.06
33UG Norwich	139	71	3.8	0.93	62.6	3.3	1.07	11	6	1.8	1.11	4.9	1.5	1.12
33UH South Norfolk	163	71	2.9	0.75	62.0	2.6	0.85	3	2	1.0	1.13	1.7	0.9	1.13
34UB Corby	80	39	2	0.65	74.6	3.7	0.86	*	*	*	*	*	*	*
34UC Daventry	98	44	1.5	0.52	66.7	2.4	0.62	*	*	*	*	*	*	*
34UD East Northamptonshire	97	49	1.8	0.55	65.7	2.5	0.65	*	*	*	*	*	*	*
34UE Kettering	98	50	2.9	0.81	63.2	3.7	0.95	3	2	0.9	1.03	2.1	1.2	1.03
34UF Northampton	213	119	4	0.70	66.2	2.2	0.84	11	6	1.8	0.97	3.4	1.0	0.98
34UG South Northamptonshire	106	45	1.8	0.59	61.7	2.6	0.70	3	1	0.6	0.92	1.5	0.8	0.92
34UH Wellingborough	71	40	2.7	0.81	59.1	3.9	0.87	*	*	*	*	*	*	*
35UB Alnwick	78	16	1	0.78	55.3	3.5	0.84	3	1	0.4	1.02	2.1	1.2	1.03
35UC Berwick-upon-Tweed	53	11	1	0.90	48.0	4.5	0.95	*	*	*	*	*	*	*

	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	187	36	1.7	0.90	55.5	2.7	1.01	12	2	0.8	1.16	3.6	1.2	1.17
35UE Castle Morpeth	93	23	1.3	0.81	51.9	3.0	0.87	10	3	0.8	1.15	5.9	1.9	1.15
35UF Tynedale	132	31	1.2	0.68	58.8	2.3	0.73	*	*	*	*	*	*	*
35UG Wansbeck	136	26	1.5	0.87	49.4	2.8	0.94	10	2	0.7	1.07	3.8	1.2	1.07
36UB Craven	58	24	1.8	0.72	53.7	4.2	0.82	*	*	*	*	*	*	*
36UC Hambleton	127	44	2.3	0.83	61.4	3.2	0.94	*	*	*	*	*	*	*
36UD Harrogate	207	84	2.5	0.64	63.0	1.9	0.72	*	*	*	*	*	*	*
36UE Richmondshire	42	24	2.3	0.86	58.5	5.7	0.97	*	*	*	*	*	*	*
36UF Ryedale	74	28	1.8	0.78	64.0	4.0	0.89	*	*	*	*	*	*	*
36UG Scarborough	143	51	2.4	0.76	58.3	2.8	0.87	4	1	0.6	0.91	1.5	0.7	0.91
36UH Selby	118	41	2.0	0.73	58.5	3.0	0.85	5	2	0.9	1.07	2.9	1.3	1.07
37UB Ashfield	153	65	2.8	0.73	67.5	2.9	0.91	*	*	*	*	*	*	*
37UC Bassetlaw	125	58	2.4	0.64	63.3	2.6	0.76	4	2	0.8	0.93	1.9	0.9	0.94
37UD Broxtowe	151	56	2.4	0.76	62.4	2.7	0.89	7	3	0.9	0.96	2.9	1.0	0.97
37UE Gedling	142	60	2.5	0.69	62.8	2.7	0.82	5	3	1.1	1.06	2.6	1.2	1.06
37UF Mansfield	114	52	2.8	0.78	59.5	3.2	0.89	5	3	1.5	1.34	3.1	1.7	1.34
37UG Newark and Sherwood	143	57	2.9	0.82	57.1	2.9	0.90	8	3	1.3	1.08	3.5	1.3	1.08
37UJ Rushcliffe	141	60	2.6	0.73	63.4	2.8	0.84	3	2	0.9	1.08	1.6	0.9	1.08
38UB Cherwell	174	80	2.1	0.52	68.4	1.9	0.64	*	*	*	*	*	*	*
38UC Oxford	155	87	3.5	0.78	71.0	2.8	0.95	*	*	*	*	*	*	*
38UD South Oxfordshire	182	78	2.9	0.76	68.2	2.5	0.88	*	*	*	*	*	*	*
38UE Vale of White Horse	158	64	2.6	0.72	65.1	2.6	0.86	3	1	0.6	0.95	1.1	0.6	0.95
38UF West Oxfordshire	139	60	2.0	0.59	70.5	2.4	0.74	*	*	*	*	*	*	*
39UB Bridgnorth	105	27	1.1	0.62	56.6	2.3	0.69	*	*	*	*	*	*	*
39UC North Shropshire	144	34	1.3	0.68	64.8	2.4	0.78	7	2	0.6	0.99	3.0	1.1	0.99
39UD Oswestry	114	22	1.1	0.79	65.5	3.3	0.93	*	*	*	*	*	*	*
39UE Shrewsbury and Atcham	257	53	1.5	0.67	63.3	1.9	0.78	6	1	0.6	1.15	1.5	0.7	1.15
39UF South Shropshire	98	21	1.2	0.82	52.9	3.2	0.89	*	*	*	*	*	*	*
40UB Mendip	149	62	2.5	0.74	66.5	2.7	0.84	*	*	*	*	*	*	*
40UC Sedgemoor	169	63	2.3	0.71	62.6	2.3	0.81	8	3	1.0	1.02	2.8	1.0	1.02
40UD South Somerset	194	80	2.7	0.69	60.1	2.1	0.79	4	1	0.7	0.99	1.1	0.6	0.99
40UE Taunton Deane	152	55	2.5	0.79	60.2	2.7	0.91	5	2	0.9	1.13	2.3	1.0	1.13
40UF West Somerset	48	17	1.7	0.96	54.5	5.6	1.01	*	*	*	*	*	*	*
41UB Cannock Chase	74	53	2.6	0.69	67.3	3.4	0.82	*	*	*	*	*	*	*
41UC East Staffordshire	146	60	2.2	0.64	64.1	2.4	0.74	*	*	*	*	*	*	*
41UD Lichfield	109	50	3.5	1.02	56.1	3.9	1.10	*	*	*	*	*	*	*
41UE Newcastle-under-Lyme	103	61	3.5	0.82	58.5	3.4	0.94	5	3	1.3	0.98	3.0	1.3	0.99
41UF South Staffordshire	108	56	2.5	0.65	65.6	2.9	0.79	*	*	*	*	*	*	*
41UG Stafford	126	64	3.1	0.77	57.1	2.8	0.85	4	2	1.1	1.13	1.8	1.0	1.13
41UH Staffordshire Moorlands	97	51	2.5	0.71	60.3	3.1	0.79	4	2	1.2	1.05	2.9	1.4	1.05
41UK Tamworth	93	39	1.9	0.65	69.7	3.4	0.84	5	2	0.9	0.95	3.9	1.6	0.96
42UB Babergh	115	40	2.2	0.75	55.9	3.0	0.83	*	*	*	*	*	*	*
42UC Forest Heath	64	35	2.2	0.74	66.7	4.3	0.88	*	*	*	*	*	*	*
42UD Ipswich	152	64	2.8	0.71	59.6	2.6	0.83	8	4	1.4	1.05	3.8	1.3	1.05
42UE Mid Suffolk	133	54	2.8	0.84	64.0	3.3	0.95	*	*	*	*	*	*	*
42UF St. Edmundsbury	122	59	2.8	0.77	61.6	2.9	0.85	*	*	*	*	*	*	*
42UG Suffolk Coastal	154	59	2.3	0.68	57.3	2.3	0.77	3	1	0.6	0.98	1.0	0.6	0.99

	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	108	54	2.5	0.67	55.7	2.7	0.75	*	*	*	*	*	*	*
43UB Elmbridge	134	64	2.7	0.67	59.1	2.5	0.77	6	3	1.2	1.04	2.8	1.1	1.05
43UC Epsom and Ewell	85	40	1.9	0.61	63.6	3.2	0.74	4	2	0.9	0.94	2.9	1.4	0.95
43UD Guildford	145	88	3.4	0.76	70.0	2.7	0.88	*	*	*	*	*	*	*
43UE Mole Valley	101	45	2.2	0.69	64.5	3.2	0.82	*	*	*	*	*	*	*
43UF Reigate and Banstead	145	79	2.7	0.62	68.1	2.3	0.73	3	2	0.9	1.00	1.4	0.8	1.01
43UG Runnymede	79	48	3.0	0.84	68.7	4.4	1.03	*	*	*	*	*	*	*
43UH Spelthorne	126	55	2.3	0.71	69.8	3.0	0.88	6	3	1.2	1.08	4.0	1.6	1.08
43UJ Surrey Heath	83	45	1.9	0.55	65.7	2.8	0.67	*	*	*	*	*	*	*
43UK Tandridge	80	45	2.8	0.82	64.7	3.9	0.92	*	*	*	*	*	*	*
43UL Waverley	139	61	2.0	0.53	63.9	2.2	0.66	*	*	*	*	*	*	*
43UM Woking	91	58	2.9	0.72	71.2	3.6	0.88	*	*	*	*	*	*	*
44UB North Warwickshire	73	31	1.7	0.65	61.7	3.4	0.77	*	*	*	*	*	*	*
44UC Nuneaton and Bedworth	155	62	2.5	0.69	64.3	2.5	0.83	*	*	*	*	*	*	*
44UD Rugby	137	56	2.3	0.69	68.3	2.8	0.85	5	2	1.0	1.01	2.8	1.2	1.01
44UE Stratford-on-Avon	190	67	2.5	0.75	64.7	2.3	0.84	3	1	0.6	1.02	1.1	0.6	1.02
44UF Warwick	212	75	2.4	0.69	64.8	2.1	0.80	5	2	0.7	1.00	1.4	0.7	1.00
45UB Adur	51	35	1.7	0.52	69.6	3.4	0.65	*	*	*	*	*	*	*
45UC Arun	116	69	3.8	0.79	50.3	2.9	0.85	6	4	1.3	0.92	2.6	1.0	0.92
45UD Chichester	111	61	2.5	0.62	63.5	2.6	0.73	4	2	1.1	1.02	2.2	1.1	1.02
45UE Crawley	109	60	2.4	0.62	65.5	2.6	0.73	4	2	1.1	0.99	2.4	1.2	1.00
45UF Horsham	153	71	2.6	0.63	62.7	2.4	0.74	*	*	*	*	*	*	*
45UG Mid Sussex	120	80	3.1	0.64	66.1	2.6	0.77	4	3	1.4	1.05	2.5	1.2	1.05
45UH Worthing	119	57	2.7	0.73	66.5	3.1	0.87	5	2	0.9	0.93	2.4	1.1	0.93
46UB Kennet	105	47	2.1	0.68	62.8	2.8	0.77	*	*	*	*	*	*	*
46UC North Wiltshire	214	69	2.7	0.78	62.8	2.4	0.92	4	1	0.6	0.99	1.1	0.6	0.99
46UD Salisbury	190	61	2.4	0.74	59.0	2.3	0.83	6	2	0.7	0.95	1.9	0.7	0.95
46UF West Wiltshire	203	69	2.5	0.75	61.9	2.2	0.85	3	1	0.5	0.95	0.8	0.5	0.95
47UB Bromsgrove	118	46	2.2	0.73	58.1	2.8	0.82	5	2	0.9	1.06	2.7	1.2	1.07
47UC Malvern Hills	91	36	2.3	0.85	52.8	3.4	0.90	6	2	1.0	1.01	3.5	1.4	1.01
47UD Redditch	139	44	1.8	0.71	68.7	2.9	0.88	4	1	0.7	1.03	2.0	1.0	1.03
47UE Worcester	160	54	2.0	0.66	67.6	2.5	0.79	3	1	0.6	1.01	1.2	0.7	1.02
47UF Wychavon	154	60	2.5	0.73	58.2	2.4	0.81	4	2	0.8	1.04	1.6	0.8	1.04
47UG Wyre Forest	121	45	2.4	0.78	53.5	2.9	0.85	4	1	0.7	0.92	1.7	0.8	0.92

	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	12,955	1,462	8.3	0.93	57.3	0.3	1.03	496	62	3.3	1.33	2.4	0.1	1.33
NA Anglesey, Isle of	647	32	0.7	0.78	56.3	1.2	0.87	31	2	0.3	1.15	2.7	0.5	1.16
NC Gwynedd	560	58	1.6	0.95	57.3	1.6	1.05	16	2	0.7	1.37	2.3	0.6	1.37
NE Conwy	518	51	1.2	0.80	52.9	1.3	0.87	14	2	0.4	1.18	1.7	0.5	1.19
NG Denbighshire	596	43	1.1	0.87	55.9	1.4	0.97	21	2	0.5	1.52	2.4	0.7	1.53
NJ Flintshire	600	78	1.6	0.74	61.5	1.3	0.85	14	2	0.6	1.15	1.7	0.5	1.15
NL Wrexham	593	67	1.7	0.88	60.0	1.5	1.00	34	4	1.1	1.59	3.8	0.9	1.60
NN Powys	554	62	1.5	0.82	56.9	1.4	0.90	16	2	0.5	1.16	1.7	0.5	1.16
NQ Ceredigion	556	33	1.3	1.21	51.0	1.9	1.30	12	1	0.3	1.29	1.4	0.4	1.29
NS Pembrokeshire	633	56	1.3	0.82	55.1	1.3	0.90	32	3	0.6	1.18	3.2	0.6	1.18
NU Carmarthenshire	710	83	1.9	0.84	54.5	1.3	0.92	27	3	0.7	1.12	2.3	0.5	1.12
NX Swansea	699	112	2.7	0.90	55.2	1.3	0.99	27	5	1.1	1.37	2.3	0.5	1.37
NZ Neath Port Talbot	526	65	1.6	0.82	56.3	1.4	0.91	21	3	0.6	1.16	2.4	0.6	1.16
PB Bridgend	591	67	1.5	0.78	57.6	1.3	0.88	26	3	0.6	1.06	2.4	0.5	1.06
PD Vale of Glamorgan, The	543	62	1.4	0.75	59.8	1.3	0.85	19	2	0.5	0.99	1.9	0.4	0.99
PF Rhondda, Cynon, Taff	598	104	2.7	0.88	53.8	1.4	0.98	34	7	1.1	1.09	3.4	0.6	1.09
PH Merthyr Tydfil	386	27	0.8	0.78	55.5	1.6	0.87	17	1	0.3	1.11	2.5	0.6	1.11
PK Caerphilly	677	81	2.0	0.87	55.3	1.3	0.97	34	5	0.9	1.25	3.3	0.6	1.25
PL Blaenau Gwent	413	30	0.9	0.87	53.3	1.6	0.95	17	1	0.3	1.03	2.2	0.5	1.03
PM Torfaen	564	41	1.0	0.84	55.3	1.4	0.93	22	2	0.4	1.13	2.6	0.5	1.13
PP Monmouthshire	633	45	1.0	0.82	58.1	1.3	0.90	16	1	0.3	1.13	1.5	0.4	1.13
PR Newport	674	71	1.6	0.82	59.9	1.3	0.94	26	3	0.6	1.15	2.5	0.5	1.16
PT Cardiff	684	194	4.2	0.84	64.9	1.4	0.97	20	6	1.5	1.17	2.2	0.5	1.17

	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
Scotland	15,807	2,664	14.4	1.00	59.6	0.3	1.12	518	96	5.2	1.37	2.1	0.1	1.37
QA Aberdeen City	520	128	2.8	0.81	66.6	1.5	0.93	19	4	1.1	1.13	2.2	0.6	1.13
QB Aberdeenshire	498	138	2.7	0.67	64.2	1.3	0.77	15	4	1.0	1.00	1.8	0.5	1.00
QC Angus	625	55	1.2	0.79	56.5	1.2	0.87	14	1	0.3	1.08	1.3	0.4	1.08
QD Argyll & Bute	553	40	1.0	0.89	56.1	1.4	0.97	13	1	0.4	1.42	1.8	0.5	1.42
QE Scottish Borders, The	520	55	1.3	0.78	57.6	1.4	0.86	16	2	0.4	1.08	1.8	0.5	1.08
QF Clackmannanshire	313	24	0.8	0.85	57.7	1.9	0.94	4	-	0.2	1.24	0.6	0.4	1.24
QG West Dunbartonshire	644	43	0.9	0.82	58.6	1.3	0.92	30	2	0.4	1.11	2.8	0.5	1.11
QH Dumfries and Galloway	491	69	1.8	0.82	55.3	1.4	0.89	12	2	0.6	1.12	1.7	0.5	1.12
QJ Dundee City	594	67	1.7	0.86	55.2	1.4	0.95	34	4	0.7	1.11	3.3	0.6	1.11
QK East Ayrshire	460	57	1.5	0.82	57.4	1.5	0.91	21	3	0.6	1.12	2.8	0.6	1.12
QL East Dunbartonshire	731	52	1.0	0.73	58.1	1.1	0.81	14	1	0.3	1.17	1.2	0.3	1.17
QM East Lothian	502	53	1.2	0.72	62.1	1.4	0.82	8	1	0.4	1.12	1.2	0.4	1.12
QN East Renfrewshire	471	43	1.0	0.70	57.1	1.3	0.79	12	1	0.4	1.14	1.5	0.5	1.14
QP Edinburgh, City of	632	273	6.4	0.87	63.3	1.5	0.98	16	8	2.0	1.10	1.8	0.5	1.10
QQ Falkirk	531	77	1.9	0.80	58.3	1.4	0.90	22	3	0.8	1.15	2.6	0.6	1.15
QR Fife	564	172	4.2	0.80	56.8	1.4	0.89	23	8	1.6	1.04	2.5	0.5	1.05
QS Glasgow City	687	298	7.2	0.90	57.9	1.4	1.00	33	14	2.6	1.07	2.8	0.5	1.08
QT Highland	380	118	3.2	0.84	60.9	1.7	0.95	9	3	1.4	1.47	1.8	0.7	1.47
QU Inverclyde	436	34	1.0	0.92	52.3	1.6	1.00	20	2	0.4	1.19	2.9	0.7	1.20
QW Midlothian	488	47	1.0	0.70	64.1	1.4	0.81	11	1	0.3	1.05	1.5	0.4	1.05
QX Moray	512	47	1.2	0.84	58.7	1.5	0.94	20	2	0.4	1.07	2.3	0.5	1.08
QY North Ayrshire	483	59	1.6	0.85	52.9	1.4	0.93	29	4	0.7	1.07	3.3	0.6	1.08
QZ North Lanarkshire	573	166	4.0	0.82	60.1	1.5	0.93	26	8	1.8	1.17	3.0	0.6	1.17
RA Orkney Islands	98	12	0.5	0.60	66.3	2.7	0.69	*	*	*	*	*	*	*
RB Perth and Kinross	576	80	1.6	0.73	64.4	1.3	0.83	12	2	0.5	1.08	1.4	0.4	1.09
RC Renfrewshire	522	89	2.0	0.73	60.9	1.3	0.82	24	4	0.8	1.03	2.8	0.6	1.03
RD Shetland Islands	72	12	1.2	1.29	63.1	6.1	1.48	*	*	*	*	*	*	*
RE South Ayrshire	452	50	1.3	0.78	53.7	1.4	0.85	13	2	0.5	1.27	2.0	0.6	1.27
RF South Lanarkshire	508	155	3.6	0.75	59.4	1.4	0.84	10	3	0.9	0.97	1.1	0.3	0.97
RG Stirling	542	45	1.1	0.89	59.2	1.5	0.99	19	2	0.5	1.30	2.6	0.6	1.31
RH West Lothian	545	93	2.0	0.73	63.1	1.3	0.84	13	2	0.6	0.97	1.4	0.4	0.98
RJ Eilean Siar (Western Isles)	284	13	0.4	0.88	61.0	2.0	0.98	3	-	0.1	1.33	0.7	0.5	1.33
Northern Ireland	4,943	871	7.4	0.83	59.3	0.5	0.95	122	23	2.1	1.08	1.6	0.1	1.08

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 JD19 dataset. These variables may have only been asked in wave 1 (in previous quarters they could have been asked in multiple waves).

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

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

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

ANNEX F – Geographies removed from A15M16

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

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