

How exactly is employment measured?

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Preface

About the Office for National Statistics

The Office for National Statistics (ONS) is the government agency responsible for compiling, analysing and disseminating many of the United Kingdom's economic, social and demographic statistics, including the retail price index, trade figures and labour market data, as well as the periodic census of population and health statistics. The Director of ONS is also the National Statistician.

A National Statistics publication

Official statistics bearing the National Statistics logo are produced to high professional standards set out in the Code of Practice for Official Statistics. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political interference.

1. Introduction

Reliable employment statistics have to be obtained and properly interpreted for them to be a useful aid to policy decisions affecting the labour market.

Statistics on employment tell us how many people are employed, the sorts of work they do, their working patterns, as well as the number of jobs there are and the industries these are in.

It is important to make a distinction between the number of people with a job (employment) and the total number of jobs. One person can have more than one job.

The International Labour Organisation (ILO) - an agency of the United Nations - sets out guidelines for measuring employment. Under ILO guidelines anyone working for at least an hour a week is employed. This definition is set out more fully in the section on employment concepts.

This is very closely linked with the number of jobs. Essentially the number of jobs is equivalent to the number of people with jobs plus the number of second jobs, third jobs, etc. as follows:

$$\text{Jobs} = \text{Number of people with jobs} + \text{Number of second jobs} + \text{Number of third, fourth, etc jobs}$$

The Office for National Statistics releases key labour market statistics through the *Labour Market Statistics First Release*. This is published around the middle of each month usually on a Wednesday. This release presents information on employment as well as a range of other labour market indicators.

2. Concepts

2.1 Employment

The number of people with jobs is measured through the Labour Force Survey (LFS). The Labour Force Survey is a survey of households. It uses definitions set out by the International Labour Organisation (ILO).

The LFS definition of employment is anyone (aged 16 or over) who does at least one hour's paid work in the week prior to their LFS interview, or has a job that they are temporarily away from (e.g. on holiday). Also included are people who do unpaid work in a family business and people on government supported employment training schemes, in line with ILO definitions.

According to ILO definitions, those who are not in employment are either unemployed or economically inactive depending upon their job search activity and their availability for work.

In order to explain this further, consider the following examples:

- John Williams works 40 hours a week for a large chemical company.
- June Brakes is out of work and visits her local jobcentre every week to look for work that she could start immediately.
- Alice Barnes works 3 hours a week at the local supermarket but wants to work full-time.
- Jennifer Jermain is not employed. She looks after her young child and is not available to work.

John and Alice are both in employment as they worked for at least one hour. June is not in employment; she is unemployed as she is actively seeking work and available to start. Jennifer is economically inactive as she is not available to work.

The LFS classifies employed people into one of four different categories:

- employees;
- self-employed;
- unpaid family workers;
- participants in government-supported training and employment programmes.

In the Labour Force Survey, respondents classify themselves into each of these categories, based on their own assessment of their work situation. For the majority of people this is clear-cut. However, for those on the margins of different groups, this is not easy. A guide is:

- **employees** work for a company and have their National Insurance paid for directly from their wages.

- **the self-employed** work for themselves and generally pay their National Insurance themselves.
- **unpaid family workers** are people who do unpaid work for a business they own or for a business a relative owns.
- **participants in government-supported training and employment programmes** are all people aged 16 and over who take part in one of the government's employment and training programmes.

Chart A: Labour Force Survey, November 2008 to January 2009, seasonally adjusted

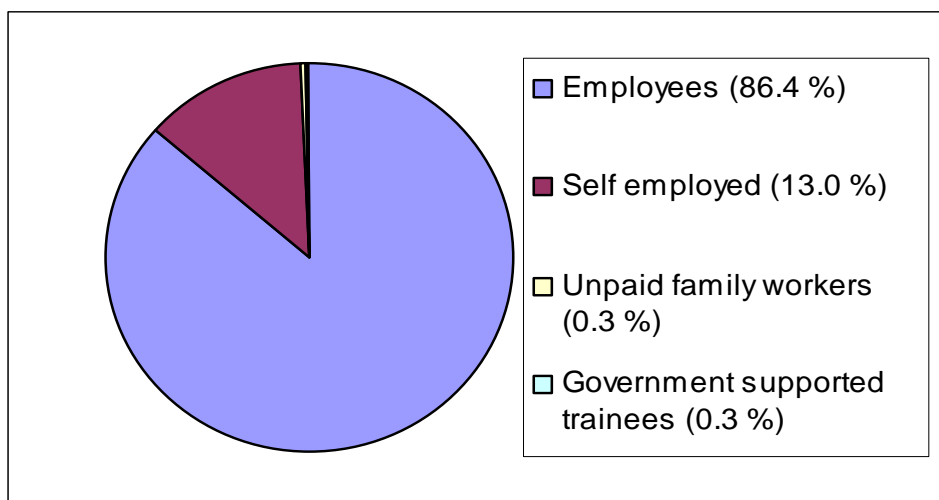


Chart A shows the proportion of those in employment in each of these categories for the November 2008 to January 2009 period.

The following examples illustrate this:

- Janice Joyce works 20 hours a week in her father's shop. She receives no money for this.
- Harry Hepburn runs a corner shop as a sole trader.
- Jim and Janet work for a large manufacturing company. They job-share with each of them working 20 hours a week.

Janice is employed as an unpaid family worker. Harry is self-employed. Jim and Janet are both in employment as employees.

The Labour Force Survey also classifies employed people into **full-time workers** and **part-time workers**; this breakdown is based on respondents' self-classification.

2.2 Jobs

A job represents a work activity carried out by a jobholder. A person may hold more than one job.

The estimate of the number of jobs is the sum of:

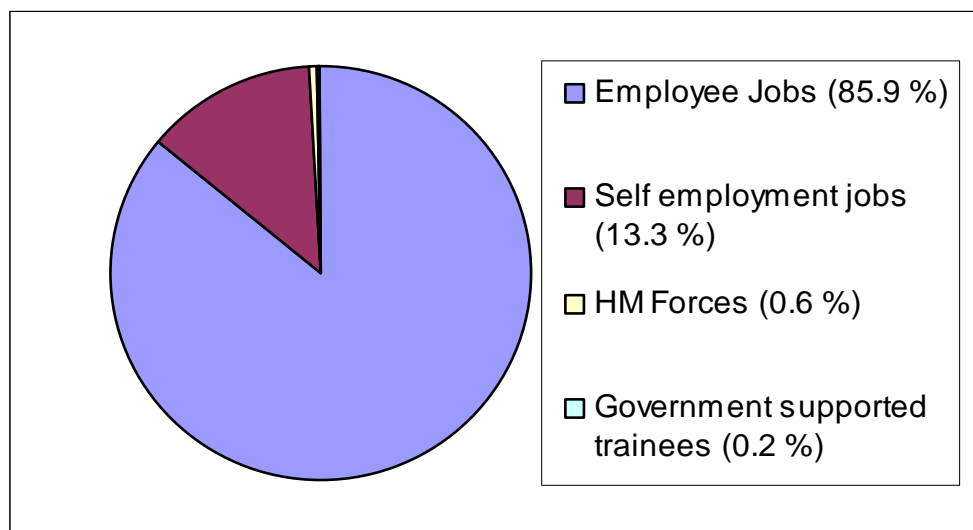
| | |
|-------------------------------|--|
| Employee jobs | number of jobs of employee status |
| Self-employment jobs | number of self-employed status jobs |
| HM Forces | number of jobs in the Armed Forces - excluding civilians |
| Government supported trainees | number of jobs held by people on Government-supported employment and training programmes who do not have employee status |

Chart B shows the proportion of Workforce Jobs in each of these categories in December 2008.

The major part of the estimate is the number of employee jobs, which is collected through surveys of employers. Employers are asked for details of the number of people who work for them on specific dates during the year. This includes people temporarily away from a job but still being paid by the organisation. The employee jobs series includes second and subsequent jobs.

Employee workers are those who work for an organisation and have their National Insurance paid for directly from their wages. Self-employment jobs are held by people who work for themselves and pay their National Insurance themselves.

Chart B: Workforce Jobs, seasonally adjusted, December 2008



Perhaps the easiest way to consider this is through examples.

- A large chemical company employs John Williams to work 40 hours a week.
- A pharmaceutical office employs Jim and Janet who job-share for 20 hours a week each.
- Janice Joyce works in her father's shop. She does not receive any money for this.

John's job would appear in the Workforce Jobs series as a full-time employee job. Jim and Janet's jobshare would be counted as two part-time employee jobs in the Workforce Jobs series.

Janice's work would not be counted because unpaid family workers are not included in the Workforce Jobs series.

The following more detailed examples may also help:

- Alice Barnes works 3 hours a week in a local supermarket but wants to work full-time.
- Harry Hepburn runs a corner shop as a sole trader.

Alice's job would be included in the Workforce Jobs series as an employee job. Harry's job would be included as a self-employment job.

3. Measuring employment - The Labour Force Survey

3.1 The Labour Force Survey (LFS)

The Labour Force Survey was carried out every two years from 1973 to 1983. In 1984 the United Kingdom adopted ILO definitions in the LFS. This was also the first year in which the survey was conducted on an annual basis with results available for spring quarters (March to May). The survey moved to a continuous basis in spring 1992 in Great Britain and in winter 1994/5 in Northern Ireland. Results were published four times a year for seasonal quarters. From April 1998, results are published monthly for the latest consecutive three-monthly period. (*For more details on LFS design, see Annex A.*)

As well as measuring the number of people in employment, the LFS collects information on working patterns (full-time/part-time status, temporary or permanent work, hours worked), on the industry of the organisation people work for and the occupation they have. The LFS also collects detailed information on a range of other topics such as personal circumstances, union membership, health, ethnicity and disability.

All these details are based on the respondents' perception of their working status. For example, the numbers in full and part-time employment from the LFS are based on self-classification by respondents.

As the LFS is a survey of private households, employment estimates reflect the area of residence of people with jobs.

3.2 Employment rates

The headline employment rate is the proportion of the working-age population who are in employment. The working-age population comprises men aged 16-64 and women aged 16-59 and therefore takes account of both the school leaving age and the state pension age currently prevailing in the UK.

However, employment rates can also be presented as the proportion of the population aged 16 and over who are in employment, as well as other age groups.

The employment rate shows changes in employment in the context of changes in the population. Employment rates also allow comparisons of employment for areas with different population sizes.

3.3 Use of employment data

The LFS provides a more complete measure of employment than the employer survey data. However, the LFS does have some shortcomings. These are in terms of coverage, interpretation of data over time and sampling variability.

The Labour Force Survey is a survey of private households, student halls of residence and National Health Service accommodation. Students in halls of residence are included through their parents' home. The LFS excludes people who live in communal establishments. This means that the LFS misses employed people living in establishments such as boarding schools, workers' hostels and residential homes. Around 1% of the population are excluded because of this.

Publishing the latest three months' average data each month leaves several options for comparing over time. ONS recommends that, for seasonally adjusted data, comparisons over time should be made with the preceding non-overlapping three-month average, for example November 2008 to January 2009 compared with August to October 2008. For non-seasonally adjusted data, comparisons should be made with the same period a year ago.

The sampling process introduces sampling variability into the figures. The easiest way to explain this is by example. In the November 2008 to January 2009 period, there were estimated to be 29,379,000 people aged 16 and over in employment in the United Kingdom, according to the LFS (seasonally adjusted). These figures were published in the March 2009 Labour Market Statistics First Release.

If we drew another sample for the same period we could get a different result, which could be higher or lower.

In theory, we could draw many samples, and each would give a different result. The spread of these results leads to sampling variability. Once we know the sampling variability we can calculate a range of values about the sample estimate that represents the expected variation with a given level of assurance. This is called a confidence interval.

For a 95% confidence interval we expect that in 95% of the samples the confidence interval will contain the true value of employment that would have been obtained by surveying the entire population. For example, for November 2008 to January 2009, we can be 95% confident that the true level of employment was within 141,000 of the estimate of 29,379,000 (ie, within the range 29,520,000 to 29,238,000).

Sampling variability also affects changes over time. Changes in employment between three-month periods are rarely greater than the level that is explainable by sampling variability. It is estimated that the number of people aged 16 and over in employment in the United Kingdom increased by 2,000 between August to October 2008 and November 2008 to January 2009 (seasonally adjusted). We can be 95 % confident that the true change lies in the range between an increase of 104,000 and a fall of 100,000. It is marginally more likely that employment increased, rather than decreased.

Additional information is available by analysing changes over time in employment rates. Employment rates show changes in employment in the context of changes in the population. However, the employment rate is still subject to sampling variability. The estimate of the change in the working age employment rate between August to October 2008 and November 2008 to January 2009 was a fall of 0.1 percentage point. We can be 95 % confident that the true change in the working age employment rate lies within the range between an increase of 0.2 percentage points to a fall of 0.4 percentage points.

Labour Force Survey employment data are available under ILO definitions from 1971.

4. Workforce Jobs

4.1 Constructing Workforce Jobs estimates

The Workforce Jobs series is made up of data from different sources. The components and the data sources are shown in Table 1.

Table 1: Components and sources of Workforce Jobs

| Component | Source |
|------------------------------------|---|
| Employee jobs | Employer surveys Administrative data Labour Force Survey (LFS) used for agriculture and construction |
| Self-employment jobs | Labour Force Survey |
| HM Armed Forces jobs | Administrative data from the Defence Analytical Services Agency |
| Government-supported training jobs | Administrative data from the Department for Innovation, Universities and Skills (DIUS), Department for Work and Pensions (DWP), Scottish Executive and National Assembly for Wales. |

Employee jobs is by far the largest component of workforce jobs and is mainly measured using employer surveys, as shown in Table 2.

Table 2: Sources of Employee Jobs: employer surveys

| | |
|--|---|
| Short-term Employment Surveys (STES): Monthly Production Inquiry (MPI) Monthly Inquiry for the Distribution & Service Sector (MIDSS) Retail Sales Inquiry (RSI) | These surveys measure short-term changes in the number of private sector employee jobs. |
| Quarterly Public Sector Employee Surveys (QPSES) include jobs in the civil service, local authorities and public bodies. | Measures short-term changes in the number of public sector employee jobs. |
| Annual Business Inquiry (ABI) | Measures the total number of private sector employee jobs annually and provides a benchmark for STES. |

STES provides estimates of quarterly changes in the number of services jobs in the private sector (MIDSS and RSI) and monthly changes in jobs in the production sector (MPI). These short-term estimates of changes in the private sector are then applied to the latest ABI figures; i.e. the ABI provides an annual benchmark for private sector employee jobs. The ABI measures the number of employee jobs each September, with results released the following year. STES excludes some industry sectors; e.g. where other information is available, such as administrative sources, or if the costs would be too high, such as for agriculture and construction where the Labour Force Survey (LFS) is used instead. The LFS is a household survey as opposed to an employer survey.

The public sector employment (PSE) estimates are compiled from QPSES and various administrative sources, such as NHS figures from the Department of Health, police figures from the Home Office and data from the devolved administrations for Northern Ireland, Scotland and Wales. The PSE estimates are not benchmarked.

ABI and STES take a sample of businesses from the Inter-Departmental Business Register (IDBR). The IDBR holds details of all businesses that run a Pay-As-You-Earn tax system, register for Value Added Tax, or are incorporated and registered at Companies House. It provides a sampling frame from which the ONS can select organisations to send out questionnaires. The ABI sample is approximately twice the size of the STES sample. QPSES is a census of the public sector organisations that it covers.

In general, the employer surveys ask for details of employees on the payroll of the business including those who are temporarily away from the workplace; e.g, those on leave. The types of workers that employers are asked to include and exclude are shown in Table 1 in Annex B. Annex B also contains more information on the design of the employer surveys.

Businesses give details of the number of full-time, part-time, male and female workers they employ. Most employers refer to their payroll for this information. For the ABI and STES, employers are asked to count people working under 30 hours a week as part-time. QPSES defines part-time as those working less than the normal full-time hours. As these surveys are both surveys of employers, the figures at a regional and local level reflect the location of the jobs, not the place of residence of the worker. The ABI sample is larger and allows for regional estimates at a more detailed level.

Self-employment jobs are taken from the Labour Force Survey and include worker's second jobs. Government-supported training jobs are taken from administrative sources and only include those who are receiving skills-based training in workplaces and who do not have employee status. Those who have employee status are included in the employee jobs component.

4.2 Use of Workforce Jobs estimates

As Workforce Jobs are mainly measured using employer surveys, some jobs are excluded; eg, workers employed directly in private households. The ABI and the STES are both subject to sampling variability, but the ABI's larger sample allows for a more detailed regional and industry breakdown. The industry breakdown from the employer surveys is more reliable than the LFS which relies on self-classification from the person being interviewed.

Estimates of total Workforce Jobs are only available at the United Kingdom and Great Britain level. At the regional level series are available for Civilian Workforce Jobs, which excludes jobs in HM Armed Forces.

Employee jobs series are available annually from 1959 and quarterly from June 1978. They are published in the monthly *Labour Market Statistics First Release*. Further information from the series is published on the National Statistics website, on Nomis[®] and in the labour market statistics regional First Releases. Results are currently available 11 weeks after the reference period and are available, from 1978, classified by Standard Industrial Classification (SIC) 2003.

5. Towards reconciliation

The concept of employment (measured by the LFS as the number of people working at least one hour during the survey reference week) differs from the concept of jobs, since a person can have more than one job, and some jobs may be shared by more than one person. The LFS, which collects information mainly from residents of private households, is the preferred source of statistics on employment. The LFS can also be used to produce estimates of the total number of jobs in the UK, by adding together the headline employment figures (which are equivalent to main jobs) and those for workers with a second job. However, the WFJ series, which is compiled mainly from surveys of businesses, is the preferred source of statistics on jobs by industry, since it provides a more reliable industry breakdown than the LFS does.

The *Review of Employment and Jobs Statistics* recommended that comparisons between estimates of jobs produced from household and business surveys should be made on a quarterly basis. Following that recommendation, ONS now publishes regular comparisons of estimates of jobs from the Labour Force Survey (LFS) and from the Workforce Jobs series (WFJ) as an annex to the monthly *Labour Market Overview* document:

<http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=9539>

These comparisons show that the WFJ series records substantially more jobs than the LFS. For December 2008 the WFJ series recorded 31.32 million jobs in the economy while the LFS recorded 30.53 million jobs – a difference of almost 800,000. These differences are discussed in the *Labour Market Overview* document mentioned above.

6. Regional and Local Statistics

6.1 Regional

Regional employment data are derived from the Labour Force Survey (LFS), Annual Business Inquiry (ABI) and Short-Term Turnover and Employment Surveys (STES).

The LFS provides an estimate of the number of people in employment, broken down into employees, self-employed, unpaid family workers and Government-supported trainees. Quarterly estimates of all these measures are available from spring 1992 for both Government Office Regions (GORs) and Standard Statistical Regions (SSRs). Prior to spring 1992 annual estimates for each spring are available back to 1984 for SSRs only. Estimates of the number of unpaid family workers are not available prior to spring 1992.

The ABI provides an annual estimate of employee jobs, around one year after the date of the survey. The STES are combined with the ABI to produce quarterly estimates of employee jobs (monthly for production industries) at regional level. Quarterly estimates of employee jobs by industry have been available for SSRs since September 1978. Quarterly seasonally adjusted estimates of total employee jobs are available for SSRs from September 1981. Estimates for GORs are available from 1995.

The Employee jobs series is a component of the wider measure of workforce jobs. In addition to employee jobs, workforce jobs include estimates of self-employment jobs, Government-supported trainees and HM Armed Forces. At regional level, data for civilian workforce jobs are published, which exclude the figures for HM Armed Forces. The estimates of self-employment jobs are from the LFS and also include people whose main job is as an employee, but are self-employed in a second job. The estimates of Government-supported trainees are supplied from administrative sources. Data for all three components are available back to June 1983.

6.2 Local

Local area employment data are derived from the Annual Population Survey (APS)/LFS and ABI.

The APS/LFS provides an estimate of the number of people in employment, broken down into employees, self-employed, unpaid family workers and government trainees.

The first APS was published on 28 July 2005 and covered the period January to December 2004. It is published quarterly on a rolling 12-monthly basis.

Annual LFS estimates are available for 1994/95 to 2003/04, for the 12 months ending each February; eg, data for 2003/04 covers the period March 2003 to February 2004. From March 2000, there was an enhanced sample for England, from March 2001 an enhanced sample for Wales, and from March 2003 a boost for Scotland. The APS includes an additional boost for local authority districts in England. A consistent time series for current unitary and local authorities is available from 1996. Four-quarter averages, from the quarterly LFS, which are available from Spring 1995 to Spring 2005, have been replaced by the APS.

APS/LFS data are available free from the Nomis[®] website - www.nomisweb.co.uk or from the Labour Force Survey Data Service - ifs.dataservice@ons.gov.uk. There may be a charge for this service.

The Annual Business Inquiry (ABI) provides an annual estimate of employee jobs, around one year after the date of the survey. The ABI replaced the Annual Employment Survey which itself replaced the Census of Employment. Estimates of employee jobs are available down to ward level. Estimates are produced for both frozen and current wards (smallest electoral areas). This means that estimates can be derived for a wide range of geographies. The ABI is also disaggregated to postcode sectors, allowing estimates to be produced for all levels of postcode geography. Not only are a range of geographical disaggregations available, but the data are also presented for the full range of industries, and split by gender and by full and part-time workers.

Estimates of Workforce Jobs, for local areas, which includes ABI data, are produced as a numerator for the jobs density indicator. Jobs density is defined as the number of jobs per working age resident in an area. More information on jobs density is available on the website:

<http://www.statistics.gov.uk/STATBASE/Product.asp?vlnk=10549>

More information is available in the *Guide to Regional and Local Labour Market Statistics*, available on the website:

<http://www.statistics.gov.uk/statbase/product.asp?vlnk=4752>

6.3 Neighbourhood Statistics

The Office for National Statistics is leading the development of a new internet service, the **Neighbourhood Statistics Service**. At its heart is the aim to supply the information needs for the National Strategy for Neighbourhood Renewal.

The Neighbourhood Statistics Service offers users ready access to a range of local data including the 2001 Census. Data can be viewed on-line or downloaded at no cost to users.

Data from the Annual Population Survey (APS) on housing, education, employment, ethnicity and health are now available from the Neighbourhood Statistics website, where more information on Neighbourhood Statistics is also available:

<http://www.statistics.gov.uk/neighbourhood>

7. Further Information

If you require further information on labour market statistics or have any enquiries related to this publication:

Labour Market Statistics Helpline

Phone: **01633 456901**
E-mail: labour.market@ons.gov.uk

Labour Force Survey Data Service

Phone: **01633 455732**
E-mail: -lfs.dataservice@ons.gov.uk

The LFS Data Service offers access to LFS data at two levels:

(i) National and Regional Level

LFS data at both national and regional (Government Office Region) level can be produced in tabulated format to customer's specification. Data is provided electronically in Excel spreadsheet format (unless otherwise specified).

Provision exists whereby customers may purchase dial-up access to LFS datasets to conduct their own interrogation and analyses. More information is available on application.

(ii) Sub-National level

LFS data can also be provided in tabular format at sub-regional level. This enables information on a lower geographical scale than region to be provided enabling analysis at county level, local/unitary authority district level, travel-to-work area, etc. Data is again provided in Excel spreadsheet format (unless otherwise specified).

Research use of APS/LFS

For research users, copies of APS/LFS and claimant count cohort databases are available from the University of Essex Data Archive

Website: <http://www.data-archive.ac.uk>
Email: archive@essex.ac.uk Tel: 01206 872001

Data from Nomis[®]

Employment and unemployment data are available from the APS/LFS (for local areas). Workforce jobs data are available for old standard statistical regions and at country level. Claimant count data are available for wards and above.

Website: <http://www.nomisweb.co.uk>
Email: info@nomisweb.co.uk
Tel: 0191 334 2680

Economic and Labour Market Review

In January 2007 the *Labour Market Trends* and *Economic Trends* publications were replaced by a new publication *Economic and Labour Market Review*, which is available free on the National Statistics website: <http://www.statistics.gov.uk/elmr/>

It is also available in hard copy format by subscription from Palgrave Macmillan:

<http://www.palgrave.com/ONS>

Email: ons@palgrave.com

Tel: 01256 302195

Annual Employment Statistics (ABI)

Tel: 01633 456903

Email: annual.employment.figures@ons.gov.uk

Workforce Jobs

Tel: 01633 456776

Email: workforce.jobs@ons.gov.uk

National Statistics Public Enquiry Service

Tel: 0845 601 3034

Email: info@statistics.gov.uk

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What exactly is the Labour Force Survey?

Guide to Labour Market Statistics Releases

Guide to Regional and Local Labour Market Statistics

are available on the National Statistics website at:

<http://www.statistics.gov.uk/onlineproducts/default.asp#labour>

Annex A

The Labour Force Survey

Design

In the Labour Force Survey, everyone aged 16 or over is classified into one of three categories: in employment; unemployed; or economically inactive.

The Labour Force Survey is a sample survey of private households. Its design means that in any three-month period:

- approx. 53,000 households in the UK will be interviewed;
- approx. 101,000 people aged 16 and over will be interviewed;
- representative results can be produced for the whole of the UK.

This allows publication of LFS results for the latest available three months every month. The LFS is designed to be representative of the private household population. Those excluded live in communal establishments and represent around 1 % of the population.

After the interviews have taken place, the results are processed. This gives figures for the population as a whole. However, not every household responds to the survey. Official mid-year population estimates give the total number of people living in each area by age group and gender. From this, factors can be constructed to ensure the published results reflect the entire household population.

How to compare over time

When quarterly results are published 12 times a year, there are several ways of comparing figures over time. The table below shows this:

| Jan 08 | Feb 08 | Mar 08 | Apr 08 | May 08 | Jun 08 | Jul 08 | Aug 08 | Sep 08 | Oct 08 | Nov 08 | Dec 08 | Jan 09 | Feb 09 | Mar 09 |
|------------|------------|------------------|------------|------------|------------------|------------|------------------|------------------|------------|------------------|------------------|------------|------------------|--------|
| Solid Blue | | | | | | | | | | | | | | |
| | Light Blue | | Light Blue | | | | | | | | | | | |
| | | Horizontal Lines | | | | | | | | | | | | |
| | | | Solid Blue | | | | | | | | | | | |
| | | | | Light Blue | | Light Blue | | | | | | | | |
| | | | | | Horizontal Lines | | Horizontal Lines | | | | | | | |
| | | | | | | Solid Blue | | | | | | | | |
| | | | | | | | Light Blue | | Light Blue | | | | | |
| | | | | | | | | Horizontal Lines | | Horizontal Lines | | | | |
| | | | | | | | | | Solid Blue | | Solid Blue | | | |
| | | | | | | | | | | Light Blue | | Light Blue | | |
| | | | | | | | | | | | Horizontal Lines | | Horizontal Lines | |
| | | | | | | | | | | | Solid Blue | | Solid Blue | |

The shaded areas show the periods for which LFS results are available. For seasonally adjusted data, comparisons over time should be made with the periods shaded in similar colour, i.e. compare January to March 2009 with October to December 2008 or January to March 2008. Comparing January to March 2009 with December 2008 to February 2009 can give false indications. For seasonally adjusted data, comparisons over recent time should be made with the preceding non-overlapping quarter. For data that are not seasonally adjusted, comparisons should be made with the same period a year ago.

Annex B

Producing Estimates of Employee Jobs from Employer Surveys

Annual and Quarterly Surveys

The ONS produces an annual set of employee jobs estimates and a series of quarterly updates. The annual dataset comes from the Annual Business Inquiry (ABI) and this dataset contains more industrial and geographical detail than the quarterly datasets. The quarterly sample is roughly half the size of the annual sample. The ABI uses data from the quarterly surveys where there are overlaps in the samples.

Business Structures

There are two ways of looking at firms:

Local units are sites or workplaces. Enterprises are whole businesses under common ownership. For example, a single site business, such as a shop which is not part of a chain is termed a 'single site enterprise' or an enterprise with only one local unit. A 'multi-site enterprise', as the name suggests, is a chain of shops that are under common ownership.

ONS maintains a record of businesses on its Inter-Departmental Business Register (IDBR). The IDBR contains information on the enterprise, and on the local units linked to each enterprise. It is updated regularly from both ONS' Business Register Survey (BRS) and from administrative sources (VAT, PAYE and Companies House records). It provides a comprehensive business register with well over 2 million local units.

In addition to 'enterprises' and 'local units', 'reporting units' are groups of local units to which questionnaires are sent and collectively surveyed. For the vast majority of businesses, the reporting unit is equivalent to the enterprise. In other words, the business supplies aggregate information for all of its operations and sites. These are called 'enterprise reporters'. However, approximately 10 per cent of businesses prefer to divide the enterprise into a number of reporting units, each of which provides separate statistical returns for groups of local units. ONS calls these reporting units 'local unit list reporters'.

Most of ONS's business surveys are conducted at the reporting unit level rather than the local unit level. For many variables, it makes sense to collect the information at this level. For example, variables such as purchases and taxes might not be available at local level. However, there are certain variables, such as employment, for which there is an obvious site component. For employment information, there is also a strong demand among users for local area statistics. The ABI methodology has been designed to cope with the requirement to produce local level statistics

Sample and Questionnaire Design of the ABI

The ABI goes to a sample of reporting units drawn from the IDBR. Approximately 78,000 reporting units are selected for each year's survey covering between them around half a million workplaces.

All businesses with 250 or more employees are surveyed each year. For smaller businesses a sample are surveyed. Most businesses are asked to supply a breakdown of their employees between male full-time, male part-time, female full-time and female part-time, as well as

giving the total. The collection of employees data by gender is currently under review and it has been proposed that this data will no longer be collected, although data relating to the full-time/part-time split will continue to be collected. In addition, businesses are asked to give the number of working proprietors and the number of unpaid workers, including family workers. This employment information was sought for a particular date towards the end of the calendar year; the rule being that this date would be the first Friday after the second Thursday in December. This date was selected to bring the ABI/1 (employment) in line with the ABI/2 (financial) as there were advantages from an ABI/2 point of view to gather financial data at the calendar year end. In 2004, the ONS undertook a review of the ABI. This review identified that, by moving the reference date from December to September, the data collected by the ABI/1 could be directly compared to the data collected by the Business Register Survey (BRS) and the quality of the statistics improved. Since the 2006 survey, businesses have been asked to provide information on employee numbers in their organisation annually as before but on a specified day in September; again this being the first Friday after the second Thursday. This has the advantage of reducing the number of questionnaires sent to businesses. Companies previously selected for both surveys will now only receive the BRS questionnaire.

Table 1: Guidance to employers on filling in the employee jobs question on employment questionnaires

| Include | Exclude |
|--|---|
| Employees at all sites working for the named business | those employed by outside contractors or agencies |
| Employees in all activities undertaken by the business | working proprietors, partners and self-employed, directors not on contracts |
| Temporary and casual employees | those on Government-Supported Training who do not have a contract of employment |
| those off sick, on holiday, on short-time or maternity leave | home-workers on piecework rates |
| those on Government-Supported Training who have a contract of employment | former employees still on the payroll as pensioners |
| Employees who work away from the workplace such as sales reps and lorry drivers | those who normally work at another business such as temporary transfers and secondments |
| Employees paid by parent company | Employees under 16 years of age |
| Employees of any other business trading on your premises only if they appear on your payroll | |

National estimation

The first stage of the estimation process is to generate national estimates based on the reporting unit information obtained through the survey. In simple terms, this is achieved by generating a grossing factor for each return, and then multiplying the returned values by the grossing factors. Adding all these grossed returns together gives the national total.

The grossing procedure relies on finding a relationship between the returned employee jobs figures and some auxiliary information which, in this case, is the employment value for that business held on the IDBR

The estimation system includes a special process to identify outliers (unusual results) and treat them separately. It also employs a technique for dealing with businesses that ceased trading between the time the sample was drawn and the survey date. Furthermore, the estimation process gives special treatment to businesses that have undergone a merger or take-over.

Sub-National estimation

To compile estimates for employee jobs at sub-national levels first requires a process of local unit apportionment. This involves cascading the reporting unit data (collected on the survey questionnaires) across the local units which are linked to the reporting unit. The IDBR is the source of information for the links between the reporting and local units.

A value is apportioned to each variable in a local unit and the data are grouped into estimation cells defined by employment size bands, industry and region. Ratio estimation is applied to the cells. As part of this process, reporting units that were marked in the national datasets as outliers are also regarded as outliers in the sub-national estimation system.

The national and sub-national estimates are obtained using different stratification schemes, and so are likely to differ at the UK level. To overcome this, the local unit dataset is scaled to match the aggregate employee jobs total from the reporting unit dataset.

In theory, the estimation mechanisms described above could be used to generate estimates for any domain of interest, even those at very fine levels of industrial or geographical detail. In practice, however, the sample size may be stretched too thinly for these very fine disaggregations, and there is a risk that some cells may not be of publishable quality. To overcome this problem, a set of 'minimum domains' have been identified. Minimum domains are cells (combinations of industry and geography) for which the estimation process described above has been shown to give robust results. Typically, minimum domains are two-digit industry by local authority district or county. Below these 'minimum domains', a process known as synthetic estimation is used. This takes the minimum domain estimates and breaks them down according to ratios from the IDBR. This way, the ABI can be used to generate data at very fine levels of industry and geography.

Annex C

The Census of Population

The Census of Population is carried out once every ten years. The most recent Census was held on 29 April 2001. Every household and every communal establishment in the United Kingdom was given a questionnaire to complete and the Census results cover all usual residents of the UK (statistical adjustments are made to correct for people who are not included on a Census form).

The 2001 Census included a series of questions to facilitate the derivation of statistics on economic activity. These are compatible with the ILO definition, although these questions are only asked of people aged 16 to 74. Other labour market related information available from the 2001 Census includes occupation, industry, hours worked and method and distance of travel to work.

The 1991 Census also asked similar labour market related questions, but these did not fully conform to the ILO definition.

Statistics from the 1991 and 2001 Censuses of Population are available from:

Census Customer Services
Office for National Statistics
Segensworth Road
Titchfield
Fareham
Hampshire
PO15 5RR

Phone: 01329 813800

Fax: 01329 813587

Minim: 01329 813669

E-mail: census.customerservices@ons.gov.uk

Web: <http://www.statistics.gov.uk/census2001/default.asp>

Annex D

Concepts and Definitions

Civilian Workforce Jobs: *Workforce jobs* excluding those in HM Forces.

Discouraged Workers: A subgroup of the economically inactive population who said that they would like a job and whose main reason for not seeking work was because they believed there were no jobs available.

Economically Active: The economically active population are those who are either in employment or unemployed.

Economic Activity Rate: The number of people who are in employment or unemployed expressed as a percentage of the relevant population.

Economically Inactive: People who are neither in employment nor unemployed. This includes those who want a job but have not been seeking work in the last four weeks, those who want a job and are seeking work but not available to start work, and those who do not want a job.

Economic Inactivity Rate: The number of economically inactive people expressed as a percentage of the relevant population.

Employment and jobs: There are two ways of looking at employment: the number of people with jobs, or the number of jobs. The two concepts are different as a person can have more than one job.

The number of people with jobs is measured by the *Labour Force Survey* (LFS) and includes people aged 16 or over who did paid work (as an employee or self-employed), those who had a job that they were temporarily away from, those on government-supported training and employment programmes, and those doing unpaid family work.

The number of jobs is measured by workforce jobs and is the sum of employee jobs (as measured by surveys of employers); self-employment jobs from the LFS, those in HM Forces, and government-supported trainees. Vacant jobs are not included.

Employment Rate: The number of people in employment expressed as a percentage of the relevant population (e.g. working age employment rate is the number of people in employment aged 16-59/64 as a percentage of the population aged 16-59/64).

Full-time: In the *Labour Force Survey*, the respondents classify themselves as either full-time or part-time. However, people on government supported training and employment programmes who are at college in the reference survey week are classified, by convention, as part-time. In employer surveys, people are generally classed as part-time if they work for less than 30 hours per week.

Government-supported trainees: Those on government-supported training programmes are included in the employee jobs estimate, within *Workforce Jobs*, if they have a contract of employment - otherwise they are included in the *Workforce Jobs* estimate as Government-Supported Trainees.

Hours worked (actual and usual): Respondents to the *Labour Force Survey* are asked a series of questions enabling the identification of both their usual hours and the hours they actually worked in the reference week. The calculation of hourly earnings in the *Labour Force Survey* is on the basis of usual hours.

Jobs density: The total number of filled jobs in an area divided by the resident working-age population of that area.

Labour Force Survey: The main source for information on the labour market in the UK. It is a random household survey of approximately 53,000 households every three months conducted by the *Office for National Statistics*. As well as private households, the survey includes people living in communal establishments (student residence halls, National Health Service accommodation, etc).

Labour Supply: People employed or unemployed form the actual labour supply. Economically inactive people are considered a potential source of labour supply.

Part-time: See *Full-time*.

Rates: Generally the preferred measure of labour market statistics as they allow changes in the labour market to be interpreted in a wider context by allowing for changes in the overall population, or the number of people who are economically active.

Seasonal adjustment: A process of estimating regularly occurring seasonal effects and removing them from the raw data.

Second jobs: Jobs which *Labour Force Survey* respondents hold in addition to a main full-time or part-time job.

Self-employment jobs: Part of *Workforce Jobs*. Estimates are based on the results of the *Labour Force Survey*.

Temporary employees: In the *Labour Force Survey* these are defined as those employees who say that their main job is non-permanent in one of the following ways: fixed period contract, agency temping, casual work, seasonal work, other temporary work.

Unemployment: The number of unemployed people in the UK is measured through the *Labour Force Survey* following the internationally agreed definition recommended by the *International Labour Organisation (ILO)* – an agency of the *United Nations*. Unemployed people are:

- without a job, want a job, have actively sought work in the last four weeks and are available to start work in the next two weeks or;
- out of work, have found a job and are waiting to start it in the next two weeks.

Unemployment Rate: The number of unemployed people expressed as a percentage of the relevant economically active population.

Unpaid family workers: Persons doing unpaid work for a business they own or for a business that a relative owns.

Workforce Jobs: See *Employment and Jobs*.