

LOCAL AREA DATA**2004****CONTENTS**

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SECTION 1: INTRODUCTION AND SOURCES

Introduction

The Labour Force Survey is a key source of information at a local level - providing data annually. The sample was initially boosted in England from 2000 and in Wales from 2001, providing significantly more robust results. This was due to the increased amount of data provided in England through the English Local Labour Force Survey (ELLFS), and in Wales through the Welsh Local Labour Force Survey (WLLFS). The ELLFS is a partnership product from ONS, Dept. for Work and Pensions (DWP) and Dept. for Education and Skills (DfES). The WLLFS is a partnership product from ONS and the National Assembly for Wales (NAW).

In March 2003, a boost was introduced in Scotland for the first time. As a result, more robust results are now available for Scotland due to the increased amount of data provided through the Scottish Local Labour Force Survey (SLFS) – a partnership product from ONS and the Scottish Executive (SE).

Local area information may also be obtained from the quarterly LFS, however this is less robust due to its smaller sample size.

Quarterly data

Data for local areas on a quarterly basis are available via tables on Nomis and on request from ONS. Where quarterly data are not reliable enough to provide estimates, but more up to date local area information is required than is available from the annual dataset an average for the latest year for example can be calculated.

The quarterly data does not contain the boosted samples for England, Wales and Scotland. It should also be noted that the quarterly LFS weighting procedure is not designed to give the best results at local level.

Annual data

Annualised local area data was available in database form from 1994/95 to 1999/2000. From 2000/01, tables only are available. The databases held key LFS variables alongside a local area indicator allowing cross-sectional analysis of data below county level. The database uses the Unitary Authority/Local Authority boundaries that were in force on the 1st of April of each year. A full range of data from 1999/2000 is available through Nomis® including the enhanced data for 2000/01 onwards. A more limited range of information is available through Nomis from 1996/7 onwards. From 2000/01, a set of local authority fact sheets is available from the National Statistics Website, along with an overall summary publication.

Tabulated data

As mentioned above LFS tabulations for small areas are available via Nomis. The Nomis system allows the flexibility to aggregate estimates for several geographies to give a figure for a larger area and several variables can be combined to give an estimate for a larger group of interest.

Best practice

Annual LFS data should be used for local areas wherever possible as the increased sample size provides more accurate estimates.

Forthcoming changes

From 2006 onwards, the reporting period for the LFS and the boosts to the Labour Force Survey will be moved from 'seasonal' to 'calendar' quarters which will mean that January-March 2006 will be the first calendar quarter. Annual data will, as a result, run from January to December in 2006. At present annual data sets run from March in one year to February in the next.

SECTION 2: ANNUAL DATA

Main features

A single LFS quarter collates data from around 60,000 households in the UK. For small population groups this does not provide a large enough sample to give reliable results in detailed cross-tabulations of several variables. In order to provide more reliable information the annual local area database (LADB) was developed, based on 96,000 households. For 2000/01 this was further increased by 39,000 households in England as a result of the first English Local Labour Force Survey (ELLFS) boost, and for 2001/02 to over 156,000 households as a result of the WLFS contributing over 16,000 additional households. For 2003/04 the Scottish Local Labour Force Survey (SLFS) boost will be contributing over 20,000 additional households to increase the total number of households to approximately 172,000.

As well as providing an increased sample size and therefore more reliable estimates, annualising the data helps smooth out seasonal variations evident in the quarterly data.

The 2003/04 annual database is derived from four successive quarters of the regular quarterly LFS database plus boost data for England, Wales and Scotland. In total, it holds about 390,000 records with over 306,000 for persons aged sixteen and over. This compares with a single quarter's database of about 100,000 records for persons aged 16 and over (spring 2004 quarter).

The ELLFS is designed in such a way to give an expected minimum sample size of 875 economically active adults in each 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 (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.

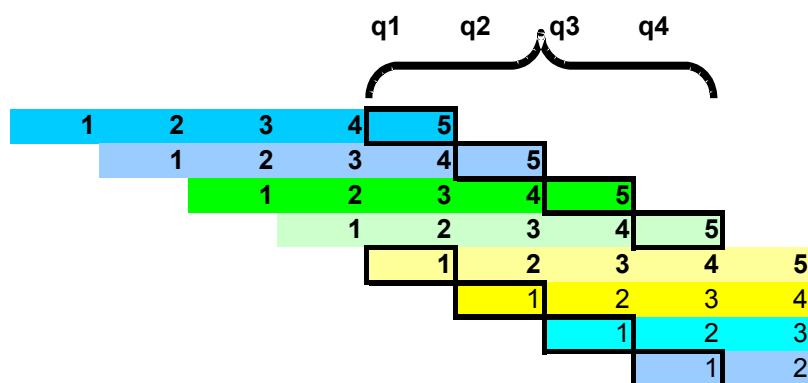
Each household in the boost sample is interviewed annually for four years. To build up the sample, in 2000/01 for England and 2001/02 for Wales, the sample was divided into four groups or waves. Over the following three years they drop out one by one so that only one of the original four waves will actually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

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

Design

Each quarter's LFS sample of about 60,000 households is made up of 5 waves, each of approximately 12,000 private households. 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). An annual database is 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. This design also gives an approximate average across the waves similar to that on the main quarterly database.

Wave structure of the LFS



In addition to this, the boosted data (from the ELLFS, WLLFS and the SLLFS) is combined with the sample derived from combining waves 1 and 5 to give an enhanced sample.

Date coverage

Each database spans the period of March to February. This is because the design is based on the quarters of the quarterly LFS database and begins with the spring quarter (March-May). This quarter was chosen as the start point because it is then that most revisions to variables of the database take place and so any discontinuities or additions of new variables in the annual database will come into effect at the start of the LFS year.

Weighting

An important element of the database design is the procedure used to weight the sample surveyed to the total population. For the local area database it has been desirable to improve the 'grossed totals' at the local area level. For the 1994/95 to 1999/2000 databases this was done by using mid-year population estimates for local authorities to gross the survey data. The use of more detailed population estimates meant that the population data used for weighting would enhance the quality of the grossing factors. The methodology used for grossing remained the same as for the quarterly LFS database. More information on this grossing procedure can be found in volume 1 of the user guide.

The 2003/04 database has been weighted to the post-2001 Census population estimates. In addition, in 2003 all previous annual LFS databases and outputs were reweighted to post-2001 Census population estimates and published on March 17th 2004.

Census population estimates were first published in September 2002 and estimated the UK population to be approximately one million less than had previously been estimated. In March 2003, revised estimates were published for the UK and the regions, and it is on this basis the weighting system was developed. These revised population estimates allocated about 300,000 of the one million revision to estimation errors in the 1991 Census and most of the remaining 700,000 to the net migration element in the population series.

The procedures adopted for weighting the English, Welsh, and the Scottish boosts act independently of each other and are as follows:

English weighting procedure

Stage 1: Design weights are required in England as the sampling fractions are different between different LEAs and also during the year. Unboosted areas have the same initial weight.

Stage 2: Total population in weighting areas (see Table A below) by five-year age bands by sex.

Stage 3: Total population in each UA/LAD by three working-age/sex groups (Males aged 16-64/Females aged 16-59/All other except in a couple of small UA/LADs where a simple sex split was used).

Stage 4: Inner London/Rest of England by single year of age for 16-24 and one group of 25 and over, and sex.

Stages 2 - 4 are then iterated until the weights converge.

Welsh weighting procedure

For Wales, a similar system was developed but modified to take advantage of the larger sample sizes in Welsh UAs.

Stage 1: Design weights are required as the sampling fractions are different between Welsh UAs

Stage 2: Total population in ten weighting areas (see Table B below) by five-year age bands by sex.

Stage 3: Total population in each UA by age/sex groups - males: 0-15; 16-24; 25-34; 35-44; 45-54; 55-64; 65-74; 75 and over, females: 0-15; 16-24; 25-34; 35-44; 45-59; 60-74; 75 and over.

Stage 4: Total population in the 2 NUTS2 areas (West Wales and the Valleys; East Wales) by single year of age for 16-24 and one group of 25 and over, and sex.

Stages 2 - 4 are then iterated until the weights converge.

Scottish weighting procedure

In 2003/04 the weighting procedure for Scotland was as follows:

For Scotland, as in Wales, the weighting procedure took into consideration that, for a few of the more remote areas in Scotland, particularly the island groups UAs, the sample size targets were substantially reduced.

Stage 1: Design weights are required at person and UA level. Note that for West Dunbarton UA, the sample size was increased from week 33 so the design weight will not be constant.

Stage 2: Total population in Glasgow UA group/other (see Table C below) by Fine age groups (25) by sex.

The Glasgow UA group comprises East Dunbartonshire, North Lanarkshire, Inverclyde, Glasgow City, North Ayrshire, East Renfrewshire and Renfrewshire.

Fine age groups; 0-4; 5-9; 10-15; 16; 17; 18; 19; 20; 21; 22; 23; 24; 25-29; 30-34; 35-39; 40-44; 45-49; 50-54; 55-59; 60-64; 65-69; 70-74; 75-79; 80-84; 85+.

Stage 3: Total population in the 28 Large UAs by Medium age/sex groups - males: 0-15; 16-24; 25-34; 35-44; 45-54; 55-64; 65-74; 75 and over, females: 0-15; 16-24; 25-34; 35-44; 45-59; 60-74; 75 and over.

Total population in the small UAs (Shetland, Orkney and the Western Isles) by Course age/sex groups – males: 0-15; 16-39; 40-64; 65+, females: 0-15; 16-39; 40-59; 60+.

Stages 2 - 3 are then iterated until the weights converge.

Weighting areas

For England, the weighting areas are either individual LEAs or groups of LEAs.

Table A: Weighting Areas by LEAs for England

| Weighting area | Local Education Authorities |
|--|---|
| Cleveland | Hartlepool, Middlesbrough, Redcar and Cleveland, Stockton-on-Tees. |
| Durham and Northumberland | Darlington, County Durham, Northumberland. |
| Tyne and Wear | Gateshead, Newcastle-upon-Tyne, North Tyneside, South Tyneside, Sunderland |
| Cheshire | Cheshire, Halton, Warrington. |
| Cumbria | Cumbria. |
| Greater Manchester | Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford, Wigan. |
| Lancashire | Blackburn with Darwen, Blackpool, Lancashire. |
| Merseyside | Knowsley, Liverpool, St. Helens, Sefton, Wirral |
| Humberside | East Riding of Yorkshire, Kingston upon Hull, City of, North East Lincolnshire, North Lincolnshire. |
| North Yorkshire | North Yorkshire, York. |
| West Yorkshire | Bradford, Calderdale, Kirklees, Leeds, Wakefield. |
| South Yorkshire | Barnsley, Doncaster, Rotherham, Sheffield. |
| Derbyshire | Derby, Derbyshire |
| Leicestershire, Rutland and Northamptonshire | Leicester, Leicestershire, Northamptonshire, Rutland. |
| Lincolnshire | Lincolnshire |
| Nottinghamshire | Nottingham, Nottinghamshire. |
| Herefordshire, Worcestershire and Warwickshire | Herefordshire, Warwickshire, Worcestershire. |

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| | |
|---------------------------------|--|
| Shropshire | Shropshire, Telford and Wrekin. |
| Staffordshire | Staffordshire, Stoke-on-Trent. |
| West Midlands | Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall, Wolverhampton. |
| Bedfordshire | Bedfordshire, Luton. |
| Cambridgeshire | Cambridgeshire, Peterborough. |
| Essex | Essex, Southend-on-Sea, Thurrock. |
| Hertfordshire | Hertfordshire |
| Norfolk | Norfolk |
| Suffolk | Suffolk |
| NW Inner London | Hammersmith and Fulham, Kensington and Chelsea, Westminster. |
| NE Inner London | City of London, Camden, Hackney, Haringey, Islington, Newham, Tower Hamlets. |
| S Inner London | Lambeth, Lewisham, Southwark, Wandsworth. |
| NW Outer London | Barnet, Brent, Ealing, Harrow, Hillingdon, Hounslow. |
| NE Outer London | Barking, Enfield, Havering, Redbridge, Waltham Forest. |
| SW Outer London | Croydon, Lambeth, Merton, Richmond-upon-Thames, Sutton. |
| SE Outer London | Bexley, Bromley, Greenwich. |
| Berkshire | Bracknell Forest, Reading, Slough, West Berkshire, Windsor and Maidenhead, Wokingham. |
| Buckinghamshire and Oxfordshire | Buckinghamshire, Milton Keynes, Oxfordshire. |
| East Sussex | Brighton and Hove, East Sussex. |
| Hampshire and Isle of Wight | Hampshire, Isle of Wight, Portsmouth, Southampton. |
| Kent | Kent, Medway |
| Surrey | Surrey |
| West Sussex | West Sussex |
| Avon and Somerset | Bath and North East Somerset, Bristol, City of, North Somerset, Somerset, South Gloucestershire. |
| Devon and Cornwall | Cornwall, Devon, Plymouth, Torbay. |
| Dorset | Bournemouth, Dorset, Poole. |
| Gloucestershire | Gloucestershire |
| Wiltshire | Swindon, Wiltshire. |

The weighting areas in Wales were based on the 12 NUTS3 areas with the Isle of Anglesey and Powys merged with neighbouring areas because of small sample sizes.

Table B: Weighting Areas for Wales

| Weighting area | Unitary Authorities |
|--------------------------------|---|
| Gwynedd / Isle of Anglesey | Gwynedd and Isle of Anglesey |
| Conwy and Denbighshire | Conwy and Denbighshire |
| South West Wales | Carmarthenshire, Ceredigion and Pembrokeshire |
| Central Valleys | Merthyr Tydfil and Rhondda, Cynon, Taff |
| Gwent Valleys | Blaenau Gwent, Caerphilly and Torfaen |
| Bridgend and Neath Port Talbot | Bridgend and Neath Port Talbot |
| Swansea | Swansea |
| Monmouthshire and Newport | Monmouthshire and Newport |
| Cardiff and Vale of Glamorgan | Cardiff and Vale of Glamorgan |
| Flintshire and Wrexham / Powys | Flintshire, Powys and Wrexham |

The weighting areas in Scotland for 2003/4 were based on a slightly modified set of NUTS2 regions, based entirely on the UAs.

Table C: Weighting Areas for Scotland

| Unitary Authorities |
|-----------------------------|
| |
| Glasgow City |
| Edinburgh City of |
| Fife |
| North Lanarkshire |
| South Lanarkshire |
| Aberdeenshire |
| Aberdeen City |
| Highland |
| Renfrewshire |
| West Lothian |
| Dumfries and Galloway |
| Falkirk |
| Dundee City |
| North Ayrshire |
| Perth and Kinross |
| East Ayrshire |
| South Ayrshire |
| Angus |
| Scottish Borders The |
| East Dunbartonshire |
| West Dunbartonshire |
| East Lothian |
| East Renfrewshire |
| Argyll & Bute |
| Moray |
| Stirling |
| Inverclyde |
| Midlothian |
| Clackmannanshire |
| Eilean Siar (Western Isles) |
| Shetland Islands |
| Orkney Islands |

Confidentiality

Simply adding local area identifiers to the regular database could mean that the confidentiality of individual records is compromised. The addition of such an indicator makes the characteristics of respondents more likely to be unique increasing their chances of identification.

Historically confidentiality was maintained on the annual database by restricting the range of variables made available. However, software designed to link records from different sources for the same people has improved considerably meaning that the risk of identifiability has also increased. Although the risk for most respondents remains negligible the National Statistician has taken the decision to no longer make available databases with local area identifiers. Users of LFS data can contact the Tabulation Service for tables. Thus there have been no publicly accessible Annual databases since 2002/03. This will remain the case unless and until a suitable solution to this issue can be found.

Sampling variability

All LFS data is 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 in the variable of interest.

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 the sampling fraction would be 50/10,000 or 1/200. The smaller the sampling fraction the larger the sample size and the more reliable the estimate.

The sampling fraction of the main LFS is consistent across Great Britain. However, the design of the boosts means that from 2000/01 sampling fractions may vary between Local Education Authorities in England, from 2001/02, between UAs in Wales, and from 2003/04, between Scottish UAs, on the annual database. English LEAs and Scottish and Welsh UAs receiving a large boost will have a higher sampling fraction. Northern Ireland will see no change.

As a result of the different sampling fractions in each area it is not possible to provide a table of size of estimate against standard error. However, there is a simple formula that can be used to derive the standard errors of estimates and levels.

SE estimates

An approximation to the standard error for an estimate of M thousand (M_T) from the LADB up to and including 1999/2000 can be given by

$$\sqrt{(M_T * 0.22)} \quad (1)$$

For boosted areas a conservative approximation to the standard error for an estimate can be given as

$$\sqrt{(M_T * G_i/1000)} \quad (2)$$

where G_i is the average grossing factor for area i. For 2000/01 the formula given at (2) only applies to England. For 2001/02 and 2002/03 the formula (2) can be used for England and Wales only, and for 2003/04 onwards the formula can be used for England, Wales and Scotland. As there has never been a boost in Northern Ireland the formula given at (1) should be applied to all annual data.

Average grossing factors for UA/LADs area given in Annex A. If the area of interest spans several UA/LADs then the average grossing factor for several areas G can be given by

$$G = \frac{\sum_i g_i s_i}{\sum_i s_i} \quad (3)$$

where g_i is the average grossing factor for area i and s_i is the 16+ sample size in area i. Sample sizes by UA/LAD are also given in Annex A.

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

$$M_T \pm 1.96 * \text{s.e.} \quad (4)$$

Approximate standard errors for estimates from the 1999/2000 onwards are available on Nomis.

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

$$\sqrt{p(1-p)/n}$$

For instance, in the 2003/4 annual local area dataset, 62.5% of people in the UK aged 16 and over are estimated to be economically active. The number of people aged 16 and over in the UK sample is 306,344. The standard error, 0.08% is calculated as

$$\sqrt{((0.63 * 0.37)/306,344)}$$

ONS methodologists have produced more precise standard errors allowing for the design of the LFS including the different sampling fractions. Annex B shows estimates of sampling errors in 2003/4 for economic activity.

SE levels

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

$$0.08\% * 46,764,834 = 37,412$$

Thresholds

As a result of the enhancement it is possible to generate a wider range of data for more areas in England, Wales and Scotland. It also meant that the threshold of 6,000 that applies to all LADBs prior to 2000/01 was different for many areas in England from 2000/01, for Wales from 2001/02 and for Scotland from 2003/04. Thresholds are set in order to ensure that analyses using the LFS meet a certain level of reliability. The more detailed analysis undertaken the smaller the estimates and the larger the associated sampling errors become relative to these estimates. The minimum thresholds are designed to guide people on the lowest appropriate level of analysis that can be undertaken.

The nature of the enhancement is such that some areas have seen a very large increase in sample size, and other areas very small or no increase. This means that a single lower threshold for all areas is not appropriate.

For England, each area is allocated to one of three threshold bands - 2,000, 4,000 or 6,000. Annex C contains details of how this allocation has been made and Annex D contains details of which UA/LADs fall into which band.

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 has been given its own threshold ranging from 1,000 to 5,000.

It should be noted that when applying thresholds to the data ONS practice is to first round the data and then suppress. So, for example where the threshold is 6,000 an estimate of 5,700 would first be rounded to six thousand and would therefore not be suppressed. An estimate of 5,300 would be rounded to five thousand and suppressed.

Ethnic Thresholds

It has long been known that the design effects for ethnic group and for totals segregated by ethnic group can be substantially greater than one. For the annual LFS-based surveys it seems more appropriate to base new ethnic thresholds on design effects for local estimates. These may be different from the regional and national deffs 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 for the Welsh Local Labour Force Survey recommended a multiplier of 4.0 in Cardiff and 2.5 in the rest of Wales. The SLLFS uses the same multipliers of the standard thresholds as in England. Thus a multiplier of 2.5 is applied to the existing threshold.

¹ A larger multiplier of 3.5 is recommended for totals of individual minority ethnic groups – e.g. the multiplier 3.5 would apply to the total Indian adults in Birmingham, whereas a multiplier of 2.5 would apply to the total unemployed Indian adults in Birmingham.

SECTION 3: QUARTERLY DATA

General

Whilst there is a range of data available for small areas from the quarterly LFS users are advised to use annual data wherever possible as the estimates are more reliable. If more up to date data are required than is available from the annual data then users should consider using an average of four quarters.

Local area LFS tabulations covering the following subjects are available via Nomis and on request from the Sub National Data Service.

- Individual demographics
- Family characteristics
- Employment (by age groups)
- Employees
- Self-employed
- ILO unemployed (by age groups)
- Economically active (by age groups)
- Economically inactive (by age groups)
- Industry Sectors (by Standard Industrial Classification codes)
- Occupations (by Standard Occupational Classification codes)
- Ethnic minorities
- Full-time education
- Qualifications
- Job Related Training
- Health

A full list of the variables is available on Nomis or on request from ONS. Readers should note that some variables are not generally publishable for local areas where the estimates are based on samples too small to be reliable.

The range of quarterly tabulations will match those available annually in the near future.

Design and Coverage

The quarterly data are drawn from the main quarterly LFS. Further information about these aspects of the datasets can be found in Volume 1 of the User Guide.

Using the Data

(i) Size of areas and estimates

Many of the sub-regional areas for which data are being made available are fairly small. Consequently, sample numbers can become quite small at this level (in spite of the relatively large size of the LFS compared with other household surveys). To reflect the imprecision that arises from sampling variability, LFS estimates are always rounded to the nearest thousand and estimates of less than 10,000 are suppressed. These rules are followed in the LFS local area quarterly outputs, so that: (a) the base population for each area is rounded to the nearest thousand; and (b) any proportion based on an estimate of less than 10,000 is suppressed.

(ii) Sampling errors and confidence intervals of estimates of levels

The LFS is a sample survey and hence the estimates it provides are subject to sampling variability. In general, the larger the group the more precise, proportionately, is the estimate. Section 5 of Volume 1 of this guide has a more detailed explanation of sampling errors and confidence intervals for the main LFS data. In general this is equally applicable to data at a local area level. It should be noted, however, that although the 95% confidence interval approximation works best for relatively small estimates, this refers to the estimate in relation to the size of the area sample population and not the total population, i.e. when considering estimates for relatively small areas ('local areas') it does not necessarily follow that the estimates for that area are small in relation to the population of that area. Table D shows confidence intervals for the quarterly database.

(iii) Aggregation of data

The establishment of the level of suppression at 10,000 is a concern at sub-regional level. It is possible, though, to merge geographical areas, or where applicable, two or more age bands to obtain more reliable estimates. Although it may be possible to determine estimates of below 10,000 by subtraction, this should not be done, as the estimates derived are unreliable. It is possible to aggregate quarterly data over time to improve the estimates. Details are provided in Volume 1 (Background & Methodology), Section 8.

(iv) Analyses over time

It has already been noted that the LFS estimates are subject to sampling variability. A very important consequence of this is that estimates are likely to fluctuate from quarter to quarter, irrespective of any actual change in the true figures. In addition, no LFS local area data are seasonally adjusted (partly because of the lack of a long series of data), so changes observed from one quarter to the next may, at least partially, be due to seasonal factors. Users of the data are advised therefore to take great care when attempting to monitor changes over time in variables, especially for small areas or small groups. Local area LFS data generally give reasonable estimates for a particular quarter, rather than reliable estimates of change from one quarter to the next. Users should also bear in mind that estimates for successive quarters in a local area are not drawn from independent samples.

(v) Sampling errors and confidence intervals of estimates of changes.

For changes in estimates of local area data it is not possible to apply the same criteria as those used for changes in estimates at the national level (see Volume 1, Section 5). Standard errors of 'change' are dependent on the correlation between quarters for particular variables. It is likely that this correlation will vary across time and geographic areas. Further explanation of this is being developed and it is intended that a range of correlations and corresponding confidence intervals will be included in this guide in future.

Table D - Confidence Intervals for Quarterly database

| Number | 95 per cent confidence intervals +/- | Confidence intervals as percentage of estimate +/- |
|---------------|---|---|
| 10,000 | 3,900 | 39 |
| 12,000 | 4,200 | 35 |
| 15,000 | 4,700 | 32 |
| 20,000 | 5,500 | 27 |
| 25,000 | 6,100 | 24 |
| 30,000 | 6,700 | 22 |
| 35,000 | 7,200 | 21 |
| 40,000 | 7,700 | 19 |
| 45,000 | 8,200 | 18 |
| 50,000 | 8,600 | 17 |
| 75,000 | 10,600 | 14 |
| 100,000 | 12,200 | 12 |
| 150,000 | 14,900 | 10 |
| 200,000 | 17,200 | 9 |
| 250,000 | 19,300 | 8 |
| 500,000 | 27,100 | 5 |
| 1,000,000 | 38,200 | 4 |

Averaging of four quarters

Where estimates from quarterly databases are small, and no figures are available from the annual data, users can derive their own annual estimates by averaging estimates over four successive quarters. Section 20 of Volume 1 of the LFS User Guide provides information on averaging several quarters. The recommended threshold for four quarter averages of 6,000 is the same as that for unboosted areas of the annual data.

Users should be aware that although the results from the two databases are similar they are not identical. The differences may arise for several reasons:

- the method by which the data are weighted to the population is different
- the annual data include interviews taken at waves 1 and 5 only from the quarterly LFS
- the annual data include an additional sample of interviews designed to improve the annual estimates.

In addition to this, methodological work carried out in the past has shown that estimates of employment based on wave 1 interviews tend to be lower than those based on interviews taken at waves 2 to 5. Further work on more recent data has also indicated differences between quarterly averages and annual data in employment, particularly amongst women. Methodological research is currently investigating ways of reducing this effect.

Users should use the annual database for local area data wherever possible. When making comparisons between data for local areas and other geographies the same source should be used for all estimates.

SECTION 4: ACCESSING LOCAL AREA DATA

Local area LFS data are available via four routes:

(i) National Statistics website

Fact sheets (downloadable Excel spreadsheets) for LEAs and UA/LADs containing data for 2001/02 and 2002/03 are available from the National Statistics website, www.statistics.gov.uk/lfs. A summary publication, the annual *Labour Market Trends* article, a Guide to Regional and Local Labour Market Statistics and this user guide are also available.

(ii) Nomis

Nomis contains tables of both annual and quarterly LFS data for a wide range of geographies. To access this data visit www.nomisweb.co.uk to register for an account.

The most recent annual data on Nomis allows some additional functionality. In particular you can combine several variables to give a wider population of interest, or output standard errors alongside the data. All LFS datasets on Nomis allow users to combine data for several geographic areas to obtain data for a wider area of interest.

(iii) ONS local area LFS tabulation service

For confidentiality reasons, ONS withdrew direct access to micro-databases containing sub-regional identifiers. To request a table from this service or to obtain more information about the service e-mail lfs.uatables@ons.gov.uk. A pro-forma is available for specifying tabulations that covers which LFS variables, as specified in the User Guides, are to be tabulated and details of filters and coverage required.

(iv) Sub-National Data Service

The sub-national data service offers users a tabulation service for local area LFS data not available any other way. For example, if a table for an unusual geography is required this can be produced by adding an additional geographic code. There is a charge for this service. To request a table from this service or obtain more information about the service e-mail snds@ons.gov.uk

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 news on developments and future plans for small area labour market statistics please contact Nick Maine, Room B3/08, 1 Drummond Gate, London SW1V 2QQ, Tel: 020 7533 6130. e-mail nick.maine@ons.gov.uk.

For more information on methodology issues please contact Alex Clifton-Fearnside, Room B2/04, 1 Drummond Gate, London SW1V 2QQ, Tel: on 020 7533 6140, e-mail alex.clifton-fearnside@ons.gov.uk.

For further information about the ONS tabulation services contact Mark Rowland, Room D2/01, 1 Drummond Gate, London SW1V 2QQ, Tel: 020 7533 5437, e-mail lfs.dataservice@ons.gov.uk.

For Nomis® details contact Nomis® Unit 1L, Mountjoy Research Centre, University of Durham, Durham, DH1 3SW, Tel: 0191 374 2468, e-mail info@nomisweb.co.uk

SECTION 5: GEOGRAPHIES

Unitary Authorities

England

The introduction of UAs in England took place in several stages: 1 UA was introduced in April 1995, 12 UAs were introduced in April 1996 with a further 13 in April 1997. The final phase occurred in April 1998. At the same time, a revised two-tier system of counties and Local Authority Districts (LADs) was introduced for the rest of England.

Wales and Scotland

The results of the Local Government re-organisation in Wales and Scotland have been extensive and were introduced en-masse from 1 April in 1996.

ONS moved the local area annual database to a UA basis by including those unitary authorities for which general population data (which is required for grossing purposes) are available at the time of the database's production.

Government Office Regions

The Government Statistical Service moved to using GORs as the primary classification for regional statistics from April 1 1997. The LFS made this transition from the summer 1996 quarter's data onwards (covering June-August 1996 data, first released in October 1996). Data are published on a GOR basis, however the LFS quarterly database continued to include variables to identify standard statistical regions and counties (ceremonial).

Local Education Authorities

Local education authorities (LEAs) are the bodies responsible for the local administration of education services in Great Britain. They are matched to UAs, London boroughs, metropolitan districts and counties.

Parliamentary Constituencies

There are 659 parliamentary constituencies (PCs) in the UK. They are defined by the Parliamentary Boundary Commission. The current boundaries are 1995-based. They are generally smaller and not coterminous with UA/LADs. As for TTWAs, ONS publishes estimates of rates as the LFS is not grossed to PCs and this may introduce bias to estimates of levels, but not to estimates of rates.

Travel-to-Work Areas

Travel-to-work areas (TTWAs) are approximations to self-contained labour markets based on commuting to work patterns. The current TTWA boundaries were published in 1998 based on 1991 Census data. TTWAs are groups of 1991-based wards. Rates only are available for TTWAs as the LFS is grossed to UA/LADs and not to TTWAs. This may introduce bias to estimates of levels, but not to estimates of rates.

Other areas

England

There are 101 Learning Partnerships (LPs) in England, based mainly on LEAs. LPs are responsible for post-16 and lifelong learning.

There are 47 Learning and Skills Councils (LSCs) in England which are groups of LEAs. LSCs succeeded Training and Enterprise Councils (TECs) from April 2000. They are responsible for meeting local learning and training needs for everyone aged over 16 who are not at university.

Scotland

There are 22 Local Enterprise Companies (LECs) in Scotland.

Wales

From April 2001, 4 National Council - ELWa regions replaced the 4 TECs in Wales. The boundaries were maintained. The National council -ELWa is responsible for all post-16 education and learning with the exception of Higher Education.

They work with the 20 Community Consortia for Education and Training (CCETs). Their primary role is to achieve more efficient delivery of education and training and promote collaboration between schools, FE and training providers and others to meet the needs of individuals and employers more effectively and coherently.

Construction of a Local Area

The sample for the LFS is a systematic unclustered sample of delivery points (DPs) extracted from the Post Office's small users Postcode Address File (PAF) which includes all DPs who receive no more than 25 items of mail daily. The PAF is updated every 6 months and includes revisions to remove derelict addresses and add new addresses etc. In addition ONS remove addresses that are identified as small businesses.

The geographical definitions of local areas come from the Gridlink® All Fields Postcode Directory. This is produced by a consortium of ONS, Ordnance Survey, Royal Mail, the General Register Office for Scotland and the Ordnance Survey of Northern Ireland. It contains each unit postcode has a grid reference and geographical codes. Postcodes don't correspond with administrative or other boundaries and it is possible that a postcode may overlap two areas. Traditionally, area assignments were derived using first addresses but under Gridlink® grid references are based on the address closest to the postcode mean. For more details, see www.statistics.gov.uk/geography/afpd.asp.

ANNEX A - Average grossing factors and sample sizes for 16+, UA/LAD, England, Wales & Scotland - 2003/04.

England

| | Sample size | Average Grossing Factor | Average Grossing Factor/1000 | | Sample size | Average Grossing Factor | Average Grossing Factor/1000 |
|------------------------------|-------------|-------------------------|------------------------------|---------------------|-------------|-------------------------|------------------------------|
| Adur | 182 | 268 | 0.27 | Camden | 811 | 205 | 0.20 |
| Allerdale | 291 | 267 | 0.27 | Cannock Chase | 263 | 285 | 0.28 |
| Alnwick | 188 | 132 | 0.13 | Canterbury | 354 | 301 | 0.30 |
| Amber Valley | 347 | 272 | 0.27 | Caradon | 318 | 217 | 0.22 |
| Arun | 423 | 282 | 0.28 | Carlisle | 327 | 242 | 0.24 |
| Ashfield | 335 | 268 | 0.27 | Carrick | 294 | 254 | 0.25 |
| Ashford | 296 | 275 | 0.28 | Castle Morpeth | 277 | 141 | 0.14 |
| Aylesbury Vale | 501 | 252 | 0.25 | Castle Point | 239 | 280 | 0.28 |
| Babergh | 212 | 324 | 0.32 | Charnwood | 424 | 293 | 0.29 |
| Barking and Dagenham | 693 | 178 | 0.18 | Chelmsford | 473 | 261 | 0.26 |
| Barnet | 734 | 350 | 0.35 | Cheltenham | 336 | 265 | 0.26 |
| Barnsley | 1810 | 95 | 0.09 | Cherwell | 405 | 262 | 0.26 |
| Barrow-in-Furness | 211 | 266 | 0.27 | Chester | 316 | 300 | 0.30 |
| Basildon | 426 | 309 | 0.31 | Chesterfield | 286 | 286 | 0.29 |
| Basingstoke and Deane | 489 | 239 | 0.24 | Chester-le-Street | 174 | 245 | 0.25 |
| Bassetlaw | 333 | 239 | 0.24 | Chichester | 351 | 249 | 0.25 |
| Bath and North East Somerset | 1737 | 79 | 0.08 | Chiltern | 261 | 257 | 0.26 |
| Bedford | 515 | 225 | 0.22 | Chorley | 300 | 269 | 0.27 |
| Berwick-upon-Tweed | 134 | 164 | 0.16 | Christchurch | 161 | 237 | 0.24 |
| Bexley | 686 | 256 | 0.26 | City of London | 8 | 925 | 0.92 |
| Birmingham | 2380 | 315 | 0.31 | Colchester | 458 | 271 | 0.27 |
| Blaby | 289 | 253 | 0.25 | Congleton | 266 | 277 | 0.28 |
| Blackburn with Darwen | 1631 | 63 | 0.06 | Copeland | 214 | 261 | 0.26 |
| Blackpool | 1625 | 69 | 0.07 | Corby | 106 | 374 | 0.37 |
| Blyth Valley | 453 | 143 | 0.14 | Cotswold | 257 | 253 | 0.25 |
| Bolsover | 212 | 261 | 0.26 | Coventry | 2045 | 117 | 0.12 |
| Bolton | 1420 | 144 | 0.14 | Craven | 152 | 280 | 0.28 |
| Boston | 139 | 339 | 0.34 | Crawley | 273 | 281 | 0.28 |
| Bournemouth | 1755 | 74 | 0.07 | Crewe and Nantwich | 295 | 298 | 0.30 |
| Bracknell Forest | 1464 | 60 | 0.06 | Croydon | 843 | 310 | 0.31 |
| Bradford | 1713 | 210 | 0.21 | Dacorum | 428 | 250 | 0.25 |
| Braintree | 381 | 282 | 0.28 | Darlington | 1367 | 57 | 0.06 |
| Breckland | 364 | 273 | 0.27 | Dartford | 246 | 279 | 0.28 |
| Brent | 848 | 241 | 0.24 | Daventry | 153 | 374 | 0.37 |
| Brentwood | 183 | 324 | 0.32 | Derby | 1581 | 112 | 0.11 |
| Bridgnorth | 249 | 171 | 0.17 | Derbyshire Dales | 225 | 236 | 0.24 |
| Brighton and Hove | 1514 | 135 | 0.13 | Derwentside | 247 | 275 | 0.28 |
| Bristol, City of | 1393 | 217 | 0.22 | Doncaster | 1618 | 139 | 0.14 |
| Broadland | 352 | 268 | 0.27 | Dover | 305 | 275 | 0.28 |
| Bromley | 703 | 337 | 0.34 | Dudley | 1274 | 193 | 0.19 |
| Bromsgrove | 291 | 240 | 0.24 | Durham | 229 | 322 | 0.32 |
| Broxbourne | 236 | 290 | 0.29 | Ealing | 828 | 293 | 0.29 |
| Broxtowe | 321 | 270 | 0.27 | Easington | 294 | 246 | 0.25 |
| Burnley | 196 | 346 | 0.35 | East Cambridgeshire | 193 | 295 | 0.30 |
| Bury | 1358 | 106 | 0.11 | East Devon | 353 | 287 | 0.29 |
| Calderdale | 1378 | 108 | 0.11 | East Dorset | 357 | 194 | 0.19 |
| Cambridge | 268 | 329 | 0.33 | East Hampshire | 330 | 261 | 0.26 |

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| | Sample size | Average Grossing Factor | Average Grossing Factor/1000 | | Sample size | Average Grossing Factor | Average Grossing Factor/1000 |
|---------------------------|-------------|-------------------------|------------------------------|------------------------------|-------------|-------------------------|------------------------------|
| East Hertfordshire | 359 | 295 | 0.30 | Islington | 633 | 228 | 0.23 |
| East Lindsey | 397 | 257 | 0.26 | Kennet | 257 | 218 | 0.22 |
| East Northamptonshire | 222 | 289 | 0.29 | Kensington and Chelsea | 859 | 162 | 0.16 |
| East Riding of Yorkshire | 1543 | 167 | 0.17 | Kerrier | 333 | 228 | 0.23 |
| East Staffordshire | 319 | 254 | 0.25 | Kettering | 164 | 410 | 0.41 |
| Eastbourne | 299 | 243 | 0.24 | King's Lynn and West Norfolk | 365 | 317 | 0.32 |
| Eastleigh | 383 | 248 | 0.25 | Kingston upon Hull, City of | 1535 | 123 | 0.12 |
| Eden | 126 | 319 | 0.32 | Kingston upon Thames | 651 | 183 | 0.18 |
| Ellesmere Port and Neston | 224 | 285 | 0.28 | Kirklees | 1460 | 205 | 0.21 |
| Elmbridge | 293 | 353 | 0.35 | Knowsley | 1658 | 70 | 0.07 |
| Enfield | 687 | 313 | 0.31 | Lambeth | 640 | 331 | 0.33 |
| Epping Forest | 292 | 333 | 0.33 | Lancaster | 379 | 282 | 0.28 |
| Epsom and Ewell | 162 | 329 | 0.33 | Leeds | 2115 | 276 | 0.28 |
| Erewash | 311 | 285 | 0.29 | Leicester | 1686 | 127 | 0.13 |
| Exeter | 275 | 316 | 0.32 | Lewes | 360 | 212 | 0.21 |
| Fareham | 335 | 256 | 0.26 | Lewisham | 703 | 275 | 0.27 |
| Fenland | 245 | 283 | 0.28 | Lichfield | 257 | 276 | 0.28 |
| Forest Heath | 96 | 451 | 0.45 | Lincoln | 265 | 255 | 0.26 |
| Forest of Dean | 280 | 232 | 0.23 | Liverpool | 1682 | 202 | 0.20 |
| Fylde | 208 | 282 | 0.28 | Luton | 1641 | 85 | 0.09 |
| Gateshead | 1738 | 89 | 0.09 | Macclesfield | 444 | 269 | 0.27 |
| Gedling | 355 | 261 | 0.26 | Maidstone | 452 | 248 | 0.25 |
| Gloucester | 309 | 277 | 0.28 | Maldon | 152 | 313 | 0.31 |
| Gosport | 207 | 285 | 0.28 | Malvern Hills | 254 | 222 | 0.22 |
| Gravesham | 278 | 273 | 0.27 | Manchester | 1741 | 177 | 0.18 |
| Great Yarmouth | 254 | 282 | 0.28 | Mansfield | 294 | 266 | 0.27 |
| Greenwich | 820 | 205 | 0.20 | Medway | 1553 | 125 | 0.13 |
| Guildford | 361 | 278 | 0.28 | Melton | 163 | 224 | 0.22 |
| Hackney | 742 | 213 | 0.21 | Mendip | 310 | 268 | 0.27 |
| Halton | 1595 | 57 | 0.06 | Merton | 690 | 225 | 0.22 |
| Hambleton | 276 | 241 | 0.24 | Mid Bedfordshire | 508 | 197 | 0.20 |
| Hammersmith and Fulham | 702 | 199 | 0.20 | Mid Devon | 212 | 267 | 0.27 |
| Harborough | 248 | 252 | 0.25 | Mid Suffolk | 204 | 335 | 0.34 |
| Haringey | 742 | 233 | 0.23 | Mid Sussex | 392 | 259 | 0.26 |
| Harlow | 210 | 278 | 0.28 | Middlesbrough | 1683 | 61 | 0.06 |
| Harrogate | 417 | 283 | 0.28 | Milton Keynes | 1444 | 111 | 0.11 |
| Harrow | 562 | 299 | 0.30 | Mole Valley | 216 | 307 | 0.31 |
| Hart | 265 | 245 | 0.25 | New Forest | 519 | 268 | 0.27 |
| Hartlepool | 1652 | 42 | 0.04 | Newark and Sherwood | 296 | 285 | 0.28 |
| Hastings | 263 | 248 | 0.25 | Newcastle upon Tyne | 1768 | 117 | 0.12 |
| Havant | 375 | 253 | 0.25 | Newcastle-under-Lyme | 337 | 299 | 0.30 |
| Havering | 714 | 259 | 0.26 | Newham | 883 | 207 | 0.21 |
| Herefordshire, County of | 1790 | 80 | 0.08 | North Cornwall | 266 | 258 | 0.26 |
| Hertsmere | 272 | 258 | 0.26 | North Devon | 228 | 302 | 0.30 |
| High Peak | 230 | 305 | 0.31 | North Dorset | 201 | 245 | 0.25 |
| Hillingdon | 796 | 249 | 0.25 | North East Derbyshire | 293 | 263 | 0.26 |
| Hinckley and Bosworth | 273 | 305 | 0.30 | North East Lincolnshire | 1661 | 72 | 0.07 |
| Horsham | 376 | 254 | 0.25 | North Hertfordshire | 356 | 268 | 0.27 |
| Hounslow | 825 | 202 | 0.20 | North Kesteven | 318 | 256 | 0.26 |
| Huntingdonshire | 429 | 292 | 0.29 | North Lincolnshire | 1478 | 82 | 0.08 |
| Hyndburn | 212 | 304 | 0.30 | North Norfolk | 267 | 307 | 0.31 |
| Ipswich | 307 | 296 | 0.30 | North Shropshire | 259 | 172 | 0.17 |
| Isle of Wight | 1829 | 58 | 0.06 | North Somerset | 1604 | 94 | 0.09 |

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| | Sample size | Average Grossing Factor | Average Grossing Factor/1000 | | Sample size | Average Grossing Factor | Average Grossing Factor/1000 |
|---------------------------|------------------------|--|---|-------------------------|------------------------|--|---|
| North Tyneside | 1712 | 87 | 0.09 | Solihull | 1700 | 92 | 0.09 |
| North Warwickshire | 167 | 305 | 0.30 | South Bedfordshire | 433 | 210 | 0.21 |
| North West Leicestershire | 244 | 279 | 0.28 | South Bucks | 213 | 226 | 0.23 |
| North Wiltshire | 420 | 235 | 0.23 | South Cambridgeshire | 368 | 286 | 0.29 |
| Northampton | 409 | 367 | 0.37 | South Derbyshire | 254 | 271 | 0.27 |
| Norwich | 339 | 284 | 0.28 | South Gloucestershire | 1420 | 138 | 0.14 |
| Nottingham | 1714 | 123 | 0.12 | South Hams | 245 | 276 | 0.28 |
| Nuneaton and Bedworth | 312 | 307 | 0.31 | South Holland | 217 | 313 | 0.31 |
| Oadby and Wigston | 145 | 315 | 0.32 | South Kesteven | 385 | 257 | 0.26 |
| Oldham | 1287 | 128 | 0.13 | South Lakeland | 291 | 286 | 0.29 |
| Oswestry | 178 | 181 | 0.18 | South Norfolk | 362 | 249 | 0.25 |
| Oxford | 346 | 314 | 0.31 | South Northamptonshire | 189 | 366 | 0.37 |
| Pendle | 188 | 379 | 0.38 | South Oxfordshire | 445 | 225 | 0.22 |
| Penwith | 218 | 236 | 0.24 | South Ribble | 316 | 262 | 0.26 |
| Peterborough | 1564 | 79 | 0.08 | South Shropshire | 211 | 168 | 0.17 |
| Plymouth | 1644 | 115 | 0.12 | South Somerset | 457 | 275 | 0.28 |
| Poole | 1471 | 76 | 0.08 | South Staffordshire | 289 | 300 | 0.30 |
| Portsmouth | 1462 | 104 | 0.10 | South Tyneside | 1965 | 62 | 0.06 |
| Preston | 329 | 317 | 0.32 | Southampton | 1452 | 123 | 0.12 |
| Purbeck | 171 | 215 | 0.22 | Southend-on-Sea | 1597 | 81 | 0.08 |
| Reading | 1424 | 78 | 0.08 | Southwark | 697 | 270 | 0.27 |
| Redbridge | 803 | 235 | 0.23 | Spelthorne | 238 | 305 | 0.30 |
| Redcar and Cleveland | 1838 | 60 | 0.06 | St. Albans | 392 | 256 | 0.26 |
| Redditch | 225 | 274 | 0.27 | St. Edmundsbury | 299 | 260 | 0.26 |
| Reigate and Banstead | 340 | 288 | 0.29 | St. Helens | 1355 | 105 | 0.11 |
| Restormel | 344 | 218 | 0.22 | Stafford | 376 | 245 | 0.24 |
| Ribble Valley | 162 | 267 | 0.27 | Staffordshire Moorlands | 298 | 263 | 0.26 |
| Richmond upon Thames | 610 | 237 | 0.24 | Stevenage | 235 | 261 | 0.26 |
| Richmondshire | 155 | 250 | 0.25 | Stockport | 1183 | 194 | 0.19 |
| Rochdale | 1476 | 107 | 0.11 | Stockton-on-Tees | 1558 | 88 | 0.09 |
| Rochford | 226 | 276 | 0.28 | Stoke-on-Trent | 1610 | 118 | 0.12 |
| Rossendale | 140 | 359 | 0.36 | Stratford-on-Avon | 312 | 292 | 0.29 |
| Rother | 315 | 221 | 0.22 | Stroud | 331 | 257 | 0.26 |
| Rotherham | 1685 | 117 | 0.12 | Suffolk Coastal | 331 | 275 | 0.27 |
| Rugby | 227 | 317 | 0.32 | Sunderland | 1881 | 117 | 0.12 |
| Runnymede | 190 | 339 | 0.34 | Surrey Heath | 226 | 275 | 0.27 |
| Rushcliffe | 307 | 288 | 0.29 | Sutton | 682 | 207 | 0.21 |
| Rushmoor | 234 | 298 | 0.30 | Swale | 361 | 266 | 0.27 |
| Rutland | 613 | 46 | 0.05 | Swindon | 1182 | 123 | 0.12 |
| Ryedale | 180 | 228 | 0.23 | Tameside | 1315 | 125 | 0.12 |
| Salford | 1452 | 115 | 0.12 | Tamworth | 185 | 326 | 0.33 |
| Salisbury | 342 | 273 | 0.27 | Tandridge | 212 | 291 | 0.29 |
| Sandwell | 1816 | 118 | 0.12 | Taunton Deane | 274 | 295 | 0.30 |
| Scarborough | 304 | 297 | 0.30 | Teesdale | 78 | 247 | 0.25 |
| Sedgefield | 272 | 253 | 0.25 | Teignbridge | 302 | 324 | 0.32 |
| Sedgemoor | 343 | 252 | 0.25 | Telford and Wrekin | 1575 | 79 | 0.08 |
| Sefton | 1834 | 122 | 0.12 | Tendring | 368 | 315 | 0.31 |
| Selby | 252 | 229 | 0.23 | Test Valley | 334 | 270 | 0.27 |
| Sevenoaks | 313 | 269 | 0.27 | Tewkesbury | 244 | 253 | 0.25 |
| Sheffield | 1517 | 271 | 0.27 | Thanet | 301 | 343 | 0.34 |
| Shepway | 293 | 268 | 0.27 | Three Rivers | 249 | 259 | 0.26 |
| Shrewsbury and Atcham | 452 | 160 | 0.16 | Thurrock | 1474 | 78 | 0.08 |
| Slough | 1625 | 57 | 0.06 | Tonbridge and Malling | 336 | 245 | 0.25 |

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| | Sample size | Average Grossing Factor | Average Grossing Factor/1000 | | Sample size | Average Grossing Factor | Average Grossing Factor/1000 |
|---------------------|-------------|-------------------------|------------------------------|------------------------|-------------|-------------------------|------------------------------|
| Torbay | 1785 | 58 | 0.06 | West Devon | 135 | 305 | 0.31 |
| Torridge | 171 | 285 | 0.29 | West Dorset | 318 | 248 | 0.25 |
| Tower Hamlets | 984 | 156 | 0.16 | West Lancashire | 327 | 259 | 0.26 |
| Trafford | 1423 | 118 | 0.12 | West Lindsey | 238 | 278 | 0.28 |
| Tunbridge Wells | 300 | 275 | 0.27 | West Oxfordshire | 262 | 300 | 0.30 |
| Tynedale | 335 | 137 | 0.14 | West Somerset | 97 | 276 | 0.28 |
| Uttlesford | 223 | 252 | 0.25 | West Wiltshire | 369 | 250 | 0.25 |
| Vale of White Horse | 321 | 298 | 0.30 | Westminster | 1043 | 152 | 0.15 |
| Vale Royal | 338 | 292 | 0.29 | Weymouth and Portland | 201 | 258 | 0.26 |
| Wakefield | 1470 | 166 | 0.17 | Wigan | 1388 | 170 | 0.17 |
| Walsall | 1554 | 125 | 0.12 | Winchester | 345 | 243 | 0.24 |
| Waltham Forest | 790 | 213 | 0.21 | Windsor and Maidenhead | 1652 | 66 | 0.07 |
| Wandsworth | 961 | 226 | 0.23 | Wirral | 1661 | 145 | 0.14 |
| Wansbeck | 354 | 142 | 0.14 | Woking | 269 | 265 | 0.27 |
| Warrington | 1258 | 122 | 0.12 | Wokingham | 1434 | 84 | 0.08 |
| Warwick | 301 | 357 | 0.36 | Wolverhampton | 1547 | 120 | 0.12 |
| Watford | 256 | 250 | 0.25 | Worcester | 287 | 256 | 0.26 |
| Waveney | 301 | 302 | 0.30 | Worthing | 271 | 280 | 0.28 |
| Waverley | 295 | 295 | 0.30 | Wychavon | 391 | 227 | 0.23 |
| Wealden | 479 | 236 | 0.24 | Wycombe | 473 | 271 | 0.27 |
| Wear Valley | 199 | 229 | 0.23 | Wyre | 364 | 230 | 0.23 |
| Wellingborough | 149 | 365 | 0.36 | Wyre Forest | 301 | 262 | 0.26 |
| Welwyn Hatfield | 266 | 290 | 0.29 | York | 1587 | 93 | 0.09 |
| West Berkshire | 1404 | 80 | 0.08 | | | | |

Wales

| | Sample size | Average Grossing Factor | Average Grossing Factor/1000 |
|------------------------|-------------|-------------------------|------------------------------|
| Anglesey, Isle of | 1475 | 37 | 0.04 |
| Blaenau Gwent | 1355 | 41 | 0.04 |
| Bridgend | 1685 | 60 | 0.06 |
| Caerphilly | 1746 | 76 | 0.08 |
| Cardiff | 1811 | 133 | 0.13 |
| Carmarthenshire | 1879 | 74 | 0.07 |
| Ceredigion | 1502 | 43 | 0.04 |
| Conwy | 1537 | 58 | 0.06 |
| Denbighshire | 1436 | 53 | 0.05 |
| Flintshire | 1493 | 79 | 0.08 |
| Gwynedd | 2006 | 47 | 0.05 |
| Merthyr Tydfil | 1199 | 37 | 0.04 |
| Monmouthshire | 1712 | 40 | 0.04 |
| Neath Port Talbot | 2201 | 49 | 0.05 |
| Newport | 1644 | 65 | 0.06 |
| Pembrokeshire | 2116 | 43 | 0.04 |
| Powys | 1543 | 67 | 0.07 |
| Rhondda, Cynon, Taff | 1843 | 98 | 0.10 |
| Swansea | 1669 | 107 | 0.11 |
| Torfaen | 1789 | 40 | 0.04 |
| Vale of Glamorgan, The | 1790 | 52 | 0.05 |
| Wrexham | 1452 | 71 | 0.07 |

Scotland

| | Sample size | Average Grossing Factor | Average Grossing Factor/1000 |
|-----------------------------|------------------------|--|---|
| Aberdeen City | 1264 | 133 | 0.13 |
| Aberdeenshire | 1306 | 138 | 0.14 |
| Angus | 1354 | 63 | 0.06 |
| Argyll & Bute | 1322 | 55 | 0.05 |
| Clackmannanshire | 605 | 62 | 0.06 |
| Dumfries and Galloway | 1676 | 71 | 0.07 |
| Dundee City | 1496 | 77 | 0.08 |
| East Ayrshire | 1483 | 64 | 0.06 |
| East Dunbartonshire | 1441 | 61 | 0.06 |
| East Lothian | 1318 | 56 | 0.06 |
| East Renfrewshire | 1181 | 61 | 0.06 |
| Edinburgh, City of | 1439 | 256 | 0.26 |
| Eilean Siar (Western Isles) | 281 | 74 | 0.07 |
| Falkirk | 1298 | 90 | 0.09 |
| Fife | 1567 | 180 | 0.18 |
| Glasgow City | 1530 | 302 | 0.30 |
| Highland | 1395 | 118 | 0.12 |
| Inverclyde | 1278 | 51 | 0.05 |
| Midlothian | 1045 | 62 | 0.06 |
| Moray | 1204 | 56 | 0.06 |
| North Ayrshire | 1711 | 63 | 0.06 |
| North Lanarkshire | 1498 | 170 | 0.17 |
| Orkney Islands | 391 | 39 | 0.04 |
| Perth and Kinross | 1291 | 84 | 0.08 |
| Renfrewshire | 1415 | 96 | 0.10 |
| Scottish Borders, The | 1525 | 57 | 0.06 |
| Shetland Islands | 321 | 52 | 0.05 |
| South Ayrshire | 1461 | 62 | 0.06 |
| South Lanarkshire | 1513 | 159 | 0.16 |
| Stirling | 1196 | 58 | 0.06 |
| West Dunbartonshire | 1474 | 49 | 0.05 |
| West Lothian | 1322 | 97 | 0.10 |

ANNEX B - Sampling variability

| | Economic activity | | | | | | Employment | | | | | | ILO unemployment | | | | | | Inactivity | | |
|------------------------------|-------------------|-------|---------|---------------------|-------|---------|------------|-----|---------|---------------------|-------|---------|------------------|-----|---------|------------|-------|---------|------------|-----|---------|
| | Total | SE | RSE (%) | Rate (%) (16-59/64) | SE | RSE (%) | Total | SE | RSE (%) | Rate (%) (16-59/64) | SE | RSE (%) | Total | SE | RSE (%) | Rate (16+) | SE | RSE (%) | Total | SE | RSE (%) |
| | | (+/-) | | | (+/-) | | (+/-) | | (+/-) | | (+/-) | | (+/-) | | (+/-) | | (+/-) | | (+/-) | | (+/-) |
| Aberdeen City | 108 | 1.9 | 2 | 79.7 | 1.4 | 2 | 104 | 2.0 | 2 | 76.8 | 1.5 | 2 | 4 | 0.7 | 18 | 3.6 | 0.6 | 18 | 59 | 1.9 | 3 |
| Aberdeenshire | 123 | 1.9 | 2 | 82.9 | 1.2 | 1 | 118 | 2.1 | 2 | 79.1 | 1.3 | 2 | 5 | 0.8 | 15 | 4.4 | 0.7 | 15 | 57 | 1.9 | 3 |
| Adur | 29 | 1.5 | 5 | 82.0 | 3.7 | 5 | 29 | 1.5 | 5 | 81.3 | 3.9 | 5 | * | * | 100 | * | * | 100 | 20 | 2.2 | 11 |
| Allerdale | 48 | 1.5 | 3 | 84.1 | 2.6 | 3 | 46 | 1.8 | 4 | 80.8 | 3.1 | 4 | * | * | 46 | * | * | 46 | 30 | 2.3 | 8 |
| Alnwick | 15 | 0.8 | 5 | 79.1 | 3.9 | 5 | 15 | 0.8 | 5 | 77.5 | 3.9 | 5 | * | * | 100 | * | * | 100 | 9 | 1.0 | 11 |
| Amber Valley | 58 | 2.1 | 4 | 77.9 | 2.7 | 3 | 55 | 2.0 | 4 | 74.8 | 2.7 | 4 | * | * | 34 | * | * | 33 | 36 | 2.9 | 8 |
| Angus | 52 | 0.9 | 2 | 78.8 | 1.4 | 2 | 49 | 1.0 | 2 | 74.2 | 1.6 | 2 | 3 | 0.4 | 15 | 5.7 | 0.9 | 15 | 33 | 0.9 | 3 |
| Antrim | 24 | 1.9 | 8 | 81.8 | 4.4 | 5 | 23 | 1.8 | 8 | 78.1 | 4.6 | 6 | * | * | 52 | * | * | 50 | 12 | 2.0 | 16 |
| Ards | 35 | 2.4 | 7 | 69.7 | 3.3 | 5 | 34 | 2.4 | 7 | 67.3 | 3.3 | 5 | * | * | 44 | * | * | 44 | 26 | 2.2 | 8 |
| Argyll & Bute | 44 | 0.8 | 2 | 80.2 | 1.3 | 2 | 42 | 0.9 | 2 | 75.6 | 1.5 | 2 | 2 | 0.4 | 16 | 5.4 | 0.9 | 16 | 28 | 0.8 | 3 |
| Armagh | 26 | 1.6 | 6 | 72.5 | 3.3 | 4 | 24 | 1.6 | 7 | 67.3 | 3.5 | 5 | 2 | 0.5 | 30 | 6.9 | 2.1 | 30 | 16 | 1.5 | 10 |
| Arun | 65 | 2.4 | 4 | 79.5 | 2.8 | 4 | 62 | 2.5 | 4 | 75.3 | 2.9 | 4 | 3 | 1.0 | 31 | 4.9 | 1.5 | 31 | 54 | 3.1 | 6 |
| Ashfield | 58 | 2.1 | 4 | 80.8 | 2.9 | 4 | 53 | 2.5 | 5 | 74.2 | 3.4 | 5 | 5 | 1.3 | 27 | 8.0 | 2.2 | 28 | 32 | 3.0 | 9 |
| Ashford | 52 | 2.1 | 4 | 80.1 | 3.1 | 4 | 50 | 2.1 | 4 | 77.9 | 3.3 | 4 | * | * | 44 | * | * | 44 | 30 | 2.8 | 10 |
| Aylesbury Vale | 92 | 2.1 | 2 | 85.1 | 1.8 | 2 | 89 | 2.3 | 3 | 82.5 | 2.1 | 2 | 3 | 0.9 | 32 | 3.0 | 1.0 | 32 | 35 | 3.0 | 9 |
| Babergh | 47 | 1.7 | 3 | 90.2 | 2.5 | 3 | 46 | 1.7 | 4 | 87.9 | 2.6 | 3 | * | * | 55 | * | * | 55 | 21 | 2.5 | 12 |
| Ballymena | 30 | 1.7 | 6 | 78.3 | 2.9 | 4 | 30 | 1.7 | 6 | 76.8 | 3.0 | 4 | * | * | 57 | * | * | 57 | 14 | 1.3 | 9 |
| Ballymoney | 12 | 1.2 | 10 | 69.8 | 5.2 | 7 | 11 | 1.2 | 11 | 65.7 | 5.7 | 9 | * | * | 60 | * | * | 59 | 9 | 1.2 | 14 |
| Banbridge | 20 | 1.5 | 8 | 72.1 | 4.7 | 7 | 19 | 1.5 | 8 | 69.3 | 4.8 | 7 | * | * | 49 | * | * | 48 | 11 | 1.5 | 14 |
| Barking and Dagenham | 71 | 2.4 | 3 | 70.9 | 2.3 | 3 | 65 | 2.4 | 4 | 64.8 | 2.4 | 4 | 6 | 1.1 | 19 | 8.3 | 1.5 | 18 | 52 | 2.8 | 5 |
| Barnet | 165 | 4.2 | 3 | 75.0 | 1.9 | 3 | 158 | 4.5 | 3 | 71.6 | 2.0 | 3 | 7 | 1.5 | 21 | 4.3 | 0.9 | 21 | 92 | 5.0 | 5 |
| Barnsley | 98 | 1.8 | 2 | 72.0 | 1.3 | 2 | 94 | 1.8 | 2 | 68.6 | 1.3 | 2 | 5 | 0.7 | 15 | 4.6 | 0.7 | 15 | 73 | 2.4 | 3 |
| Barrow-in-Furness | 31 | 1.5 | 5 | 70.7 | 3.6 | 5 | 29 | 1.5 | 5 | 66.5 | 3.6 | 5 | * | * | 39 | * | * | 39 | 25 | 2.2 | 9 |
| Basildon | 84 | 2.4 | 3 | 80.0 | 2.3 | 3 | 78 | 2.8 | 4 | 74.1 | 2.7 | 4 | 6 | 1.4 | 23 | 7.1 | 1.7 | 24 | 47 | 3.4 | 7 |
| Basingstoke and Deane | 85 | 2.3 | 3 | 85.1 | 2.1 | 2 | 83 | 2.3 | 3 | 83.1 | 2.1 | 2 | * | * | 36 | * | * | 35 | 32 | 2.6 | 8 |
| Bassetlaw | 48 | 2.2 | 5 | 72.7 | 3.3 | 4 | 46 | 2.3 | 5 | 69.3 | 3.5 | 5 | * | * | 37 | * | * | 37 | 31 | 3.0 | 10 |
| Bath and North East Somerset | 88 | 1.4 | 2 | 80.4 | 1.3 | 2 | 86 | 1.5 | 2 | 77.8 | 1.3 | 2 | 3 | 0.5 | 18 | 3.1 | 0.6 | 18 | 48 | 1.9 | 4 |
| Bedford | 79 | 1.9 | 2 | 82.8 | 1.9 | 2 | 75 | 2.0 | 3 | 79.0 | 2.1 | 3 | 4 | 0.9 | 25 | 4.5 | 1.1 | 25 | 37 | 2.7 | 7 |
| Belfast | 107 | 4.4 | 4 | 65.1 | 2.1 | 3 | 98 | 4.4 | 4 | 59.9 | 2.2 | 4 | 8 | 1.4 | 17 | 7.8 | 1.3 | 17 | 105 | 4.6 | 4 |
| Berwick-upon-Tweed | 13 | 1.2 | 9 | 79.5 | 4.0 | 5 | 12 | 1.1 | 9 | 75.6 | 4.6 | 6 | * | * | 77 | * | * | 76 | 9 | 1.2 | 13 |
| Bexley | 112 | 2.6 | 2 | 80.5 | 1.8 | 2 | 107 | 2.7 | 3 | 77.2 | 1.9 | 2 | 4 | 1.1 | 25 | 4.0 | 1.0 | 25 | 64 | 3.9 | 6 |
| Birmingham | 434 | 7.2 | 2 | 71.3 | 1.2 | 2 | 395 | 7.8 | 2 | 64.8 | 1.3 | 2 | 38 | 3.6 | 9 | 8.9 | 0.8 | 9 | 315 | 9.1 | 3 |
| Blaby | 50 | 1.7 | 3 | 85.4 | 2.6 | 3 | 50 | 1.7 | 4 | 84.5 | 2.7 | 3 | * | * | 71 | * | * | 71 | 23 | 2.2 | 10 |
| Blackburn with Darwen | 62 | 1.2 | 2 | 73.6 | 1.4 | 2 | 59 | 1.2 | 2 | 69.9 | 1.5 | 2 | 3 | 0.5 | 15 | 4.9 | 0.8 | 15 | 40 | 1.5 | 4 |
| Blackpool | 64 | 1.2 | 2 | 75.6 | 1.4 | 2 | 60 | 1.3 | 2 | 70.0 | 1.6 | 2 | 5 | 0.6 | 14 | 7.1 | 1.0 | 14 | 48 | 1.7 | 3 |
| Blaenau Gwent | 29 | 0.7 | 2 | 68.6 | 1.6 | 2 | 27 | 0.7 | 3 | 63.5 | 1.7 | 3 | 2 | 0.3 | 14 | 7.4 | 1.0 | 13 | 26 | 0.7 | 3 |
| Blyth Valley | 43 | 1.2 | 3 | 81.2 | 2.3 | 3 | 40 | 1.3 | 3 | 75.7 | 2.5 | 3 | 3 | 0.7 | 24 | 6.6 | 1.6 | 24 | 22 | 1.6 | 8 |
| Bolsover | 35 | 1.7 | 5 | 77.0 | 3.6 | 5 | 33 | 1.8 | 5 | 71.8 | 3.8 | 5 | * | * | 38 | * | * | 38 | 20 | 2.1 | 10 |
| Bolton | 126 | 2.3 | 2 | 77.1 | 1.4 | 2 | 120 | 2.5 | 2 | 72.9 | 1.5 | 2 | 7 | 1.1 | 16 | 5.3 | 0.8 | 16 | 78 | 3.4 | 4 |
| Boston | 25 | 1.6 | 7 | 75.0 | 4.7 | 6 | 25 | 1.6 | 7 | 73.3 | 4.7 | 6 | * | * | 97 | * | * | 96 | 22 | 2.2 | 10 |
| Bournemouth | 82 | 1.3 | 2 | 80.5 | 1.2 | 2 | 78 | 1.3 | 2 | 77.2 | 1.3 | 2 | 3 | 0.5 | 16 | 4.0 | 0.6 | 16 | 49 | 1.8 | 4 |
| Bracknell Forest | 63 | 0.8 | 1 | 85.1 | 1.1 | 1 | 61 | 0.9 | 1 | 82.6 | 1.2 | 1 | 2 | 0.3 | 19 | 2.8 | 0.5 | 19 | 25 | 1.1 | 5 |
| Bradford | 221 | 4.0 | 2 | 75.0 | 1.3 | 2 | 209 | 4.2 | 2 | 71.1 | 1.4 | 2 | 12 | 1.6 | 14 | 5.2 | 0.7 | 14 | 139 | 5.1 | 4 |
| Braintree | 73 | 2.1 | 3 | 83.3 | 2.3 | 3 | 72 | 2.2 | 3 | 81.7 | 2.4 | 3 | * | * | 45 | * | * | 45 | 34 | 2.8 | 8 |
| Breckland | 60 | 1.9 | 3 | 82.1 | 2.4 | 3 | 58 | 1.9 | 3 | 78.9 | 2.4 | 3 | * | * | 34 | * | * | 33 | 39 | 2.9 | 7 |
| Brent | 125 | 3.6 | 3 | 70.6 | 2.0 | 3 | 115 | 3.8 | 3 | 65.5 | 2.1 | 3 | 9 | 1.6 | 17 | 7.5 | 1.3 | 17 | 80 | 4.1 | 5 |
| Brentwood | 36 | 1.7 | 5 | 80.9 | 3.5 | 4 | 36 | 1.8 | 5 | 80.1 | 3.7 | 5 | * | * | 101 | * | * | 101 | 23 | 2.3 | 10 |
| Bridgend | 59 | 1.1 | 2 | 74.9 | 1.3 | 2 | 57 | 1.1 | 2 | 72.0 | 1.4 | 2 | 2 | 0.4 | 17 | 3.9 | 0.7 | 17 | 42 | 1.1 | 2 |

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| | Economic activity | | | | | | Employment | | | | | | ILO unemployment | | | | | | Inactivity | | |
|------------------------|-------------------|-------|---------|---------------------|--------|---------|------------|-----|---------|---------------------|--------|---------|------------------|-----|---------|------------|--------|---------|------------|-----|---------|
| | Total | SE | RSE (%) | Rate (%) (16-59/64) | SE (%) | RSE (%) | Total | SE | RSE (%) | Rate (%) (16-59/64) | SE (%) | RSE (%) | Total | SE | RSE (%) | Rate (16+) | SE (%) | RSE (%) | Total | SE | RSE (%) |
| | | (+/-) | | | (+/-) | | (+/-) | | | (+/-) | | | (+/-) | | | (+/-) | | | (+/-) | | |
| West Oxfordshire | 57 | 1.7 | 3 | 89.8 | 2.3 | 3 | 57 | 1.8 | 3 | 89.3 | 2.3 | 3 | * | * | 100 | * | * | 100 | 22 | 2.7 | 12 |
| West Somerset | 16 | 1.0 | 6 | 84.2 | 4.8 | 6 | 16 | 1.0 | 6 | 82.4 | 4.9 | 6 | * | * | 98 | * | * | 98 | 11 | 1.6 | 15 |
| West Wiltshire | 58 | 2.1 | 4 | 79.0 | 2.7 | 3 | 57 | 2.2 | 4 | 76.7 | 3.0 | 4 | * | * | 40 | * | * | 41 | 34 | 2.9 | 8 |
| Westminster | 96 | 2.5 | 3 | 68.6 | 1.8 | 3 | 88 | 2.7 | 3 | 63.2 | 2.0 | 3 | 7 | 1.1 | 15 | 7.8 | 1.2 | 15 | 63 | 2.9 | 5 |
| Weymouth and Portland | 31 | 1.6 | 5 | 80.9 | 4.1 | 5 | 29 | 1.8 | 6 | 76.9 | 4.7 | 6 | * | * | 37 | * | * | 39 | 21 | 2.1 | 10 |
| Wigan | 150 | 2.7 | 2 | 77.9 | 1.4 | 2 | 143 | 3.0 | 2 | 74.1 | 1.5 | 2 | 7 | 1.1 | 15 | 4.7 | 0.7 | 16 | 86 | 3.9 | 5 |
| Winchester | 52 | 2.2 | 4 | 76.8 | 3.0 | 4 | 51 | 2.3 | 4 | 74.7 | 3.1 | 4 | * | * | 41 | * | * | 41 | 32 | 2.6 | 8 |
| Windsor and Maidenhead | 71 | 1.1 | 2 | 80.7 | 1.2 | 1 | 69 | 1.1 | 2 | 78.1 | 1.2 | 2 | 2 | 0.4 | 17 | 3.3 | 0.5 | 17 | 38 | 1.4 | 4 |
| Wirral | 146 | 2.4 | 2 | 77.3 | 1.3 | 2 | 137 | 2.6 | 2 | 73.0 | 1.4 | 2 | 8 | 1.1 | 13 | 5.6 | 0.8 | 13 | 95 | 3.4 | 4 |
| Woking | 45 | 2.2 | 5 | 77.0 | 3.8 | 5 | 44 | 2.2 | 5 | 74.7 | 3.7 | 5 | * | * | 44 | * | * | 43 | 26 | 2.7 | 10 |
| Wokingham | 87 | 1.2 | 1 | 86.0 | 1.1 | 1 | 84 | 1.3 | 1 | 83.0 | 1.2 | 1 | 3 | 0.5 | 17 | 3.4 | 0.6 | 17 | 34 | 1.6 | 5 |
| Wolverhampton | 103 | 2.1 | 2 | 72.1 | 1.5 | 2 | 96 | 2.2 | 2 | 66.7 | 1.5 | 2 | 8 | 1.0 | 13 | 7.3 | 1.0 | 13 | 82 | 3.0 | 4 |
| Worcester | 49 | 1.6 | 3 | 81.6 | 2.4 | 3 | 47 | 1.6 | 3 | 78.2 | 2.4 | 3 | * | * | 33 | * | * | 33 | 24 | 2.3 | 10 |
| Worthing | 50 | 1.7 | 3 | 87.4 | 2.6 | 3 | 49 | 1.6 | 3 | 85.1 | 2.7 | 3 | * | * | 46 | * | * | 45 | 26 | 2.5 | 10 |
| Wrexham | 63 | 1.2 | 2 | 76.7 | 1.4 | 2 | 62 | 1.3 | 2 | 75.0 | 1.5 | 2 | 2 | 0.3 | 22 | 2.5 | 0.5 | 22 | 40 | 1.2 | 3 |
| Wychavon | 56 | 2.0 | 4 | 78.2 | 2.7 | 3 | 54 | 2.0 | 4 | 75.9 | 2.8 | 4 | * | * | 38 | * | * | 37 | 33 | 2.7 | 8 |
| Wycombe | 89 | 2.5 | 3 | 83.9 | 2.0 | 2 | 85 | 2.7 | 3 | 80.1 | 2.3 | 3 | 4 | 1.0 | 26 | 4.3 | 1.1 | 26 | 39 | 3.2 | 8 |
| Wyre | 50 | 1.6 | 3 | 82.3 | 2.6 | 3 | 49 | 1.6 | 3 | 80.5 | 2.6 | 3 | * | * | 49 | * | * | 48 | 33 | 2.7 | 8 |
| Wyre Forest | 47 | 2.1 | 4 | 76.8 | 3.2 | 4 | 44 | 2.1 | 5 | 72.9 | 3.3 | 5 | 2 | 0.8 | 36 | 4.9 | 1.8 | 36 | 32 | 2.9 | 9 |
| York | 96 | 1.5 | 2 | 82.6 | 1.3 | 2 | 92 | 1.6 | 2 | 79.1 | 1.3 | 2 | 4 | 0.7 | 17 | 4.0 | 0.7 | 17 | 52 | 2.3 | 4 |

ANNEX C - Calculating thresholds for England, Wales & Scotland

This Annex explains the rationale behind having different thresholds for different areas for annual LFS data in GB. Annex D gives details of the thresholds applicable to the different areas in England, Wales and Scotland.

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 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.).

LFS estimates below ten thousand from the quarterly survey and below six thousand for annual data prior to 2000/1 are not published, as they are likely 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 together with data from waves one and five from the main LFS, 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_i , is approximately distributed as a Poisson variable. For such a variable, the mean and the variance are equal and are estimated by n_i .

If G_i is the average grossing factor for cases in subgroup i , the value of the grossed estimate is $G_i * n_i$. Then ignoring the variable weights and the clustered design,

$$\text{Var}(E_i = G_i * n_i) = G_i^2 * n_i \quad (1)$$

The effect of both the grossing and the clustered design is reflected in the design effect, $deff_i$, 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 one, whereas for unemployment they are greater than one.

So (1) should be modified to:

$$\text{Var}(E_i) = G_i^2 * n_i * deff_i \quad (2)$$

Thus

$$cv(E_i) = \sqrt{\frac{deff_i}{n_i}} \quad (3)$$

For the threshold for this variable, we must have

$$cv(E_i) < 0.2 \quad (4)$$

So from (3) and (4) we obtain

$$n_i > 25 * deff_i$$

or in terms of the grossed estimate

$$E_i > 25 * G_i * deff_i \tag{5}$$

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

G_i for a particular local authority is the average grossing factor taken directly from the annual LFS data for 2003/04.

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 ethnicity. 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 one is assumed for all estimates except those for characteristics of minority ethnic groups, where a design effect of 2.5 is assumed. This assumption has been extended to the annual LFS data for the calculations used to determine the threshold bands attached at Annex D as they are intended to be applicable over a wide range of variables range of variables.

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 - six thousand, four thousand or two thousand. 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, as shown in Annex D, ranging from one thousand to four thousand.

For the 32 Scottish UAs, the ideal thresholds were rounded for the total employed and unemployed. Thresholds thus range from one thousand to five thousand.

ANNEX D – 2003/04 Thresholds by UA/LAD, England, Wales & Scotland**England****Two thousand**

| | | | |
|------------------------------|--------------------------|----------------------|------------------------|
| Barnsley | Hartlepool | Plymouth | Southend-on-Sea |
| Bath and North East Somerset | Herefordshire, County of | Poole | St. Helens |
| Blackburn with Darwen | Isle of Wight | Portsmouth | Stockton-on-Tees |
| Blackpool | Knowsley | Reading | Stoke-on-Trent |
| Bournemouth | Luton | Redcar and Cleveland | Sunderland |
| Bracknell Forest | Middlesbrough | Rochdale | Telford and Wrekin |
| Bury | Milton Keynes | Rotherham | Thurrock |
| Calderdale | Newcastle upon Tyne | Rutland | Torbay |
| Coventry | North East Lincolnshire | Salford | Trafford |
| Darlington | North Lincolnshire | Sandwell | West Berkshire |
| Derby | North Somerset | Slough | Windsor and Maidenhead |
| Gateshead | North Tyneside | Solihull | Wokingham |
| Halton | Peterborough | South Tyneside | Wolverhampton |
| | | | York |

Four thousand

| | | | |
|----------------------|-----------------------------|-----------------------|---------------|
| Alnwick | East Dorset | Nottingham | Tower Hamlets |
| Barking and Dagenham | East Riding of Yorkshire | Oldham | Tynedale |
| Berwick-upon-Tweed | Hammersmith and Fulham | Oswestry | Wakefield |
| Blyth Valley | Kensington and Chelsea | Sefton | Walsall |
| Bolton | Kingston upon Hull, City of | Shrewsbury and Atcham | Wansbeck |
| Bradford | Kingston upon Thames | South Gloucestershire | Warrington |
| Bridgnorth | Leicester | South Shropshire | Westminster |
| Brighton and Hove | Manchester | Southampton | Wigan |
| Castle Morpeth | Medway | Stockport | Wirral |
| Doncaster | Mid Bedfordshire | Swindon | |
| Dudley | North Shropshire | Tameside | |

Six thousand

| | | | |
|-----------------------|-------------------|--------------------|---------------------------|
| Adur | Bristol, City of | Chiltern | East Devon |
| Allerdale | Broadland | Chorley | East Hampshire |
| Amber Valley | Bromley | Christchurch | East Hertfordshire |
| Arun | Bromsgrove | City of London | East Lindsey |
| Ashfield | Broxbourne | Colchester | East Northamptonshire |
| Ashford | Broxtowe | Congleton | East Staffordshire |
| Aylesbury Vale | Burnley | Copeland | Eastbourne |
| Babergh | Cambridge | Corby | Eastleigh |
| Barnet | Camden | Cotswold | Eden |
| Barrow-in-Furness | Cannock Chase | Craven | Ellesmere Port and Neston |
| Basildon | Canterbury | Crawley | Elmbridge |
| Basingstoke and Deane | Caradon | Crewe and Nantwich | Enfield |
| Bassetlaw | Carlisle | Croydon | Epping Forest |
| Bedford | Carrick | Dacorum | Epsom and Ewell |
| Bexley | Castle Point | Dartford | Erewash |
| Birmingham | Charnwood | Daventry | Exeter |
| Blaby | Chelmsford | Derbyshire Dales | Fareham |
| Bolsover | Cheltenham | Derwentside | Fenland |
| Boston | Cherwell | Dover | Forest Heath |
| Braintree | Chester | Durham | Forest of Dean |
| Breckland | Chesterfield | Ealing | Fylde |
| Brent | Chester-Le-Street | Easington | Gedling |

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| | | | |
|------------------------------|---------------------------|-------------------------|-----------------------|
| Brentwood | Chichester | East Cambridgeshire | Gloucester |
| Gosport | Malvern Hills | Rugby | Taunton Deane |
| Gravesham | Mansfield | Runnymede | Teesdale |
| Great Yarmouth | Melton | Rushcliffe | Teignbridge |
| Greenwich | Mendip | Rushmoor | Tending |
| Guildford | Merton | Ryedale | Test Valley |
| Hackney | Mid Devon | Salisbury | Tewkesbury |
| Hambleton | Mid Suffolk | Scarborough | Thanet |
| Harborough | Mid Sussex | Sedgefield | Three Rivers |
| Haringey | Mole Valley | Sedgemoor | Tonbridge and Malling |
| Harlow | New Forest | Selby | Torridge |
| Harrogate | Newham | Sevenoaks | Tunbridge Wells |
| Harrow | Newark and Sherwood | Sheffield | Uttlesford |
| Hart | Newcastle-under-Lyme | Shepway | Vale of White Horse |
| Hastings | North Cornwall | South Bedfordshire | Vale Royal |
| Havant | North Devon | South Bucks | Waltham Forest |
| Havering | North Dorset | South Cambridgeshire | Wandsworth |
| Hertsmere | North East Derbyshire | South Derbyshire | Warwick |
| High Peak | North Hertfordshire | South Hams | Watford |
| Hillingdon | North Kesteven | South Holland | Waveney |
| Hinckley and Bosworth | North Norfolk | South Kesteven | Waverley |
| Horsham | North Warwickshire | South Lakeland | Wealden |
| Hounslow | North West Leicestershire | South Norfolk | Wear Valley |
| Huntingdonshire | North Wiltshire | South Northamptonshire | Wellingborough |
| Hyndburn | Northampton | South Oxfordshire | Welwyn Hatfield |
| Ipswich | Norwich | South Ribble | West Devon |
| Islington | Nuneaton and Bedworth | South Somerset | West Dorset |
| Kennet | Oadby and Wigston | South Staffordshire | West Lancashire |
| Kerrier | Oxford | Southwark | West Lindsey |
| Kettering | Pendle | Spelthorne | West Oxfordshire |
| King's Lynn and West Norfolk | Penwith/Isles of Scilly | St. Albans | West Somerset |
| Kirklees | Preston | St. Edmundsbury | West Wiltshire |
| Lambeth | Purbeck | Stafford | Weymouth and Portland |
| Lancaster | Redbridge | Staffordshire Moorlands | Winchester |
| Leeds | Redditch | Stevenage | Woking |
| Lewes | Reigate and Banstead | Stratford-on-Avon | Worcester |
| Lewisham | Restormel | Stroud | Worthing |
| Lichfield | Ribble Valley | Suffolk Coastal | Wychavon |
| Lincoln | Richmond upon Thames | Surrey Heath | Wycombe |
| Liverpool | Richmondshire | Sutton | Wyre |
| Macclesfield | Rochford | Swale | Wyre Forest |
| Maidstone | Rossendale | Tamworth | |
| Maldon | Rother | Tandridge | |

Wales

| One thousand | Two thousand | Three thousand |
|------------------------|----------------------|----------------|
| Anglesey, Isle of | Bridgend | Cardiff |
| Blaenau Gwent | Caerphilly | Swansea |
| Ceredigion | Carmarthenshire | |
| Conwy | Flintshire | |
| Denbighshire | Newport | |
| Gwynedd | Powys | |
| Merthyr Tydfil | Rhondda, Cynon, Taff | |
| Monmouthshire | Wrexham | |
| Neath Port Talbot | | |
| Pembrokeshire | | |
| Torfaen | | |
| Vale of Glamorgan, The | | |

Scotland

| One thousand | Two thousand | Three thousand | Four thousand | Five thousand |
|-----------------------------|---------------------|-----------------------|----------------------|----------------------|
| Angus | Dumfries & Galloway | Aberdeen, City | Fife | Edinburgh, City of |
| Argyll & Bute | Dundee, City | Aberdeenshire | North Lanarkshire | Glasgow, City |
| Clackmannanshire | Falkirk | West Lothian | South Lanarkshire | |
| East Ayrshire | Highland | | | |
| East Dunbartonshire | Perth & Kinross | | | |
| East Lothian | Renfrewshire | | | |
| East Renfrewshire | | | | |
| Eilean Siar (Western Isles) | | | | |
| Inverclyde | | | | |
| Midlothian | | | | |
| Moray | | | | |
| North Ayrshire | | | | |
| Orkney Islands | | | | |
| Scottish Borders, The | | | | |
| Shetland Islands | | | | |
| South Ayrshire | | | | |
| Stirling | | | | |
| West Dunbartonshire | | | | |