Article

Labour demand indicators by local authority, UK: January 2017 to January 2022

Initial experimental analysis of labour demand changes at local authority level using online job adverts data.

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Next release:
To be announced

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1 . Main points

- The local authorities with the largest number of online job adverts were predominantly urban areas, with Manchester recording the highest average volume of adverts in every January between 2017 and 2022; the single biggest category of jobs advertised in Manchester were in information technology (IT) across all years, except 2017 when the biggest category was sales.

- Of the 10 local authorities with the smallest volume of online job adverts, which were mostly "urban" or "mixed urban/rural" areas, five were in Northern Ireland, one was in Wales, one was in Scotland and the remaining three were in England.

- London saw the largest decline in online job adverts between January 2020 and January 2021, followed by the largest increase between January 2021 and January 2022, falling and then growing by 43% and 118%, respectively; of the nine local authorities who had not recovered since the coronavirus (COVID-19) pandemic, five were around London, such as Luton and North Hertfordshire.

- Between January 2020 and January 2022, the North East saw the largest increase in the volume of online job adverts, growing by 89%, with all local authorities seeing an increase but particularly Newcastle upon Tyne and County Durham; regionally, the two main drivers of growth between January 2020 and January 2022 were IT and educational job adverts.

- Online job advert trends in Scotland varied across local authorities, with urban areas typically seeing larger falls between January 2020 and January 2021, then growing more strongly between January 2021 and January 2022.

This release uses data covering online job adverts only, so jobs advertised by other means such as word of mouth or shop windows will not be included. While online job adverts data can be used as a proxy measure of changing labour demand, a change in volume over time can also reflect a change in recruitment practices. This article only captures data for January of each year, so references to annual comparisons do not account for differences across the rest of the year. Not all adverts include information about the Local Authority and some have been assigned an "unknown" value. The levels of adverts with an unknown local authority per ITL1 region can be found in our data tables.

2 . Online job adverts by local area

This is the first time the Office of National Statistics (ONS) are publishing these data. We are looking for user feedback that will help tailor future releases at this granular level of detail. Please fill in the survey.

This release provides experimental online job advert estimates for local authorities in the UK, produced using Adzuna data. The time period covered in the release is an average estimate of job adverts over the month of January, from 2017 to 2022. An interactive map is included in Section 3. The volume of online job adverts is represented in "units". To create the unit measure, the number of adverts per local authority has been divided by a standard constant, with the same constant used for each local authority. Each unit represents a fixed number of job adverts so that users can track the trends of any local authority, while also being able to compare the relative size of each one.

Further information on the unit measure and how this release compares with data at ITL1 region as published in our weekly real-time indicators series can be found in the Data sources and quality section.

Volume of online job adverts in 2022

The volume represents the average units of online jobs adverts for the weeks within January. In January 2022, the local authority with the largest volume of job advert units was Manchester, which was 13% higher than the second-largest local authority, the City of London. The majority of jobs advertised in Manchester were in IT and these grew substantially between January 2017 and January 2022, whereas most other significant Adzuna categories such as sales, and accounting and finance saw a decline in advert postings. The Adzuna categories used do not correspond to Standard Industrial Classification (SIC) categories. Manchester also observed relatively high unemployment rates over the period, possibly implying that there is more labour market slack in Manchester.

Other predominantly urban areas made up the local authorities with the greatest volume of adverts, including Birmingham, Westminster, Bristol, Leeds, and Glasgow. Buckinghamshire was the only "urban with significant rural" local authority among the ten local authorities with the highest volume of adverts in January 2022.

Most local authorities with the lowest volume of adverts are within the devolved nations. In January 2022, five of the ten local authorities with the least adverts were in Northern Ireland, with one in Scotland, one in Wales and the remaining three in England. Economic activity also tends to be lower across the devolved nations, for example, the employment rate in Northern Ireland for November 2021 to January 2022 was 70.4%, compared with 75.9% in England over the same period.

Excluding Northern Ireland, the local authority with the lowest volume of adverts was Castle Point, which, although not classified as a major town or city, is a predominantly urban area. Other predominantly urban areas among the local authorities with the lowest volume of adverts included Broxtowe, Rossendale and Hartlepool. Hartlepool is also classified as a major town or city.

3 . Coronavirus pandemic impact by local area

The coronavirus (COVID-19) pandemic had a significant impact on the UK labour market. The Office for National Statistics (ONS) have previously produced analysis using online job adverts data to show how certain job categories and sectors were affected. This section of the article highlights the impact of the coronavirus pandemic on different areas of the UK by focusing on specific local authorities and International Territorial Level 1 (ITL1) regions.

Figure 1: Online job adverts fell in most ITL1 regions in the UK between January 2020 to January 2021 before rising again in January 2022

Monthly average units of job adverts, UK, January 2017 to January 2022

Notes:

1. Data are units as defined in data sources and quality section.

2. Geography classification is the international territorial levels, level 1 (ITL1) in the United Kingdom as of 1 January 2021.

   Download this chart

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London was most impacted by the coronavirus pandemic

Figure 2: London saw the largest fall in job adverts between January 2020 and January 2021

Growth rates of volume of online job adverts, UK, January 2017 to January 2022

Notes:

1. Data are units as defined in [data sources and quality section](#).

2. Geography classification is local authority districts (LAD) in the United Kingdom as of May 2021.

3. Some local authorities have been excluded from the map because of quality concerns.

4. A small number of local authorities have growth rates which exceed the scale used, and have been assigned to the highest growth rate category.

Download this chart

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London experienced the greatest drop in the number of adverts between January 2020 and January 2021 by nearly a half at -43%, with declines in accounting and finance and catering and hospitality job adverts driving the decrease, although the decrease in sales and information technology (IT) job adverts was also significant. Almost all local authorities in London saw a decline over this period, with the City of London seeing the greatest impact, accounting for 12% of the total London decline. Three local authorities in London saw an increase over the period: Hounslow, Islington and Haringey. Both Islington and Hounslow saw increases in IT jobs over the period, which is the dominant category of jobs within the local authorities. It is important to emphasise that local authorities with small volumes are more volatile, which can lead to extreme growth rates. Some of the local authorities have been removed because of quality concerns. More details can be found in the [data sources and quality section](#).

Additionally, users should be aware that not all job adverts in an ITL1 region can be assigned to a local authority. The levels of adverts with an unknown local authority per ITL1 region can be found in [our associated data tables](#).

Figure 3: London had the lowest growth in the volume of job adverts between January 2020 and January 2022

Growth rates of volume of online job adverts, UK, January 2020 to January 2022

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Growth rates of volume of online job adverts, UK, January 2020 to January 2022
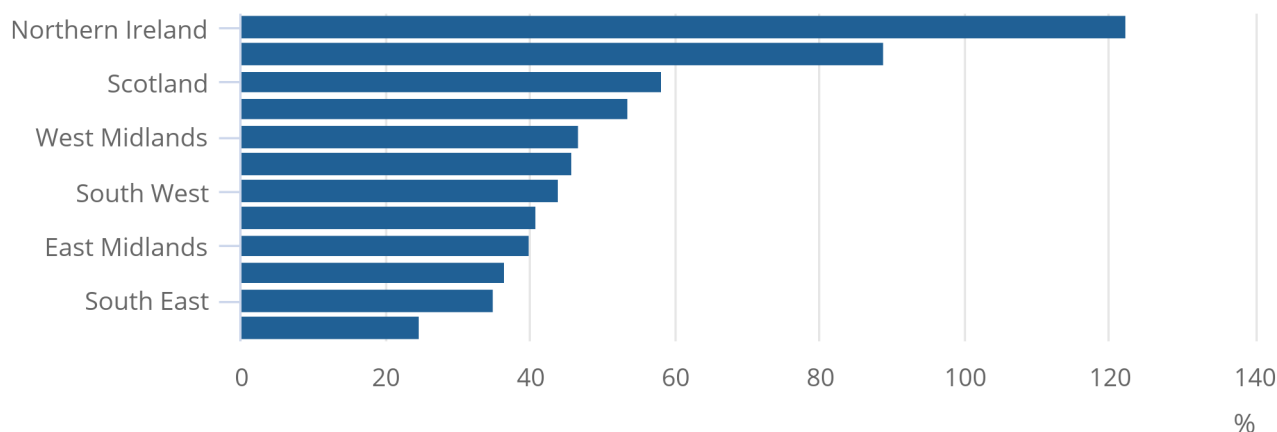
Source: Adzuna

Notes:

1. Geography classification is the international territorial levels, level 1 (ITL1) in the United Kingdom as of 1 January 2021.

2. ITL1 regions which have a smaller volume of online job adverts may be subject to increased volatility.

Having seen the largest fall, London then saw the largest increase in the volume of online job adverts between January 2021 and January 2022 at 118%. An increase in job adverts in the IT Adzuna category was the main driver for the growth over this period. However, despite this, its volume of adverts grew the least of any ITL1 region, increasing by 25% from January 2020 to January 2022. All local authorities in London increased over the period except for Sutton, which did not reach the volume of online job adverts previously seen in January 2020, declining by 7%. Westminster saw the largest increase over the period and accounted for the largest proportion of total London growth between January 2020 and January 2022 at 35%. Northern Ireland saw the strongest growth in the UK over the period, although this region is more volatile because of having a smaller volume of online job adverts.

The North East saw the strongest overall growth in Great Britain, between January 2020 and January 2022

The North East of England saw an 89% increase in the volume of online job adverts between January 2020 and January 2022. This was driven by a very small increase of 2% between January 2020 and January 2021, followed by a larger increase of 86% between January 2021 and January 2022. IT and educational jobs had the most influence on growth between January 2020 and January 2022.

Figure 4: All local authorities included in the North East increased between January 2020 and January 2022

Monthly average units of job adverts, North East, January 2020 to January 2022

Notes:

1. Data are units as defined in [data sources and quality section](#).

2. Geography classification is local authority districts (LAD) in the United Kingdom as of May 2021.

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Between January 2020 and January 2021, the small regional increase of 2% was mostly driven by the local authorities Hartlepool and County Durham, which both saw increases in the number of job adverts in the IT category. Between January 2021 and January 2022 all local authorities in the region increased. County Durham continued to see large positive growth, accounting for 21% of growth in the region, although Newcastle upon Tyne was the largest driver accounting for 25% of regional growth over the period.

The devolved nations also saw the volume of online job adverts increase for a number of local authorities between January 2020 and January 2021, despite Wales and Scotland seeing an overall decline over the period at regional level.

While Scottish job adverts decreased between January 2020 and January 2021, adverts increased in 15 Scottish local authorities at this time

Figure 5: 15 Scottish local authorities increased between January 2020 and January 2021

Monthly average units of job adverts, Scotland, January 2020 to January 2021

Figure 5: 15 Scottish local authorities increased between January 2020 and January 2021

Monthly average units of job adverts, Scotland, January 2020 to January 2021
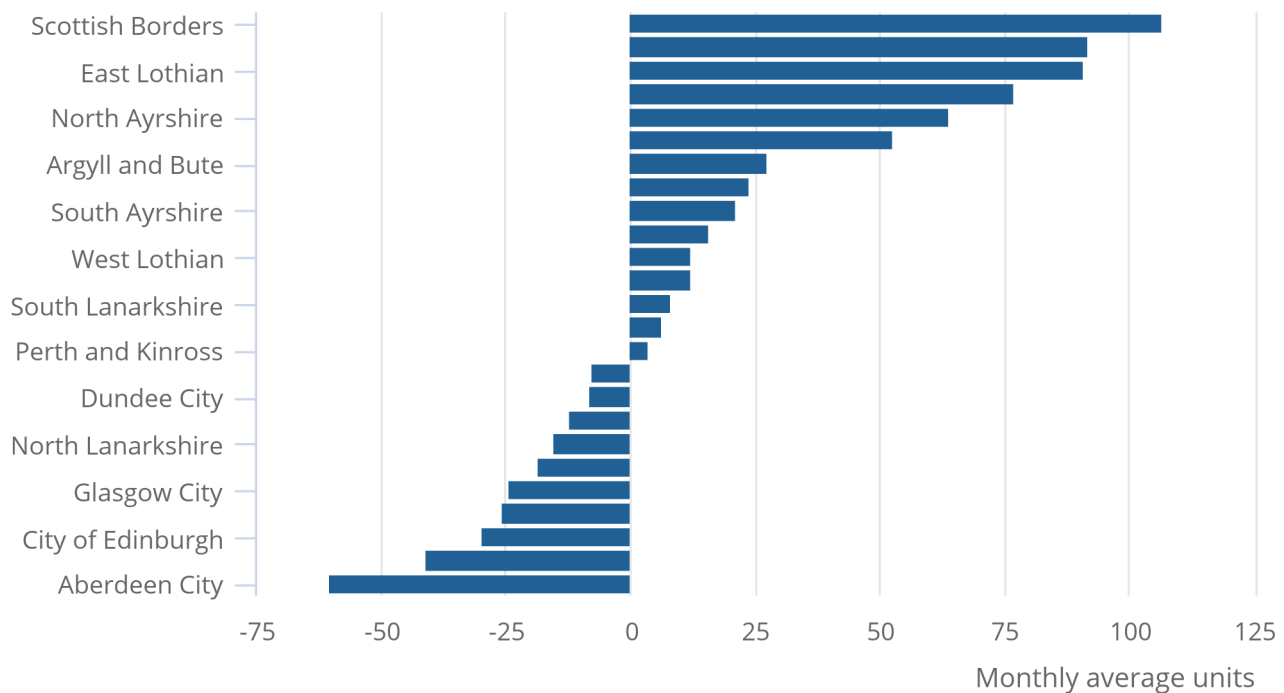
Source: Adzuna

Notes:

1. Geography classification is local authority districts (LAD) in the United Kingdom as of May 2021.

2. Chart excludes job adverts of "Unknown" Scottish local authority.

Between January 2020 and January 2021 Scotland faced a drop of 13% in job adverts. The local authorities that saw the largest decrease in this period were those with over 90% of their population living in urban areas including Aberdeen City (-60%), City of Edinburgh (-29%) and Glasgow City (-24%).

These cities have a similar distribution of businesses across many industries, including the accommodation and food services and the business administration and support services industries. However, Aberdeen City has a higher proportion of businesses in the professional scientific and technical industry. This was reflected in the online job adverts data with all three cities seeing a decline in the volume of adverts in the hospitality and catering and sales categories. All three cities also saw declines in engineering job adverts, but as Aberdeen City had a larger proportion of engineering job adverts than other areas, it fell by most out of all the Scottish local authorities.

Ten out of 25 local authorities showed a drop in job adverts, reflecting the trend in the wider region, while 15 showed an increase. Healthcare and nursing adverts contributed to these increases with these adverts making up an average of 21% across the 15 local authorities. Comparatively, the three cities mentioned in the previous paragraph had a lower share of healthcare and nursing adverts and a higher share of IT, engineering and accounting and finance adverts, all of which saw decreases in the period. East Lothian accounted for the highest proportion of the total increase across the 15 local authorities at 17%, which was driven by an increase in trade and construction job adverts. Highland, Dumfries and Galloway and the Scottish Borders, all local authorities with less than 35% of their population living in urban areas, accounted for 40% of the total increase seen across the 15 local authorities. Increases in these local authorities were driven by a rise in healthcare and social care adverts. Most of the remaining local authorities, which saw an increase between January 2020 and January 2021, saw an increase in trade and construction job adverts, with an increase in IT and sales job adverts also contributing to the rise across these areas.

Figure 6: The volume of online job adverts increased in all Scottish local authorities between January 2021 and January 2022

Growth rates of volume of online job adverts, Scotland, January 2021 to January 2022

Figure 6: The volume of online job adverts increased in all Scottish local authorities between January 2021 and January 2022

Growth rates of volume of online job adverts, Scotland, January 2021 to January 2022
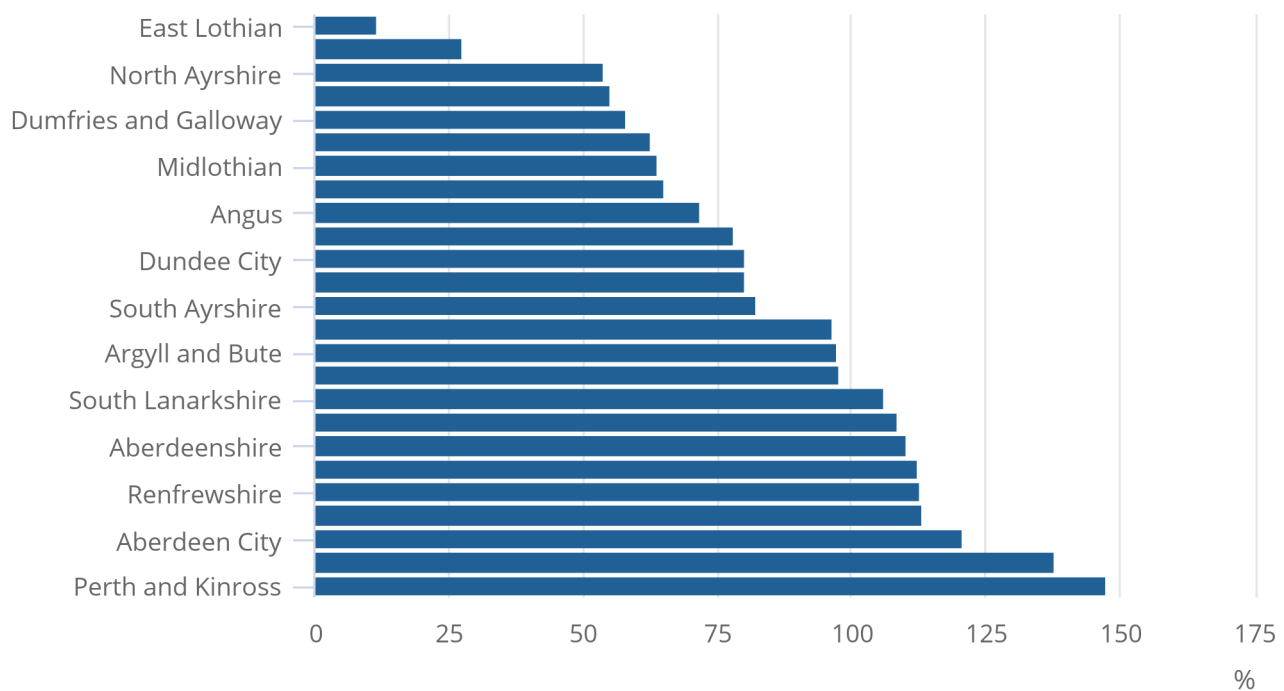
Source: Adzuna

Notes:

1. Geography classification is local authority districts (LAD) in the United Kingdom as of May 2021.

2. Chart excludes job adverts of "Unknown" Scottish local authority.

Subsequently, when coronavirus (COVID-19) pandemic restrictions eased, between January 2021 and January 2022 Scotland saw a strong recovery with the volume of job adverts increasing by 86%. All local authorities saw an increase with Perth and Kinross (145%), Moray (135%) and Aberdeen City (120%) seeing the strongest growth. Aberdeen City saw increases in job categories that had decreased the prior year, particularly hospitality and catering and HR and recruitment.

All the local authorities within Scotland saw a considerable increase in hospitality and catering jobs between January 2021 and January 2022. Regionally, the three main drivers of growth between January 2021 and January 2022 were hospitality and catering jobs, IT jobs, and logistics and warehouse jobs. Contrastingly, healthcare jobs saw the largest decrease. The three large urban areas of Aberdeen City, Glasgow City and the City of Edinburgh were the only local authorities not to contain logistics and warehouse jobs in their primary drivers of growth.

4 . Online job adverts data

Online job advert estimates by local authority and ITL1 Region
Dataset | Released 25 May 2022
Experimental job advert indices covering the UK job market split by local authority and ITL1 region.

5 . Glossary

Local authority

The local authority districts (LAD) in the United Kingdom as of May 2021.

Region

The international territorial levels, level 1 (ITL1) in the United Kingdom as of 1 January 2021.

Unit

A measure derived by the Office for National Statistics (ONS) for representing the volume of online job adverts per local authority or ITL1 region, allowing users to evaluate the relative size of different local authorities. The unit measure is derived by dividing the average monthly count of job adverts by a set value. Further information on how this measure is derived can be found in the Data sources and quality section.

Urban or rural areas

For local authorities in England, the 2011 local authority rural urban classification has been used to describe areas using terms such as "predominantly urban".

For local authorities in Scotland, the Scottish Government Urban Rural Classification 2016 has been used to group areas with similar geographical distribution.

6 . Data sources and quality

Data sources

These figures are experimental estimates of online job adverts data provided by Adzuna, an online job search engine. The number of job adverts over time is an indicator or the demand for labour.

Allocating local authorities to job adverts

To identify the local authority of the online job adverts we have used a combination of Adzuna's classification, and the Office for National Statistics' (ONS) methodology.

The online job advert data held by Adzuna contain a free text location field, which is filled in by the company or individual creating the job advert directly. Adzuna standardise this field into a normalised list of locations. From this list, a hierarchical geographic tree is created, which maps low-level locations to their local authority and ITL1 Region. In most cases, these local authorities and ITL1 Region assignments have been used, but the ONS have implemented some additional steps.

There are some cases where the raw location provided are too high-level to map to a local authority, and so have been assigned to an "Unknown" category. For adverts with an "Unknown" local authority assignment, a further breakdown is provided of the "Unknown" category into ITL1 region where this information is available.

There are some cases where the normalised location could be assigned to different local authorities because of common place names. In this instance the highest-level location has been used to assign a local authority, for example, Leeds is both a local authority and a ward. The Leeds ward belongs to the Maidstone local authority. In this instance, any advert with a normalised location of Leeds will be assigned to the local authority Leeds.

There are some local authorities that have been excluded from this release because of quality concerns. This is predominantly because of:

- a smaller number of adverts

- increased volatility in the time-series

Presenting the data

We present the adverts split by region and local authority as a unit series, and calculate by:

- calculating the number of live job adverts at a point in time for each week in January

- summing up these weekly counts and dividing by the number of weeks in January to produce an average number of job adverts for the month

- dividing the monthly average number of job adverts by a set value and creating a unit measure for each local authority, which represents a fixed number of job adverts so that users can track the trends of any local authority, while also being able to compare the relative size of each one

- round the unit values to one decimal place

- remove any local authorities excluded from the dataset because of quality concerns

Strengths and limitations

Strengths

- The data are extremely timely and can provide an early indication of how the trend of the number of live job adverts per local authority is changing in the UK.

- The data cover the whole of the United Kingdom allowing granular geographic breakdowns including by local authority.

Limitations

- The data cover only job adverts which are posted online and some industries may be more or less likely to advertise in this way. For example, casual work may not be covered in the dataset

- Online job adverts can include a location which is too high to assign to a local authority, for example, UK, Scotland or South West, meaning that for many regions a proportion of adverts are allocated to an Unknown local authority.

- Duplication in the dataset can result in inflated numbers of job adverts and duplication levels may be increased for some local authorities.

- Some job adverts may be live for a long period of time as they may not be removed immediately when the position is filled and, in a small number of cases, online vacancy boards may be used for purposes other than advertising job posts, for example, trainee programs or collecting CV or resume information for future recruitment; this means that the data may not fully reflect active recruitment.

More details on the general strengths and limitations of online job adverts data can be found in Using Adzuna data to derive an indicator of weekly vacancies.

7 . Future developments

Gathering your feedback

This is the first time the Office for National Statistics (ONS) are publishing these data and as such, we are looking for user feedback on the release. This will help us to tailor future releases at this granular level of detail as well as inform on other breakdowns, which users would like to see.

Please fill in the survey, which should not take more than five minutes. All responses will remain confidential, and users will only be contacted if they indicate they are happy to be contacted in their response.

Future releases

The ONS will continue to take on user feedback to develop and expand our online job advert estimates. In the coming months, the ONS aims to produce an experimental online job advert series by Standard Occupation Codes (SOC) at a sub-national level, to inform on local occupation demand.

8 . Related links

Economic activity and social change in the UK, real-time indicators: 19 May 2022
Statistical bulletin | Released 19 May 2022
Early experimental data and analysis on economic activity and social change in the UK including Adzuna online job adverts data.

Using Adzuna data to derive an indicator of weekly vacancies: Experimental Statistics
Methodology | Last revised 14 June 2021
Methodology information for online job advert indices covering the UK job market.

Vacancies and jobs in the UK: May 2022
Statistical bulletin | Released 17 May 2022
Estimates for the number of vacancies and jobs for the UK.