

# Vacancy Survey QMI

Quality and methodology information for vacancies, detailing the strengths and limitations of the data, methods used, and data uses and users.

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# 1 . Output information

- National Statistic: yes
- Survey name: Vacancy Survey
- Data collection: electronic questionnaire
- Frequency: monthly
- How compiled: sample-based survey
- Geographic coverage: UK
- Related publications: Vacancies and jobs in the UK

## 2 . About this Quality and Methodology Information report

This quality and methodology report contains information on the quality characteristics of the data (including the European Statistical System five dimensions of quality) as well as the methods used to create it.

The information in this report will help you to:

- understand the strengths and limitations of the data
- learn about existing uses and users of the data
- understand the methods used to create the data
- help you to decide suitable uses for the data
- reduce the risk of misusing data

## 3 . Important points

The Vacancy Survey produces monthly estimates of job vacancies across the whole economy. Questionnaires are sent to a sample of approximately 6,100 businesses every month, approached mainly via head offices. Responses are collected via an electronic questionnaire.

The survey covers all sectors of the economy and all industries in England, Scotland and Wales (Great Britain) with the exception of employment agencies (to avoid double-counting of vacancies) and agriculture, forestry and fishing.

Northern Ireland businesses are not approached because of the risk of overlap with other surveys conducted by Northern Ireland departments.

Vacancy statistics are not available by region.

Estimates for the UK are derived by weighting up the data for Great Britain using employment estimates (Northern Ireland accounts for around 3% of UK employment). The headline data series are based on three-month moving averages, by type of industry and by employment count.

The headline three-month moving average based data series is seasonally adjusted. The single-month vacancy series is not averaged nor seasonally adjusted and displays the estimates based on the responses from the businesses selected that month.

## 4 . Quality summary

### Overview

The Vacancy Survey is a statutory, monthly survey of businesses. Electronic questionnaires are sent to a sample of approximately 6,100 businesses every month.

The survey asks a single question: how many job vacancies does a business have in total (on a specified date) for which they were actively seeking recruits from outside their organisation. The headline data series are based on three-month moving averages, by type of industry and by employment count. Vacancy statistics are not available by region.

The [Inter-Departmental Business Register \(IDBR\)](#) is used as the sampling frame. The sample is made up of 1,400 large businesses included every month and the remaining 4,700 consisting of smaller enterprises randomly sampled on a quarterly basis.

Vacancy statistics are published in the [Labour market overview](#), usually within six weeks of the reference date of the survey. Short-term statistics provide important information about the demand for labour and can provide an early indication of what is happening in the labour market. They are used for monitoring and policymaking purposes by UK government departments. They are also used by businesses and analysts to gauge the strength of the labour market.

The Vacancy Survey has historical data available from April to June 2001 and was adopted as a [National Statistic](#) in June 2003.

### Uses and users

Vacancy statistics provide important information about the demand for labour and give an early indication of what is happening in the labour market. They are used for monitoring and policymaking purposes by UK government departments. Examples are:

- HM Treasury – vacancy statistics are used by HM Treasury to assess labour market conditions and are an important indicator in the macroeconomic assessment
- Bank of England – the Bank's Monetary Policy Committee uses vacancy statistics in the assessment of the labour market, that is, the balance between demand and supply, and the extent of inflationary pressures in the economy
- Department for Work and Pensions (DWP) – whole economy estimates allow DWP to give some context to the Jobcentre Plus estimates
- Department for Business, Energy and Industrial Strategy – track the levels of vacancies as one of the indicators of the balance of supply and demand for skills

Following 2002's gentlemen's agreement with Eurostat, a regulation was passed in 2008 (EC Number 453/2008) making collection of vacancy statistics mandatory from 2010. The UK played an active part in developing this regulation, and the UK Vacancy Survey continues to meet its directives despite the UK leaving the European Union in 2020.

Vacancy statistics are also used by businesses and analysts to gauge the strength of the labour market.

## Strengths and limitations

These are the main strengths of the survey.

The survey covers all sectors of the economy and all industries in England, Scotland and Wales (with the exception of agriculture, forestry and fishing, and recruitment agencies). Results for Great Britain are adjusted to cover Northern Ireland using employment estimates.

The survey uses a simple "one number" questionnaire, asking for the total number of vacancies on a particular date near the beginning of each month. The question is comparable with the internationally agreed definition common to all European vacancy surveys.

The data are available either broken down by industry to 18 industrial groupings or broken down by employment count.

The Vacancy Survey is one of the most timely labour market releases, with survey estimates published usually within six weeks of the reference date. While this timetable does not have a significant impact on quality in terms of response information, there is still scope for revisions to data in later months to take account of late information from respondents or corrections for misreporting.

The Vacancy Survey became a National Statistic in June 2003.

The main weakness of the survey is that estimates are subject to various sources of error that can be categorised as sampling error and non-sampling error. See the later paragraphs on accuracy and reliability in [Section 5: Quality characteristics of the data](#).

## Recent improvements

In 2016 we began to publish the [non-seasonally adjusted single-month vacancies X06 dataset](#).

The structure of the Vacancies publications changed early in 2021 becoming shorter, with greater emphasis on clarity and accessibility.

# 5 . Quality characteristics of the data

## Output quality

This report provides a range of information that describes the quality of the output and details any points that should be noted when using the output.

We have developed guidelines for measuring statistical quality; these are based upon the five European Statistical System dimensions of quality. This report addresses the quality dimensions and important quality characteristics, which are:

- relevance
- accuracy and reliability
- comparability and coherence
- accessibility and clarity
- timeliness and punctuality
- concepts and definitions
- geography

## Relevance

The Vacancy Survey produces monthly estimates of job vacancies across the whole economy.

The survey covers all sectors of the economy and all industries in England, Scotland and Wales (Great Britain) with the exception of employment agencies (to avoid double-counting of vacancies) and agriculture, forestry and fishing (because of the disproportionate costs involved as these industries mainly consist of very small businesses with few vacancies). Northern Ireland businesses are not approached because of the risk of overlap with other surveys conducted by Northern Ireland departments.

Estimates for UK are derived by weighting up the data for Great Britain using employment estimates (Northern Ireland accounts for around 3% of UK employment). The headline data series are based on three-month moving averages, by type of industry and by employment count. Vacancy statistics are not available by region.

## Accuracy and reliability

Estimates from this survey are subject to various sources of error that can be categorised as sampling error and non-sampling error.

### Sampling error

Sampling error occurs because estimates are based on a sample rather than a census. The Vacancy Survey estimates the size of this error by estimating [standard errors](#) and [coefficients of variation](#).

For the monthly estimates of total vacancies, the standard errors for the level are around 26,000, or 2.2% expressed as a coefficient of variation (as a percentage of the estimate for the number of vacancies). This yields a [confidence interval](#) of plus or minus 51,000. For the three-month rolling average of vacancies, the standard errors are around 16,000 (1.3% expressed as a coefficient of variation), giving a confidence interval of plus or minus 32,000. For a three-month average of vacancies, for a typical industrial sector, the coefficient of variation is around 6.5%.

### Non-sampling error

Non-sampling errors are not easy to quantify and include errors of coverage, measurement, processing and non-response. The Vacancy Survey has a target monthly response rate of 80%. In 2019, the average response rate for the Vacancy Survey was 80.2%.

Revisions are analysed over time in terms of their size, direction and volatility. This is to monitor the accuracy of various statistical processes, such as imputations for non-response, which can be replaced by late responses.

## Coherence and comparability

Comparability is the degree to which data can be compared over time and domain, for example, geographic level. Coherence is the degree to which data that are derived from different sources or methods, but refer to the same topic, are similar.

The survey uses a simple “one number” questionnaire, asking for the total number of vacancies on a particular date near the beginning of each month. The data are available either broken down by industry to 18 industrial groupings or broken down by employment count.

Vacancy Survey data are available from June 2001 and have been classified by industry using the internationally recognised [Standard Industrial Classification \(SIC\) 2007](#).

Single month vacancy estimates are also published but these are [experimental](#) and not seasonally adjusted and should be used with caution.

In February 2021 the [Vacancy bulletin](#) was supplemented with an experimental [online job advert dataset from Adzuna](#). These data cover the whole of the UK and are broken down by job category. The data also provide a regional split across English regions and devolved nations in line with [international territorial levels \(ITL1\)](#) for the UK.

The Vacancy Survey data provide a different perspective on labour demand not fully covered by Adzuna data. Therefore caution is advised when comparing the two sources, with Adzuna data not aligning with SIC 2007 classifications; only being published on a non-seasonally adjusted basis and being badged as “experimental”. More information on comparisons between the Vacancy Survey and Adzuna online job adverts can be found in our [labour market sources comparison article](#).

## Accessibility and clarity

Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the release details, illustrations and accompanying advice.

Our recommended format for accessible content is a combination of HTML webpages for narrative, charts and graphs, with data being provided in usable formats such as CSV and Excel. Our website also offers users the option to download the narrative in PDF format. In some instances other software may be used, or may be available on request. Available formats for content published on our website but not produced by us, or referenced on our website but stored elsewhere, may vary. For further information please refer to the contact details at the beginning of this report.

For information regarding conditions of access to data, please refer to the links in [Section 7: Other information](#).

## Timeliness and punctuality

Timeliness refers to the lapse of time between publication and the period to which the data refer. Punctuality refers to the gap between planned and actual publication dates.

The Vacancy Survey reference date falls on the first Friday of the month, unless this is the first day of the month. In this case, the reference date moves to the second Friday of the month. Data collection for each period closes down on the 16th working day of the calendar month after the survey reference date. Vacancy statistics are then published in the [Labour market overview bulletin](#) usually between six and seven weeks after the reference date of the survey, making vacancies one of the most timely survey sources on the labour market.

We publish the latest month's vacancy estimates along with revisions to the previous three months' estimates and figures for the same period a year ago. In April of each year, revisions for the previous three years (38 months) are published and are pre-announced in the March statistical bulletin.

In the unlikely event of a change to the release schedule, an announcement will be made at least two weeks in advance, as set out in the [Code of Practice for Statistics](#).

For more details on related releases, the [GOV.UK release calendar](#) provides 12 months' advanced notice of release dates. If there are any changes to the pre-announced release schedule, public attention will be drawn to the change and the reasons for the change will be explained fully at the same time, as set out in the Code of Practice for Statistics.

## Concepts and definitions

Concepts and definitions describe the legislation governing the output and a description of the classifications used in the output.

[A guide to labour market statistics](#) explains the concepts and definitions used in the production of vacancy statistics.

## Geography

The survey covers all sectors of the economy in England, Scotland and Wales (with the exception of agriculture, forestry and fishing, and recruitment agencies). Results for Great Britain are adjusted to cover Northern Ireland using employment estimates.

## Why you can trust our data

The Vacancy Survey is a legal requirement in the UK, underpinned and enforced through the Statistics of Trade Act 1947. Following 2002's gentlemen's agreement with Eurostat, the 2008 regulation EC Number 453/2008 was passed making collection a mandatory requirement from 2010. The UK played an active part in developing this regulation and the UK Vacancy Survey continues to meet its directives despite the UK leaving the European Union in January 2020.

Nationally and internationally agreed definitions and standards are used.

The Vacancy Survey questionnaire contains just one question:

On "specified date" what was the number of job vacancies for which you were actively seeking recruits from outside your business or organisation?

This question meets the internationally agreed definition common to all European vacancy surveys.

Collection of the Vacancy Survey data from January 2010 is based on the latest definition of the Standard Industrial Classification (SIC) 2007. The same classification is used across the EU and impacts on a wide range of statistics produced by the ONS.

## 6 . Methods used to produce the Vacancy Survey data

### How we collect the data, main data sources and accuracy

#### Sample

The total sample is approximately 6,100 businesses per month. Approximately 1,400 large businesses are included in the survey every month. The remaining 4,700 are smaller enterprises sampled randomly on a quarterly basis and are kept in the survey for five to nine quarters (three-month periods) depending on the size of the business.

Businesses are grouped into five employment size-bands: 2 to 9, 10 to 49, 50 to 249, 250 to 2,499 and 2,500 and over. The Vacancy Survey uses modelling rather than sampling for enterprises with a register employment of 1. After detailed analysis it was found that the number of returns greater than zero from these companies was very small and was placing an unnecessary burden on these small companies.

In common with most other business surveys conducted by the Office for National Statistics (ONS), the sampling frame is the [Inter-Departmental Business Register \(IDBR\)](#). The IDBR stores details of about 2 million businesses registered in the UK and is maintained largely by updates from HM Revenue and Customs, Companies House and surveys conducted by the ONS specifically geared to maintaining the IDBR.

## Collection

The data collection method used for the Vacancy Survey since May 2020 is by an electronic questionnaire. Businesses are written to prompting them to enrol onto the survey and once a respondent has enrolled all future correspondence is online.

Respondents have seven days to make a return to us. If no response is received a further reminder is sent to elicit a response without delay. Targeted selective editing was implemented into the survey in April 2012. This editing approach identifies potential errors in returned values that are having the greatest impact on survey estimates. Potential errors are followed up with respondents where further explanation is required.

## How we process the data

For the Vacancy Survey, returned information is run through a validation process. Information from each company is classified either as "Clean" (the vacancy numbers are in line with expectations based on the employment counts recorded on the Inter-Departmental Business Register (IDBR) or previous returns from that company) or "In error" (they are out of line with expectations). "In error" cases are investigated via contacting the company, with most either being confirmed or amended before being classified as "clean". Any remaining "in error" cases are imputed.

## How we analyse and interpret the data

### Weighting

As it is not possible to survey every business in the population it is necessary to weight the data to provide estimates for the full population. In strata that are not fully enumerated, each business represents a number of similar businesses, based on the number of employees and the Standard Industrial Classification (SIC) 2007. Weights are updated monthly.

### Estimation

Results are produced using a ratio estimator, which is one of the standard estimators we use. Ratio estimation uses the ratio between the survey variable (number of vacancies) and an auxiliary variable (IDBR employment) to make estimates for non-sampled units. Although the correlation between the number of vacancies and employment is not strong, use of the ratio estimator gives slightly more precise results for the whole economy than would come about through use of a simple expansion estimator. (Within stratum, expansion estimation is a popular method of estimating totals in a stratified finite population. However, if by chance several unusually large observations should fall in the sample, then the expansion estimator may grossly overestimate population totals.)

### Imputation

Values for businesses that do not respond are imputed. Imputation is based on the pattern of responses for similar businesses. A link factor is calculated from responses received and applied to previous returns for each non-responder. The original construction for a never-responding business is calculated from a ratio (calculated from other respondent values in the same strata) being applied to the register employment. For subsequent periods, imputed values are based on movements in similar-sized businesses.

### Outliers

Outliers are detected manually and are treated by setting their estimation weight to 1, thereby representing only themselves.

### Vacancy ratio

The vacancy ratio is an estimate of the number of vacancies per 100 jobs, using employee jobs estimates from ONS Workforce Jobs (WFJ).

A secondary ratio is also provided for the number of unemployed people for every vacancy using unemployment estimates from the Labour Force Survey (LFS). It is worth noting the estimates from the Labour Force Survey are one period behind the Vacancy Survey.



## Seasonal adjustment

The Vacancy Survey data show strong seasonal patterns, with vacancies peaking around September to October and dropping around January each year. Seasonal adjustment is the process of estimating and removing effects that are caused by the time of the year and arrangement of the calendar. The parameter settings used for the process of seasonal adjustment are derived using X-13-ARIMA-SEATS. The three-month moving average series by industry and by size of business is seasonally adjusted directly to give the best possible seasonal adjustment. This seasonally adjusted data time series is quality-assured on an annual basis. The monthly series is presented as a non-seasonally adjusted series.

## How we quality assure and validate the data

Imputations and constructions will be reviewed, and actions may be taken to account for any inaccurate impact of these non-responding returns based on alternative data sources. The Vacancy Survey also takes on revisions to the estimates from the previous three periods to take on late survey returns from businesses, enable weight adjustments in line with an increase in response levels, and to accept data previously “In error” status, that has been validated with the respondent.

## How we disseminate the data

The monthly vacancy headline estimate is based on a three-month moving average, by type of industry and by size of business (in terms of employment).

Vacancy statistics are published in the [Vacancies and jobs in the UK bulletin](#) usually within six weeks of the reference date of the survey on the [Office for National Statistics \(ons.gov.uk\)](#) website. Underlying data that support the charts and tables in the bulletin is also downloadable in an Excel format from the website.

Most queries can be answered from the website datasets or supporting methods documents. Any additional enquires can be made by emailing [vacancy.survey@ons.gov.uk](mailto:vacancy.survey@ons.gov.uk). It may be possible to meet additional data requests, but these may be chargeable depending on the time required to produce the additional data requested. Metadata describing the limitations of the data for more detailed tables are provided with each individual request.

## How we review and maintain the data processes

Each month we publish the latest month’s estimates along with revisions to the previous three months’ estimates and figures for the same period a year ago. In April each year, revisions for the previous three years (38 months) are published.

Further information on revisions can be found in the [revisions policy for labour market statistics](#) document.

## 7 . Other information

Estimates of vacancies are available in the [Vacancies and jobs in the UK bulletin](#), showing the results from a survey of employers.

An associated labour demand indicator is the Adzuna [Online job advert estimate](#) which is also published as part of the [Economic activity and social change in the UK, real-time indicators - Office for National Statistics \(ons.gov.uk\)](#) release.

Single month vacancy estimates are published in the non-seasonally adjusted dataset [X06: Single month vacancies estimates \(not designated as National Statistics\) - Office for National Statistics \(ons.gov.uk\)](#).

[Earnings and employment from Pay As You Earn Real Time Information, UK](#) are experimental monthly estimates of paid employees and their pay from HM Revenue and Customs' (HMRC) Pay As You Earn (PAYE) Real Time Information (RTI) data.

Job vacancy datasets can also be found in the [Labour market overview, UK - Office for National Statistics \(ons.gov.uk\)](#).

Other useful links:

[The Office for National Statistics Vacancy Survey compared with Adzuna online job adverts.](#)

The [Secure Research Service – Office for National Statistics \(ons.gov.uk\)](#) is a facility within the ONS, which enables access to restricted microdata for research purposes.

[Accessibility statement for the Office for National Statistics – Office for National Statistics \(ons.gov.uk\)](#).

[Terms and conditions – Office for National Statistics](#) for using the ONS website.

[Copyright and reuse of published data.](#)

## 8 . Cite this methodology

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