

Article

# Productivity overview, UK: January to March 2023

The main findings from official statistics and analysis of UK productivity, presenting a summary of recent developments.



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# 1 . Main points

## Labour productivity

- Output per hour worked in Quarter 1 (Jan to Mar) 2023 decreased 0.6% compared with Quarter 1 2022, the weakest annual growth since Quarter 1 2013, excluding the coronavirus (COVID-19) pandemic.
- This result is confirmed by data on output per worker and output per job in Quarter 1 2023, which were respectively 0.9% and 1.0% lower than the same quarter a year ago, the weakest annual growth for both since Quarter 3 (July to Sept) 2009, excluding the coronavirus pandemic.
- Relative to the same quarter a year ago, the administrative service and construction industries made the biggest upwards contribution to annual productivity growth.

## Labour costs and labour income

- The labour share of income was 58.6% in Quarter 4 (Oct to Dec) 2022 (the latest time period available) compared with 59.9% in Quarter 3 2022 and 60.3% in Quarter 4 2021.
- Nominal unit labour costs grew by 1.3% quarter-on-quarter in Quarter 4 2022 and were 6.0% higher than in Quarter 4 2021, both instances attributed to increases in total nominal employment costs with real gross value added (GVA) remaining fairly flat.
- Average labour compensation per hour increased by 1.7% compared with Quarter 3 2022 and by 5.9% compared with Quarter 4 2021, caused by similar increases in unit labour costs (ULCs).

This quarterly bulletin focuses on labour productivity and labour costs and labour income estimates. Public service productivity estimates are published as a separate bulletin, while multi-factor productivity estimates will be published annually following the UK National Accounts (Blue Book).

## 2 . Labour productivity

In Quarter 1 (Jan to Mar) 2023, output per hour worked, our headline measure of labour productivity, was 0.6% below the same quarter a year ago. This confirms the estimate contained in our [UK productivity flash estimate article](#), that Quarter 1 2023 saw the largest fall since Quarter 1 2013, excluding the coronavirus (COVID-19) pandemic period. Output per hour worked went down because hours worked grew at a higher rate (0.8%) over the last year than gross value added (GVA) (0.2%).

Output per worker and output per job were 0.9% and 1.0% below their respective Quarter 1 2022 levels. This is because of higher growth in the number of workers (1.1%) and jobs (1.2%) than in GVA (0.2%).

Output per hour worked was 0.6% above its pre-coronavirus pandemic levels (2019 average level) in Quarter 1 2023. Figure 1 shows that this growth was caused by an increase of GVA by 0.6% since 2019, while the number of hours worked were unchanged over the period, with growth of 0.0%.

Output per worker was flat compared with its pre-coronavirus pandemic levels (0.0%), driven by the growth in the number of workers (0.6%) balancing the growth in GVA (0.6%).

Output per job was 0.4% below its pre-coronavirus pandemic levels. This was because of a larger increase in the number of jobs (1.0%) than in GVA (0.6%).

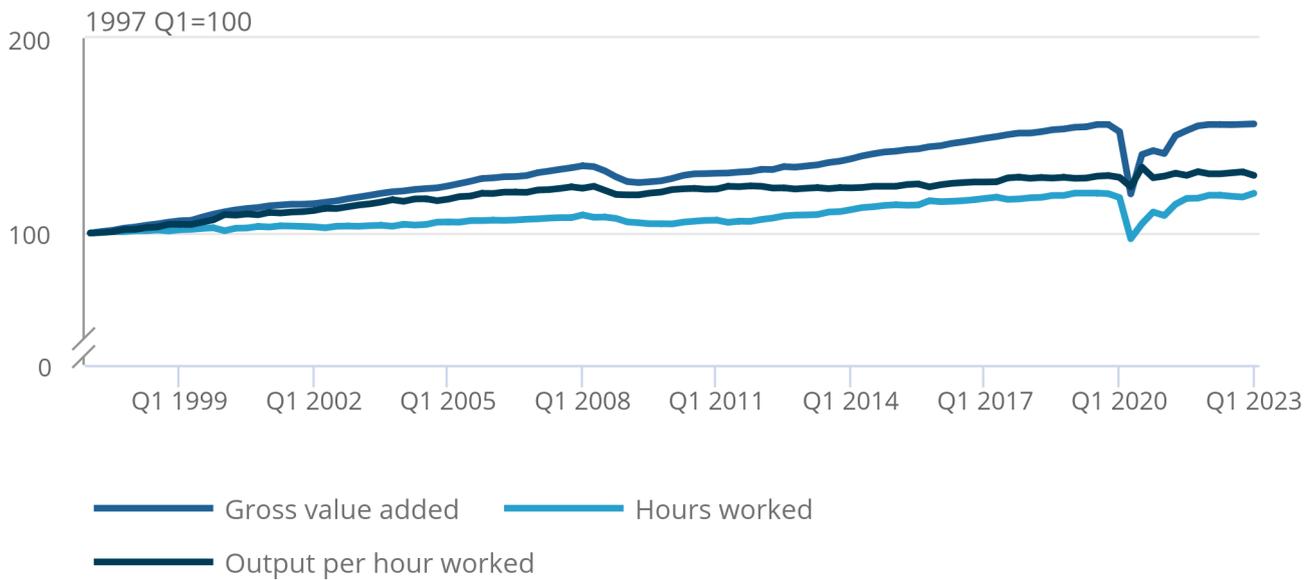
Compared with its pre-coronavirus pandemic levels, output per worker grew less than output per hour because, on average, workers did fewer hours per week in Quarter 1 (Jan to Mar) 2023 than in 2019. Similarly, output per job fell more than output per worker because more workers are now doing second jobs.

**Figure 1: Output per hour worked was 0.6% lower than the same quarter a year ago, but 0.6% higher than in 2019**

Gross value added, hours worked, output per hour worked, UK, index 1997 Q1= 100, Quarter 1 (Jan to Mar) 1997 to Quarter 1 (Jan to Mar) 2023

Figure 1: Output per hour worked was 0.6% lower than the same quarter a year ago, but 0.6% higher than in 2019

Gross value added, hours worked, output per hour worked, UK, index 1997 Q1= 100, Quarter 1 (Jan to Mar) 1997 to Quarter 1 (Jan to Mar) 2023



Source: Productivity overview, UK from the Office for National Statistics

### 3 . Labour productivity by industry

Figure 2 shows the contribution to annual growth in output per hour worked for 17 industries in Quarter 1 (Jan to Mar) 2023 relative to the same quarter a year ago.

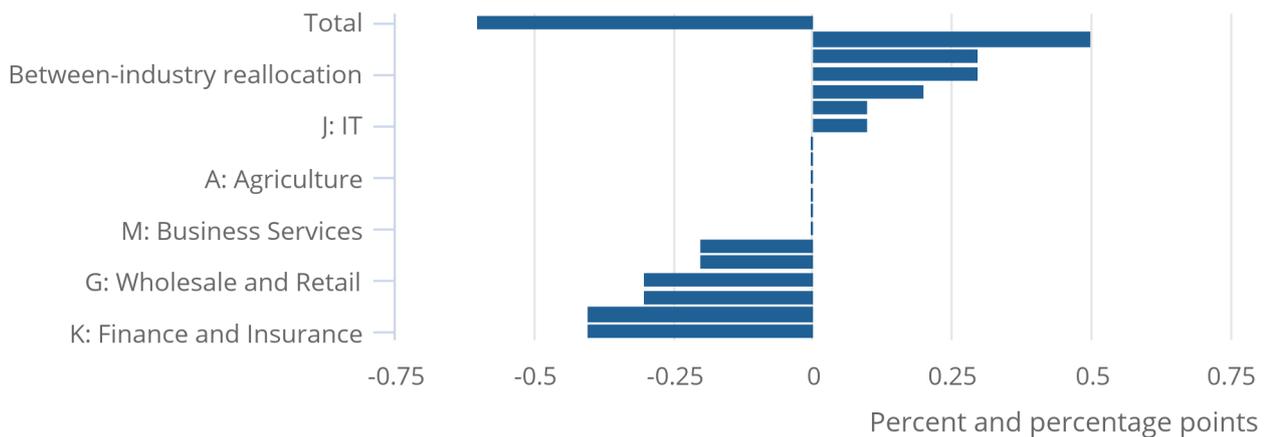
Administrative service and construction industries made the biggest upwards industry contribution to annual productivity growth. By contrast, finance and insurance and real estate industries showed the biggest negative contribution to productivity growth. The recreation and culture, energy, agriculture, other services (a residual category, including personal service activities not covered elsewhere in our [Standard Industrial Classification \(SIC\) 2007](#)), mining and quarrying, and the business services industries did not make any substantive contribution to productivity growth over the same period.

**Figure 2: Administrative services showed the biggest contribution over the last four quarters to Quarter 1 2023**

Contribution to growth of output per hour worked, percentage points, relative to Quarter 1 (Jan to Mar) 2022

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Contribution to growth of output per hour worked, percentage points, relative to Quarter 1 (Jan to Mar) 2022



Source: Productivity overview, UK from the Office for National Statistics

Notes:

1. [Imputed rental](#) is excluded from the real estate industry.
2. The industry contributions may not add up to the output per hour total. This is because of the exclusion of [imputed rental](#) from real estate and because of the National Accounts balancing value.

Figure 3 shows that real estate had the biggest fall in output per hour worked in Quarter 1 2023 compared with Quarter 1 2022. This was mainly driven by an increase in the number of hours worked.

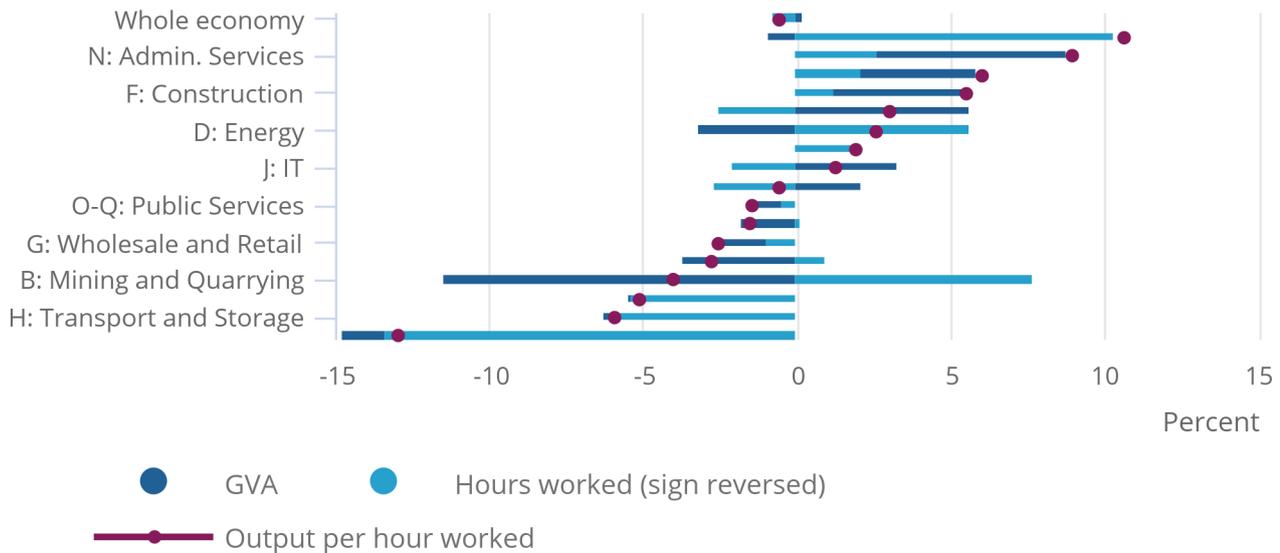
In administrative services, growth in output per hour worked was largely caused by an increase in gross value added (GVA), with a smaller contribution from a fall in hours worked.

**Figure 3: Water supply and real estate industries saw, respectively, the largest increase and the biggest fall in output per hour worked in the last four quarters to Quarter 1 (Jan to Mar) 2023**

Decomposition of growth of output per hour worked, hours worked and gross value added, Quarter 1 2023 versus the same quarter a year ago (Quarter 1 2022), percentage change, UK

Figure 3: Water supply and real estate industries saw, respectively, the largest increase and the biggest fall in output per hour worked in the last four quarters to Quarter 1 (Jan to Mar) 2023

Decomposition of growth of output per hour worked, hours worked and gross value added, Quarter 1 2023 versus the same quarter a year ago (Quarter 1 2022), percentage change, UK



Source: Productivity overview, UK from the Office for National Statistics

Notes:

1. [Imputed rental](#) is excluded from the real estate industry.
2. Water supply data reflect reclassification of some entities out of this industry in the last year, so growth in output per hour for this industry should be interpreted with caution.
3. The decrease in GVA quarter on year for mining and quarrying is attributed to falls in the extraction of crude petroleum and natural gas and a decline in mining support services. While there was a decrease in the number of hours worked, this did not reflect a fall in average hours in the industry, but rather reflects Labour Force Survey (LFS) scaling factors which account for the size of the industry. Please note that these factors are relatively volatile, which is a contributing factor to the ONS's work to transform the LFS.

## 4 . Labour costs and labour income

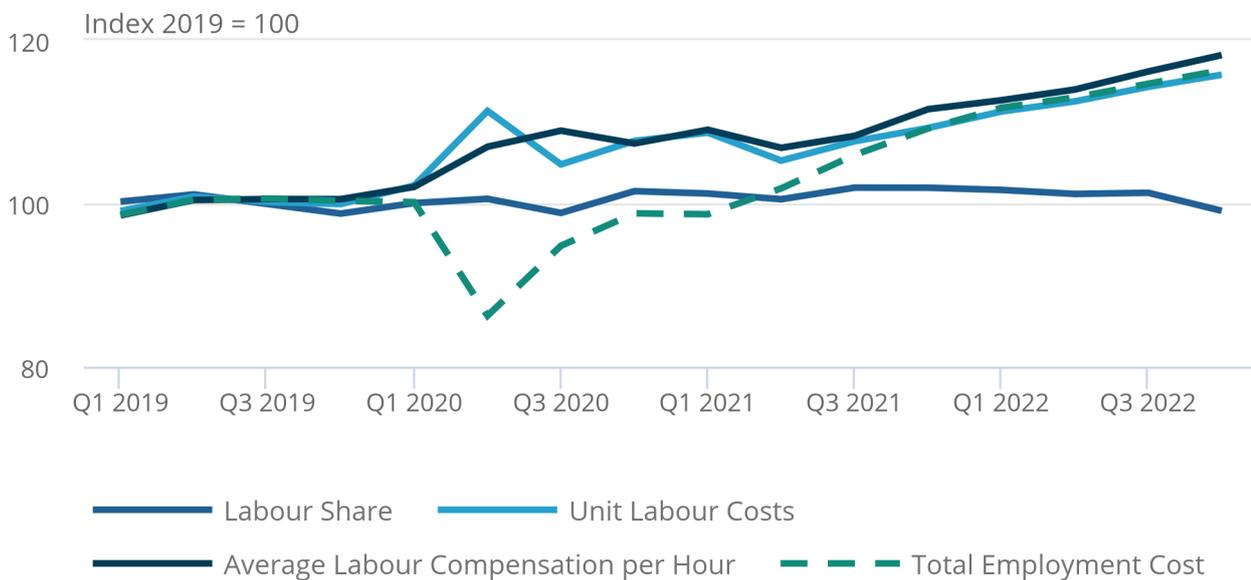
The labour share of income fell in Quarter 4 (Oct to Dec) 2022 compared with Quarter 3 (July to Sept) 2022. However, Figure 4 shows unit labour costs and average labour compensation per hour continued to rise, caused by increasing total employment costs.

**Figure 4: Total employment costs continue to cause increases in unit labour costs and average labour compensation per hour**

Labour share of income, nominal unit labour costs, average labour compensation per hour, total employment costs, index 2019 = 100, Quarter 1 (Jan to Mar) 2019 to Quarter 4 (Oct to Dec) 2022

### Figure 4: Total employment costs continue to cause increases in unit labour costs and average labour compensation per hour

Labour share of income, nominal unit labour costs, average labour compensation per hour, total employment costs, index 2019 = 100, Quarter 1 (Jan to Mar) 2019 to Quarter 4 (Oct to Dec) 2022



Source: Productivity overview, UK from the Office for National Statistics

## 5 . Productivity overview data

### [Output per hour worked, UK](#)

Dataset | Released 7 July 2023

Estimates for gross value added (GVA), hours worked and output per hour worked for whole economy and bespoke-level industries, as defined by the Standard Industrial Classification (SIC) 2007. Contains annual and quarterly statistics. Includes estimates for industry quarter on quarter, year on year and quarter on year contributions to whole economy output per hour worked.

### [Output per job, UK](#)

Dataset | Released 7 July 2023

Estimates for gross value added (GVA), jobs and output per job by bespoke, section and division level industry, as defined by the Standard Industrial Classification (SIC) 2007. Contains annual and quarterly statistics. Contains estimates for industry quarter on quarter, year on year and quarter on year contributions to output per job.

### [Output per worker, UK](#)

Dataset | Released 7 July 2023

Estimates for gross value added (GVA), workers, and output per worker by bespoke industries. Contains annual and quarterly statistics.

### [Labour costs and labour income, UK](#)

Dataset | Released 7 July 2023

Unit labour cost, average labour compensation per hour worked, labour share and unit wage cost for the whole UK economy, and unit wage cost for manufacturing.

## 6 . Glossary

### Labour productivity

Labour productivity measures how many units of output are produced for each unit of labour input and is calculated by dividing output by labour input.

### Labour inputs

The preferred measure of labour input is hours worked ("productivity hours"), but workers and jobs ("productivity jobs") are also used.

### Output

Output refers to gross value added (GVA), which is an estimate of the volume of goods and services produced by an industry and in aggregate for the UK.

### Total employment costs

Total employment costs represent the total costs of purchasing labour in the economy, not including any such costs funded by employment subsidies.

### Unit labour costs (ULCs) – nominal

ULCs measure the nominal cost of labour input per unit of real (inflation-adjusted) economic output.

## 7 . Measuring the data

## Methodological information

Productivity estimates and their inputs are produced to a number of decimal points as reported in the [accompanying datasets](#). However, within the bulletin we have rounded to one decimal point.

## 8 . Strengths and limitations

Information on the strengths and limitations of the labour productivity data, as well as the quality and accuracy of the data, is available in our [Labour productivity Quality and Methodology Information \(QMI\)](#).

In our labour costs and labour income dataset, we use estimates from the UK National Accounts that are periodically revised to account for updated data, new methods and new data sources. Therefore, please take these revisions into account if you are using these data for contract negotiations or prices.

We welcome feedback about our publication changes. To help us meet user needs, please email [productivity@ons.gov.uk](mailto:productivity@ons.gov.uk).

## 9 . Related links

### [GDP quarterly national accounts, UK: January to March 2023](#)

Bulletin | Released 30 June 2023

Revised quarterly estimate of gross domestic product (GDP) for the UK. Uses additional data to provide a more precise indication of economic growth than the first estimate.

### [Labour market overview, UK: June 2023](#)

Bulletin | Released 13 June 2023

Estimates of employment, unemployment, economic inactivity, and other employment-related statistics for the UK.

### [Public service productivity, quarterly, UK: October to December 2022](#)

Bulletin | Released 24 April 2023

Experimental estimates for UK total public service productivity, inputs and output to provide a short-term, timely indicator of the future path of the annual productivity estimates.

### [UK productivity flash estimate: January to March 2023](#)

Article | Released 16 May 2023

Labour productivity for Quarter 1 (Jan to Mar) 2023 based on data from the gross domestic product (GDP) first quarterly estimate and labour market statistics.

### [Labour costs and labour income, UK: 2022](#)

Bulletin | Released 13 May 2022

Labour share of income, unit labour costs (ULCs), unit wage costs (UWCs) and average labour compensation per hour worked (ALCH), broken down by industry.

## 10 . Cite this article

Office for National Statistics (ONS), released 7 July 2023, ONS website, article, [Productivity overview, UK: January to March 2023](#)

