Article

UK productivity flash estimate: October to December 2022

Flash estimate of labour productivity for Quarter 4 (October to December) 2022 based on the latest data from the gross domestic product (GDP) first quarterly estimate and labour market statistics.

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1 . Main points

- Preliminary estimates of UK output per hour worked in Quarter 4 (Oct to Dec) 2022 were 1.9% above their pre-coronavirus (COVID-19) pandemic levels, but 0.1% lower than the same quarter a year ago.

- Preliminary estimates of UK output per worker were 0.3% above pre-coronavirus levels in Quarter 4 2022, but 0.3% lower than the same quarter a year ago.

These are preliminary estimates based on first quarterly estimates of gross value added, which can be volatile. Estimates may be revised when we release our more detailed Productivity overview for the quarter.

2 . Latest statistics

The labour productivity flash estimate uses the latest labour market statistics and the gross value added (GVA) first quarterly estimates to provide the first look at UK productivity for Quarter 4 (Oct to Dec) 2022.

The headline statistics we report compare UK productivity with average 2019 levels, pre-coronavirus (COVID-19) pandemic levels, when productivity growth was not affected by furlough schemes.

Table 1: The latest productivity statistics
UK, Quarter 1 (Jan to Mar) 2020 to Quarter 4 (Oct to Dec) 2022

Period	Output per hour worked growth rates			Output per worker growth rates		
	Quarter vs 2019 pre-pandemic level (%)	Quarter-on-year ago (%)	Quarter-on-quarter (%)	Quarter vs 2019 pre-pandemic level (%)	Quarter-on-year ago (%)	Quarter-on-quarter (%)
2020 Q1	-0.2	0.4	-0.8	-2.5	-2.4	-2.5
2020 Q2	-3.9	-3.5	-3.8	-22.0	-21.6	-19.9
2020 Q3	3.9	3.6	8.2	-8.2	-8.7	17.6
2020 Q4	-0.3	-0.9	-4.1	-6.4	-6.4	2.0
2021 Q1	0.3	0.5	0.6	-7.4	-5.0	-1.1
2021 Q2	1.5	5.6	1.2	-1.7	25.9	6.1
2021 Q3	0.6	-3.2	-0.9	-0.9	7.9	0.8
2021 Q4	2.1	2.4	1.5	0.7	7.6	1.6
2022 Q1	1.2	0.9	-0.9	0.9	9.0	0.2
2022 Q2	1.3	-0.2	0.1	0.5	2.3	-0.4
2022 Q3	1.6	1.0	0.3	0.5	1.4	0.0
2022 Q4	1.9	-0.1	0.3	0.3	-0.3	-0.2

Source: Office for National Statistics – UK productivity flash estimate

Notes

1. Comparisons with pre-coronavirus levels use average 2019 levels as the base period.

3 . Output per hour worked

Preliminary estimates of UK output per hour worked for Quarter 4 (Oct to Dec) 2022 were 1.9% above their pre-coronavirus (COVID-19) pandemic levels, because of a 1.6% decrease in the number of hours worked and an increase by 0.4% in gross value added (GVA) over that period.

Relative to a year earlier, Quarter 4 2021, output per hour worked decreased by 0.1% as GVA grew by 0.4%, while the number of hours worked grew by 0.6%.

Figure 1: Output per hour worked was 1.9% above pre-coronavirus (COVID-19) pandemic levels

Output per hour worked, gross value added (GVA), hours worked, UK, index 2019 = 100, Quarter 1 (Jan to Mar) 2008 to Quarter 4 (Oct to Dec) 2022

Figure 1: Output per hour worked was 1.9% above pre-coronavirus (COVID-19) pandemic levels

Output per hour worked, gross value added (GVA), hours worked, UK, index 2019 = 100, Quarter 1 (Jan to Mar) 2008 to Quarter 4 (Oct to Dec) 2022
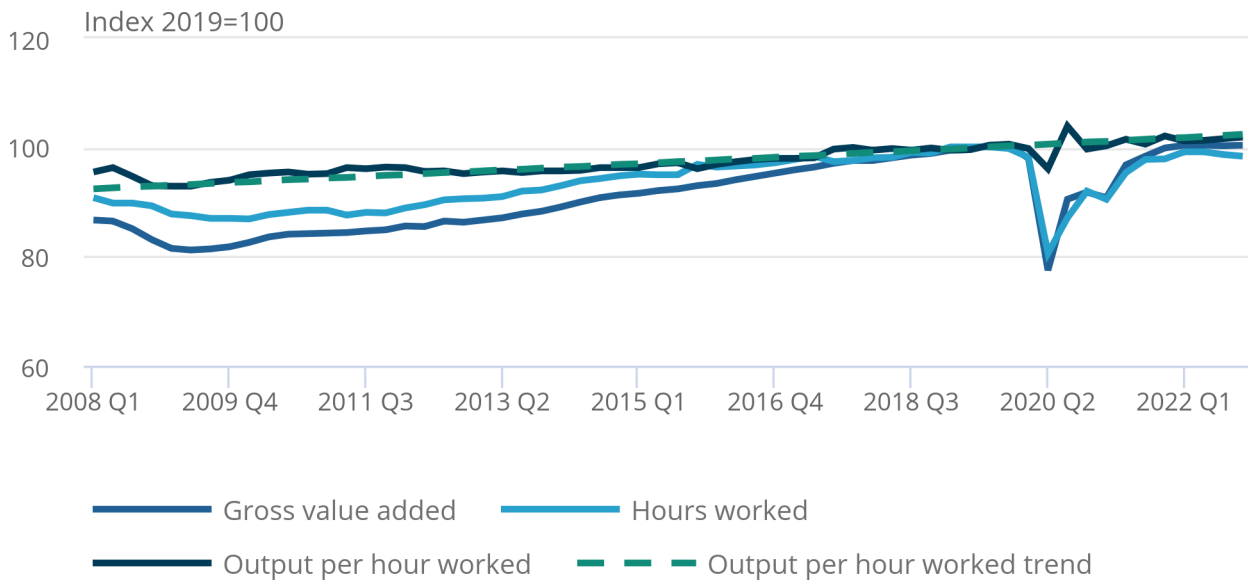
Source: Office for National Statistics – UK productivity flash estimate

Notes:

1. Average growth between 2009 and 2019 is used as the trend.

4 . Output per worker

We also report output per worker as a measure of productivity. This is the ratio of total output relative to the number of workers.

Preliminary estimates of UK output per worker for Quarter 4 (Oct to Dec) 2022 were 0.3% above their pre-coronavirus (COVID-19) pandemic levels. This increase was driven by growth of 0.4% in gross value added (GVA) and no change in the number of workers over that period.

Output per worker decreased by 0.3%, compared with a year earlier, Quarter 4 2021, as the 0.8% growth in the number of workers exceeded the 0.4% growth in GVA.

UK output per hour worked increased by 0.3% in Quarter 4 2022, compared with the previous quarter, while output per worker fell by 0.2%. This divergence was caused by a quarterly increase in GVA by 0.1%, while the number of hours worked fell by 0.3% and the number of workers rose by 0.2%, respectively. Therefore, in Quarter 4 2022 more workers had undertaken fewer average hours worked.

Figure 2: Output per worker was 0.3% higher than pre-coronavirus (COVID-19) pandemic levels

Output per worker, gross value added, employment, UK, index 2019 = 100, Quarter 1 (Jan to Mar) 2008 to Quarter 4 (Oct to Dec) 2022

Figure 2: Output per worker was 0.3% higher than pre-coronavirus (COVID-19) pandemic levels

Output per worker, gross value added, employment, UK, index 2019 = 100, Quarter 1 (Jan to Mar) 2008 to Quarter 4 (Oct to Dec) 2022
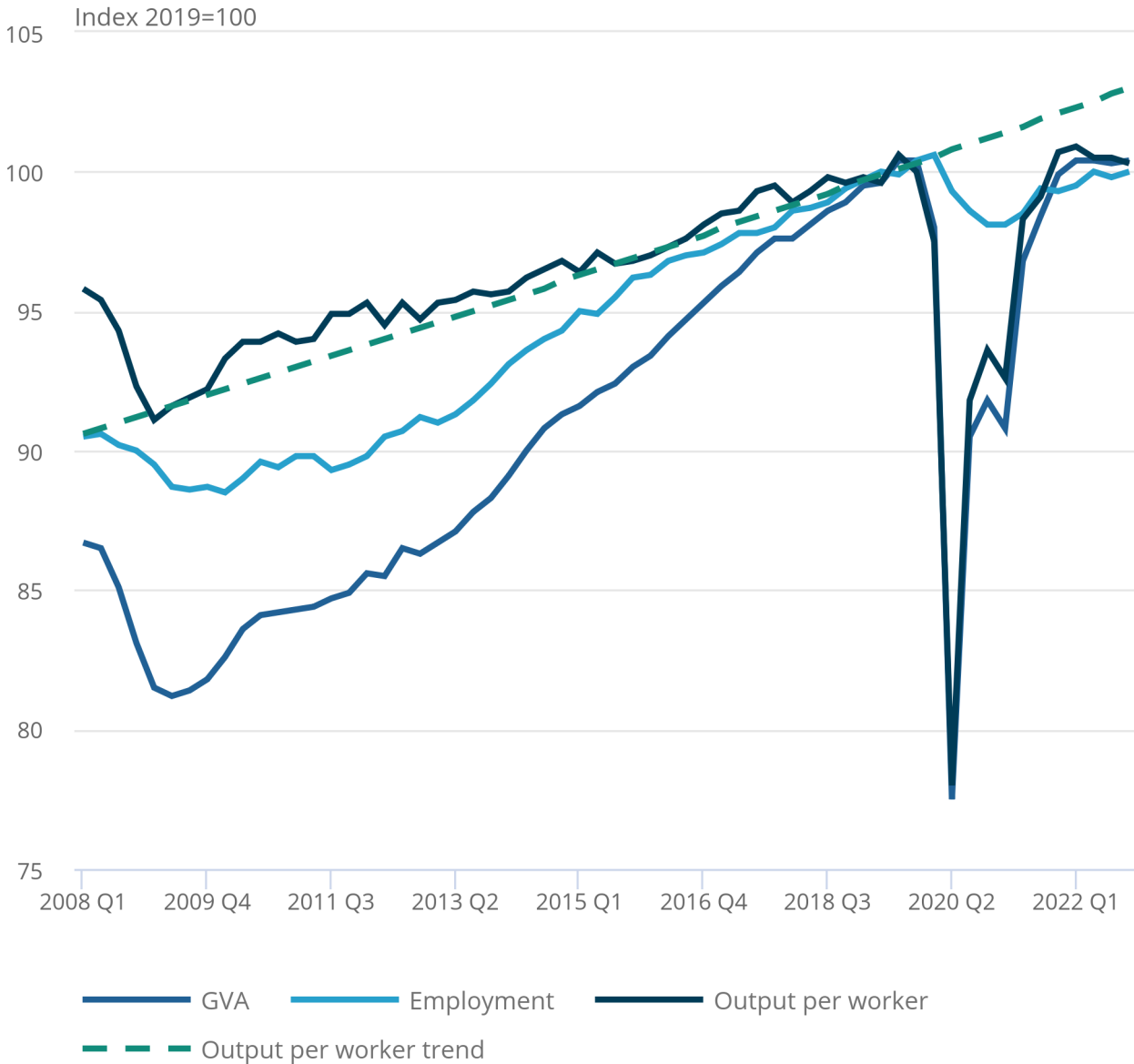
Source: Office for National Statistics – UK productivity flash estimate

Notes:

1. Average growth between 2009 and 2019 is used as the trend.

5 . UK productivity flash estimate data

6 . Glossary

Allocation effect

An allocation effect represents changes in the mix of activities in the economy between firms or industries that have various levels of productivity. Resources moving from low to high productivity industries creates a positive allocation effect, while movement from high to low productivity industries creates a negative allocation effect.

Gross value added

The value generated by any unit engaged in production and the contributions of individual sectors or industries to gross domestic product.

Labour inputs

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

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.

Output

Output is measured by gross value added (GVA) in chained volume measures (CVM), which is an estimate of the volume of goods and services produced for final use by an industry, and in aggregate for the UK, after adjusting for price changes. It is calculated as turnover (sales) minus purchases (intermediate consumption).

7 . Data sources and quality

This release uses the first available information on output and labour input for Quarter 4 (Oct to Dec) 2022. These data may be revised when we release our more detailed Productivity overview in April 2023.

This release uses gross value added (GVA) from the first gross domestic product (GDP) quarterly estimate to determine output. Labour market data are from the Labour market overview, UK: statistical bulletin. Estimates of the productivity time series for previous time periods have been revised and therefore may not be consistent with the Labour productivity National Statistics.

New estimates of GVA are more volatile on a quarterly basis, especially in production industries. This reflects the use of new data and methods, but also challenges in reconciling quarterly and annual data. As productivity is a structural feature of the economy, we continue to advise users to focus on long-term trends of productivity.

The population totals used for the latest Labour Force Survey (LFS) estimates use projected growth rates from Real Time Information data for UK, EU and non-EU populations based on 2021 patterns. The total population used for the LFS therefore does not account for any changes in migration, birth rates, death rates, and so on, since June 2021. As such any levels estimates may be under-or over-estimating the true values and should be used with caution. Estimates of rates will, however, be robust.

More details on the flash by industry methodology is described in the "Guidance" tab of our accompanying dataset.

8 . Related links

Productivity overview, UK: July to September 2022
Bulletin | Released 26 January 2023
The main findings from official statistics and analysis of UK productivity, presenting a summary of recent developments.

GDP first quarterly estimate, UK: October to December 2022
Bulletin | Released 10 February 2023
First quarterly estimate of gross domestic product (GDP). Contains current and constant price data on the value of goods and services to indicate the economic performance of the UK.

Labour market overview, UK: February 2023
Bulletin | Released 14 February 2023
Estimates of employment, unemployment, economic inactivity, and other employment-related statistics for the UK.

9 . Cite this article