

Article

Subregional productivity in the UK: July 2021

Estimates for subregional labour productivity measured as gross value added (GVA) per hour worked and GVA per filled job.

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1 . Main points

- Labour productivity increased in 30 out of 40 International Territorial Level 2 regions in Great Britain between 2010 and 2019; the highest productivity growth occurred in Outer London – West and North West, followed by Cornwall and Isles of Scilly, and Herefordshire, Worcestershire and Warwickshire.
- In 2019, the most recent year for which data are available, labour productivity in 50 of the 168 International Territorial Level 3 regions in Great Britain was above the UK average; the top four were all in London, followed by North Hampshire, Berkshire, and Swindon.
- Experimental local authority data show that gross value added per hour worked data were highest in Runnymede, Hounslow, Tower Hamlets, and Elmbridge; the lowest levels were found in Powys, Richmondshire, and Wyre Forest.

2 . Productivity by International Territorial Level 2

Labour productivity is calculated by dividing output (gross value added, GVA) by a measure of labour input (total hours worked or jobs). The International Territorial Level (ITL) 2 geography splits the UK into 41 subregions.

Figure 1 shows constant price “real” productivity growth (based on GVA per hour worked and indexed to the year 2018) over the 2004 to 2019 period for selected ITL2 regions along with the corresponding national data time series.

The “real” productivity removes the effect of inflation. This is useful for assessing time series trends since it allows us to understand whether there has been an increase in volumes of goods and services, with the effects of prices changes removed.

GVA per hour worked is considered a more comprehensive indicator of labour productivity than GVA per job filled, as it accounts for different working hours and how those differ across regions. Note that both measures are better to assess productivity than GVA per head, which includes people not in the workforce and can also be heavily biased by commuting flows.

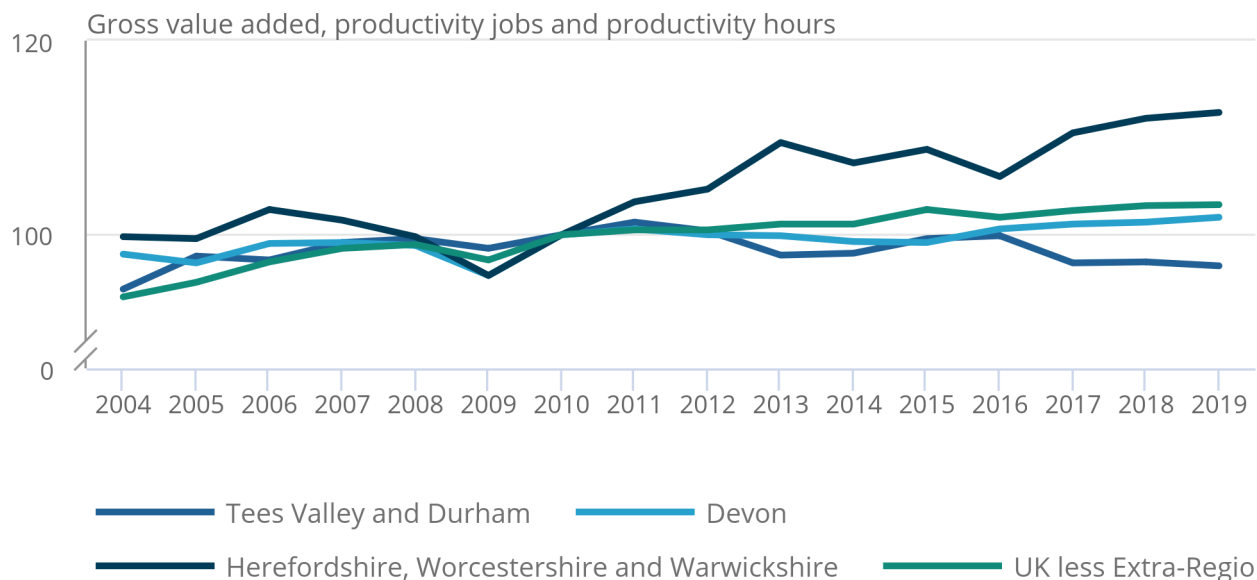
Figure 1 shows the subregion of Herefordshire, Worcestershire and Warwickshire has shown high productivity growth during the 2010 to 2019 period, while productivity in the subregions of Devon, and Tees Valley and Durham are largely unchanged over the same period. Data for all ITL2 subregions are found in the [Subregional productivity data](#) section in this article.

Figure 1: Productivity has grown in subregion Herefordshire, Worcestershire and Warwickshire, while Devon, and Tees Valley and Durham remain largely unchanged

“Real” GVA per hour worked by selected ITL2 subregion, 2004 to 2019, 2010=100

Figure 1: Productivity has grown in subregion Herefordshire, Worcestershire and Warwickshire, while Devon, and Tees Valley and Durham remain largely unchanged

“Real” GVA per hour worked by selected ITL2 subregion, 2004 to 2019, 2010=100



Source: Office for National Statistics – subregional productivity

Figure 2 shows “real” economic output (GVA) growth plotted against changes in total hours worked for each ITL2 area over the 2010 to 2019 period.

The 45-degree line in the figure indicates points at which the percentage change in GVA and the percentage change in hours worked are equal, resulting in no change to overall productivity.

Points above the line have seen an increase in productivity, which is the case for the majority of ITL2 regions. For example, Outer London – West and North West, and Herefordshire, Worcestershire and Warwickshire have seen relatively large increases in productivity. By contrast, places in which productivity has declined include Inner London – East and Merseyside.

Two areas can both experience productivity growth but perform differently in terms of overall economic growth. For example, in Cumbria, GVA rose by 3.6% between 2010 and 2019, with hours worked declining by 1.1%. In Inner London West, GVA rose by 39% and hours worked increased by 31.5% over the same period. Therefore, while both Cumbria and Inner London West experienced growth in productivity over the period, the change in the amount of economic activity (measured both by inputs and outputs) was much larger in Inner London West.

Figure 2: The largest increases in subregional productivity were in Outer London - West and North West, Cornwall and Isles of Scilly, and Herefordshire, Worcestershire and Warwickshire

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3 . Productivity by International Territorial Level 3

The International Territorial Level (ITL) 3 geography divides the UK into 179 subregions.

Current price nominal productivity data, which include the effects of inflation, are used to compare the relative levels of productivity (GVA per hour) between ITL3 areas in 2019, the latest year data are available.

Figure 3 shows the nominal productivity index of all ITL3 subregions in Great Britain, grouped by ITL1 countries and regions.

The highest productivity overall in 2019 was in Tower Hamlets, with productivity almost three times greater than in Powys, the ITL3 subregion that had the lowest level of productivity.

Figure 3: Tower Hamlets in London had the highest productivity of all ITL3 subregions in Great Britain, and Powys in Wales the lowest

Nominal GVA per hour worked for all ITL3 subregions in Great Britain grouped by ITL1 regions and countries, smoothed, 2019, UK=100

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4 . Productivity by local authority

Experimental local authority productivity data were published for the first time in 2020. This is the lowest level geography for which data are published. There are 374 local authorities in the UK.

Volatility of productivity data increases as the geographical area (and therefore sample size) reduces. For this reason, we have again focused on providing only smoothed datasets using current price data at this level.

Smoothed data use a weighted moving average of up to five years, which includes the year in question and the two previous and two subsequent years, where possible. This reduces volatility in the data that arises from smaller sample surveys.

There is currently a wide spatial divergence in levels of productivity between different subregions of the UK. For a discussion of the sources of these differences, please see our [Understanding spatial labour productivity in the UK](#) publication.

Figure 4 shows a map of the all local authority districts in Great Britain relative to the UK average.

Figure 4: Runnymede, Hounslow, and Tower Hamlets are the local authority districts with the highest productivity in Great Britain

Nominal GVA per hour worked for all local authority districts in Great Britain grouped by ITL1 region and country, smoothed, 2019, UK=100

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5 . Subregional productivity data

[Subregional productivity: labour productivity by UK ITL2 and ITL3 subregions](#)

Dataset | Released 23 July 2021

Annual labour productivity (gross value added (GVA) per hour worked and GVA per filled job) indices by UK ITL2 and ITL3 subregions.

[Subregional productivity: labour productivity by city regions](#)

Dataset | Released 23 July 2021

Annual labour productivity (gross value added (GVA) per hour worked and GVA per filled job) indices by city regions.

[Subregional productivity: labour productivity by economic enterprise regions](#)

Dataset | Released 23 July 2021

Annual labour productivity (gross value added (GVA) per hour worked and GVA per filled job) indices by economic enterprise regions.

[Subregional productivity: labour productivity by local authority districts](#)

Dataset | Released 23 July 2021

Annual labour productivity (gross value added (GVA) per hour worked and GVA per filled job) indices by local authority districts.

6 . Glossary

Gross value added (GVA)

An estimate of the volume of goods and services produced after subtracting the volume of intermediate goods and services used in the production process (intermediate consumption).

GVA per hour worked

A measure of productivity: GVA divided by the hours worked to create it.

GVA per job

A measure of productivity: GVA divided by the number of filled jobs used to create it.

International Territorial Levels (ITL)

[International Territorial Levels \(ITL\)](#) is the new UK geographies classification system. This has superseded the Nomenclature of Units for Territorial Statistics (NUTS) classification system.

Labour productivity

The quantity of goods and services produced per unit of labour input. It is a widely used measures of economic performance of a nation or an area.

7 . Data sources and quality

The data in this release are classified as Experimental Statistics.

The release includes productivity datasets covering International Territorial Level (ITL) 1, ITL2, and ITL3 geographies, enterprise regions and city regions. They include current price (“nominal”) labour productivity, for in-year comparisons between areas, and constant price (“real”) labour productivity, for assessing time series trends. Labour productivity is measured by gross value added (GVA) per hour and GVA per job filled. Both smoothed and unsmoothed estimates are included for nominal data.

The release also includes productivity data for local authority districts. Because of volatility within the data, the local authority dataset only includes smoothed nominal data.

Please note that for Northern Ireland, data are only available for the GVA per filled job metric.

Components of productivity data

Productivity estimates presented in this article use gross value added (GVA), productivity jobs and productivity hours data. The methodology ensures subregional measures of GVA, jobs and hours are consistent with the regional totals. The methodology is therefore concerned with how best to apportion the regional totals to the subregional areas, detailed in this section.

Gross value added

The productivity data included in this article directly uses the GVA data provided for a range of geographies in the Office for National Statistics (ONS) [Regional economic activity by gross domestic product, UK: 1998 to 2019](#) publication.

Jobs

At the ITL1 regional level, data are benchmarked to the national “productivity jobs” series, which is compiled from four components:

- employee jobs
- self-employed jobs
- government-supported trainees (GST)
- members of Her Majesty's Forces

For subregional geographies, the “total jobs” data series, a workplace-based measure of jobs, is used to apportion regional productivity jobs to the local authority districts geography level. These local authority data are then aggregated to ITL2 and ITL3 subregions, enterprise and city regions to make up the full “productivity jobs” data series for subnational levels.

The “total jobs” data series comprises employees (from the Business Register and Employment Survey (BRES)), self-employment jobs (from the Annual Population Survey (APS)), government-supported trainees (from the Department for Education and Department for Work and Pensions) and HM Forces (from the Ministry of Defence).

Hours

“Productivity hours” is the sum of employee hours, self-employment hours, hours worked in government training schemes and hours worked by HM Forces.

The Annual Population Survey (APS) is used to estimate the average hours worked per employee job by industry at ITL3 subregions. The BRES (for the period since 2009) and the Annual Business Inquiry (for the period before 2009) are used to calculate the number of employee jobs by industry for each local authority. To calculate employee hours within each local authority, the local authority employee job count is multiplied by the average hours of the ITL3 for each industry.

The APS is also used to estimate the average hours worked per self-employed job. However, because of sample size, self-employed jobs are grouped by sex and part-time classification, instead of by industry, at ITL3 subregions. To calculate self-employed hours within each local authority, the local authority self-employed job count (also based on APS) is multiplied by the average hours of the ITL3 to which it belongs for each sex and part-time classification grouping.

For government training schemes and HM Forces, the regional totals are allocated to subregions based on each subregion’s share of regional employee plus self-employment hours, as calculated in the previous stage.

Once calculated, these local authority data are then constrained regionally to the ITL1 productivity hours data to ensure consistency with regional productivity data. The regionally constrained local authority data are then aggregated to ITL2 and ITL3 subregions, enterprise and city regions.

Please note that for Northern Ireland, hours data are not available for ITL3 or local authority subregions.

8 . Related links

[Regional labour productivity, including industry by region, UK: 2019](#)

Bulletin | Released 7 July 2021

Regional output per hour and output per job, and an experimental analysis of the performance of output per hour levels and growth by industry and region.

[Regional economic activity by gross domestic product, UK: 1998 to 2019](#)

Bulletin | Released 26 May 2021

Annual estimates of economic activity by UK country, region and local area using gross domestic product (GDP). Estimates are available in current market prices and in chained volume measures and include a full industry breakdown of balanced regional gross value added (GVA(B)).

[Mapping regional differences in productivity and household income](#)

Interactive article | Released 17 May 2021

Exploration of economic inequality in the UK at the NUTS3 level using gross disposable household income (GDHI) and productivity (gross value added, GVA).