Office for National Statistics

Article

Labour productivity headline measures, UK: April to June 2020

Headline estimates for UK labour productivity, including whole economy output per hour and output per worker.

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Release date:
13 October 2020

Next release:
To be announced

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1 . Main points

- Measures of output (GVA) and measures of the labour market (hours, workers, and jobs) are both subject to rapid and substantive change: where productivity is a ratio of these two measures this means this measure can exhibit unusual but short-term patterns.
- Users are advised to apply caution in using these data: We recommend comparing productivity measures with the previous year to capture the medium-term structural nature of productivity change and reduce the impact of short-term volatility.
- Labour productivity for Quarter 2 (Apr to June) 2020, as measured by output per hour, fell by 1.8% when compared with the same quarter in the previous year.
- In Quarter 2 2020, output per worker fell by 21.1% compared with the same quarter in the previous year; this is the steepest fall on record and is larger than that observed for output per hour because of the impact of the furlough scheme that retains employees as workers even though they work zero hours.
- When compared with the previous quarter (Quarter 1 2020), output per hour fell by 2% while output per worker fell by 19%, again reflecting the impact of the furlough scheme.
- These statistics are published in line with updated and reweighted labour market data.

Productivity estimates for the April to June 2020 period are subject to more uncertainty than usual as a result of the challenges we have faced in collecting labour market data and estimating GDP during the coronavirus (COVID-19) pandemic.

2 . Output per hour and output per worker

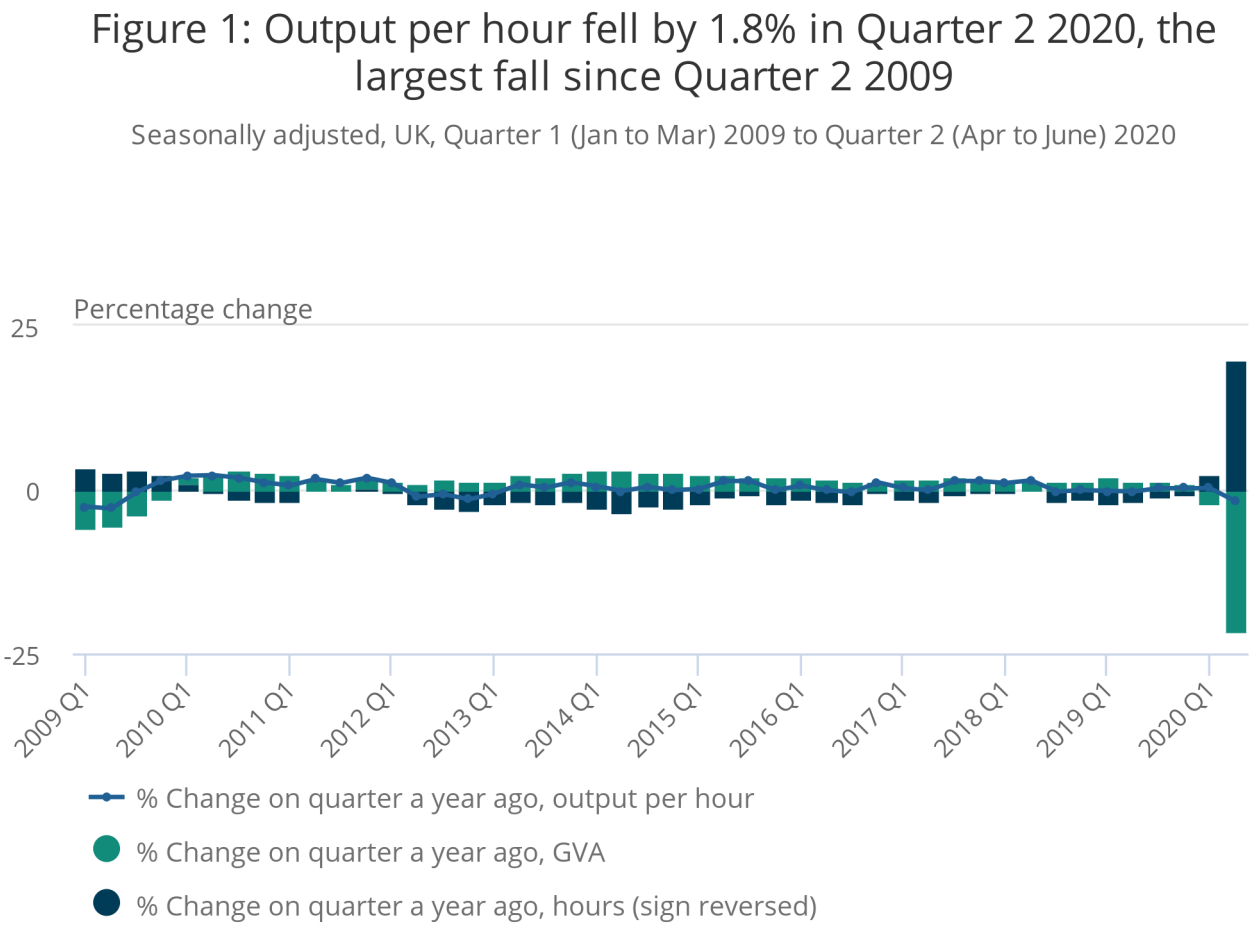
Our headline measure of productivity is output per hour growth compared with the same quarter in the previous year. We normally use “quarter-on-year” comparisons as they give a better indicator of longer-term productivity trends.

The coronavirus pandemic, and the government response to it began to affect the UK economy at the end of Quarter 1 (Jan to Mar) 2020. Quarter 2 (Apr to June) 2020 is the first quarter that has been affected from start to finish.

Output per hour fell by 1.8% in Quarter 2 2020, the largest fall since Quarter 2 2009. This was driven by GVA falling faster than hours worked. Compared with the previous year, GVA fell by 21.5% and hours worked fell by 20%. GVA is a measure of the production of goods and services in the economy and is closely aligned to gross domestic product (GDP).

Figure 1: Output per hour fell by 1.8% in Quarter 2 2020, the largest fall since Quarter 2 2009

Seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2009 to Quarter 2 (Apr to June) 2020



Source: Office for National Statistics

Notes:

1. Estimates of hours worked have had their sign reversed to reflect how they affect output per hour. An increase in hours worked will contribute negatively to output per hour, while a decrease in hours worked will contribute positively to output per hour.

Labour productivity, as measured by output per worker, decreased by 21.1% in Quarter 2 2020 compared with the same quarter in the previous year. Historically, output per hour and output per worker have been much closer aligned, but the Coronavirus Job Retention Scheme (CJRS) has resulted in a large disparity between the two measures.

The CJRS allows companies to furlough workers, keeping them employed and allowing them to work zero hours, as described in Coronavirus and the effects on UK GDP. The total number of workers fell by 0.4% on the previous year, which is a much smaller movement than would be expected in response to a 21.5% fall in GVA.

This is the largest output per worker fall on record, but the furlough scheme, by design, makes this an extremely difficult period to compare with the historical data, and strengthens our argument that output per hour should be considered the headline measure.

Table 1: Headline labour productivity indicators for the UK
Seasonally adjusted, UK, Quarter 4 (Oct to Dec) 2016 to Quarter 2 (Apr to June) 2020

Whole economy

	Quarter on same quarter in previous year		Quarter on previous quarter	
	Output per hour (growth %)	Output per worker (growth %)	Output per hour (growth %)	Output per worker (growth %)
2016 Q4	1.1	0.5	0.2	0.5
2017 Q1	0.2	0.5	-0.2	0.2
2017 Q2	-0.1	0.7	-0.2	0
2017 Q3	1.3	1.1	1.5	0.5
2017 Q4	1.3	0.7	0.1	0.1
2018 Q1	1	0	-0.4	-0.5
2018 Q2	1.4	0.2	0.2	0.2
2018 Q3	-0.3	0.3	-0.2	0.5
2018 Q4	-0.1	0	0.4	-0.2
2019 Q1	-0.2	0.8	-0.5	0.2
2019 Q2	-0.3	0.2	0	-0.4
2019 Q3	0.2	0.2	0.3	0.5
2019 Q4	0.2	0	0.4	-0.4
2020 Q1	0.2	-3	-0.5	-2.7
2020 Q2	-1.8	-21.1	-2	-19

Source: Office for National Statistics

Output per hour fell by 2% during Quarter 2 2020 compared with the previous quarter. This is the largest fall since Quarter 1 1974. During the same period, output per worker fell by 19%.

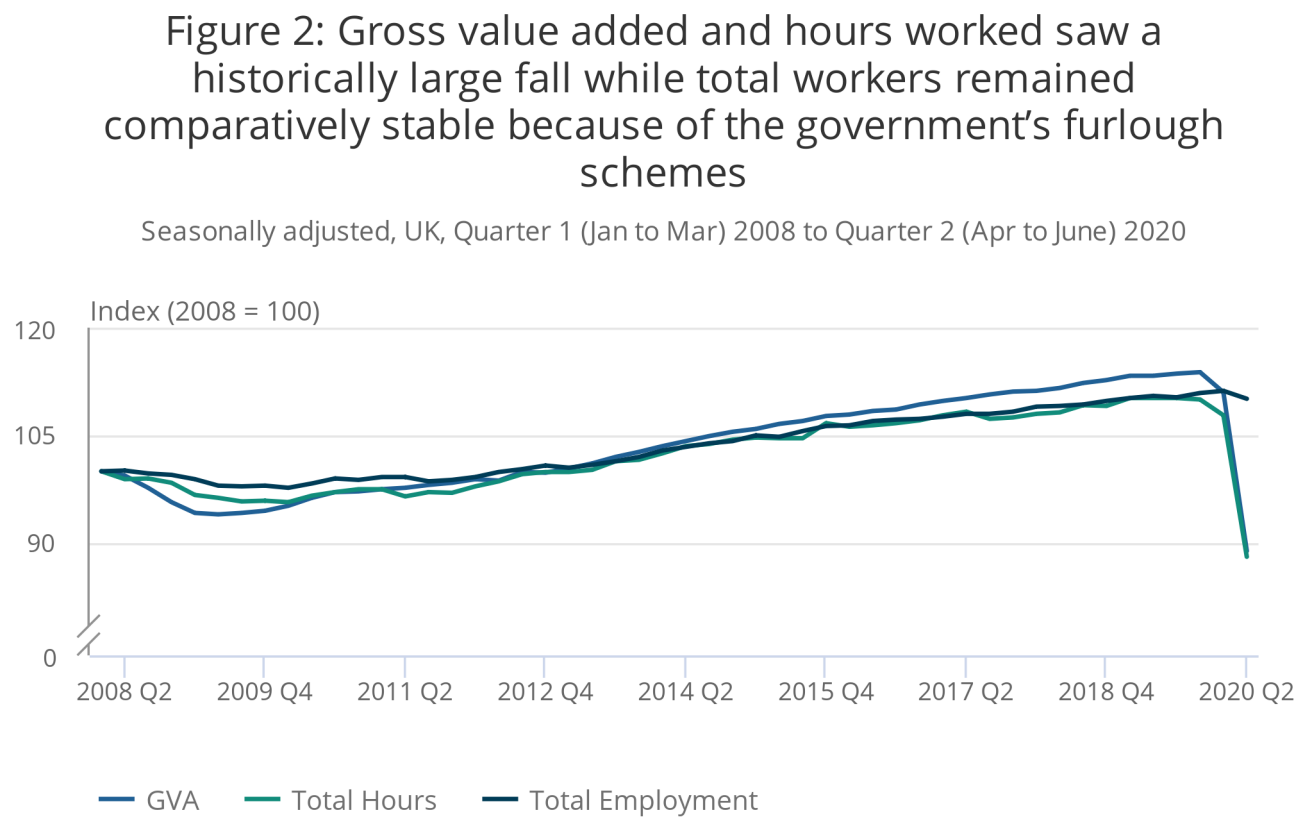
Historical context

Since the 2008 to 2009 economic downturn, both employment and total hours have demonstrated growth, which over the period has broadly kept pace with the growth in GVA causing productivity to grow slowly by historical standards.

The consequences, such as government interventions, of the coronavirus pandemic have resulted in a fall in economic activity. Figure 2 highlights how GVA and hours worked have fallen at historic rates. The government furlough scheme has resulted in total employment broadly staying in line with pre-lockdown levels.

Figure 2: Gross value added and hours worked saw a historically large fall while total workers remained comparatively stable because of the government's furlough schemes

Seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 2 (Apr to June) 2020



Source: Office for National Statistics

3 . The effects of government furlough schemes

We have compiled Experimental Statistics to demonstrate the effect of the government's furlough schemes on labour productivity. Accurately capturing data for furloughed workers has been a challenge in the lockdown period, as details on the government's furlough schemes were not required questions for long-established surveys. For example, this is the case for the Labour Force Survey (LFS), a main source of hours data for labour productivity estimates.

In the absence of direct furloughed questions on the LFS, extra guidance was given to interviewers on how to classify those mentioning furlough as a reason for doing fewer hours than usual in the reference week. The guidance states that furlough responses should be directed toward the "laid off/short time/work interrupted by economic or other causes" response category of the "Yless20" variable. Respondents choosing this response category, or one of five other response options, then get asked if their reason for working fewer hours than usual was because of the coronavirus (COVID-19).

Based on the absence of other furlough questions for the April to June 2020 period, we think that those employees answering "laid off/short time/work interrupted by economic or other causes", "Other personal/family reasons" or "Other reasons" to "Yless20" and "Yes" to the reason being because of the coronavirus is the best possible estimate we have for furloughed employees on the LFS.

It is possible that this method may include people that are not on furlough but are away for other reasons related to the coronavirus, but will also fail to include those on furlough that do not consider it their main reason for doing fewer hours.

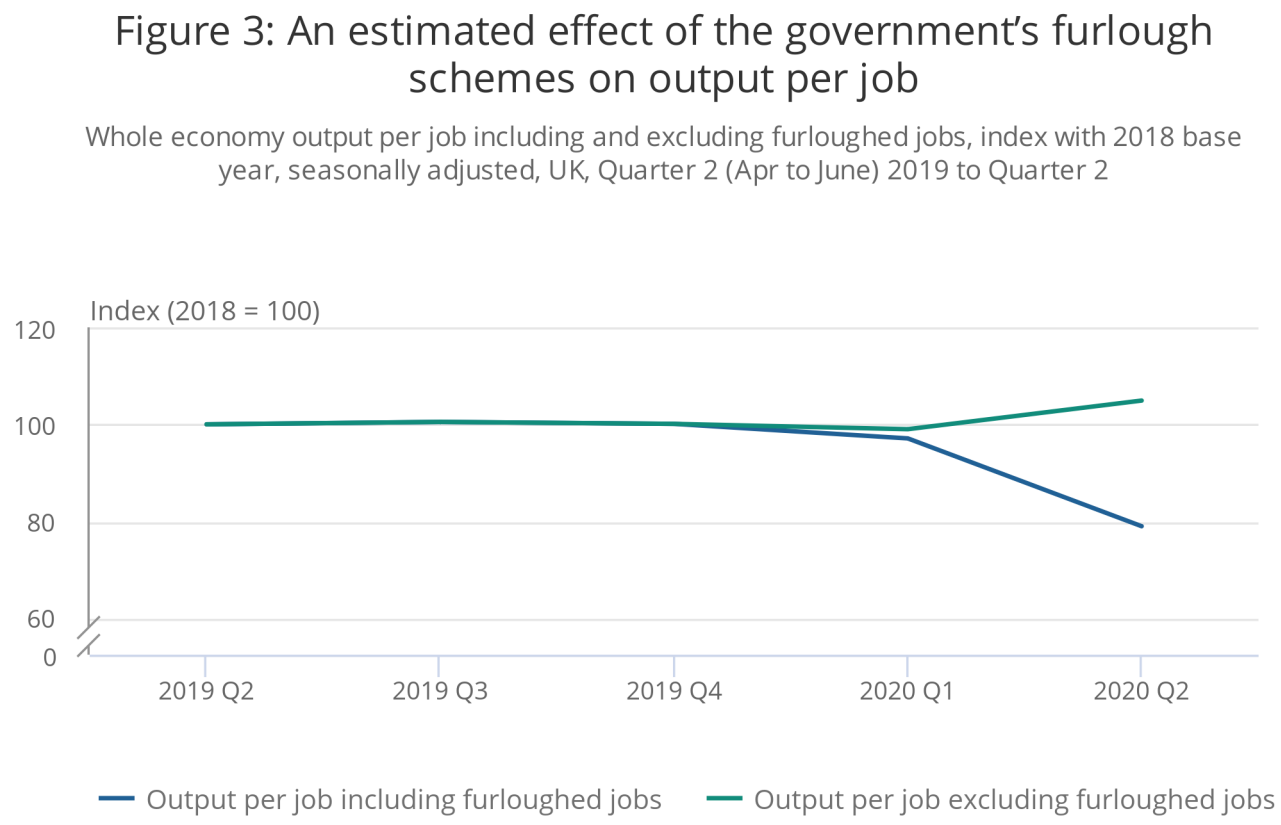
Despite these filters, there is a notable difference in the furlough estimates from LFS responses and experimental data published by Her Majesty's Revenue and Customs department (HMRC). There could be several reasons for this, including those noted above. It is also important to note the HMRC data count "employments", which are equivalent to jobs, whereas the LFS figures count "workers" and any worker could have more than one job.

In order to demonstrate the possible effects of the furlough schemes, Figure 3 shows output per job figures including and excluding furloughed jobs. These data are distinct and should not be confused with the output per hour and output per worker statistics quoted elsewhere in this release.

While the output per job series are National Statistics, the data excluding furloughed jobs are experimental. The experimental series uses HMRC data averaged across the quarter to determine the effect to which jobs have been affected and takes this from the total jobs figures.

Figure 3: An estimated effect of the government's furlough schemes on output per job

Whole economy output per job including and excluding furloughed jobs, index with 2018 base year, seasonally adjusted, UK, Quarter 2 (Apr to June) 2019 to Quarter 2



Source: Office for National Statistics, HM Revenue and Customs (With Office for National Statistics Calculations)

Notes:

1. Furloughed jobs are estimated using a mean average of HMRC's daily furloughed "employments" data. For days before the furloughed schemes were introduced a zero has been used in the average.

The overall effect of excluding furloughed workers, as demonstrated in Figure 3, is an increase in output per job. This is because the output in the quarters affected by the lockdown are shared across fewer jobs. The effect is large enough to change the direction of output per job and to bring it above 2018 productivity levels on this metric.

The data presented in Figure 3 should be used cautiously. Our preferred measure of labour productivity is output per hour because hours worked data takes account of different working patterns among workers. Jobs data fail to do this in a meaningful way – there is no indication from jobs data how much time a worker spends at a job. If part-time jobs are disproportionately affected by the lockdown then it is sensible to assume that hours data would fall to a lesser degree than jobs, resulting in a less significant shift in the output per hour data for the period.

4 . Data sources and quality

This estimate of UK productivity uses revised data for the Labour Force Survey (LFS) for the first half (January to June) of 2020. We will release full labour productivity and multi-factor productivity statistics soon.

The measure of labour productivity output used in these statistics is the chained volume (real) measure of gross value added (GVA) at basic prices.

All data in this release were collected during the lockdown that was imposed because of the coronavirus (COVID-19). During this period there have been additional challenges to collecting labour market data and estimating gross domestic product (GDP). As a result, the estimates are subject to increased uncertainty and there is an increased likelihood of larger revisions than usual in future releases of these measures.

5 . Related links

UK productivity: April to June 2020
Article | Released 7 October 2020
The main findings from official statistics and analysis of UK productivity to present a summary of recent developments.

GDP quarterly national accounts, UK: April to June 2020
Bulletin | Released 30 September 2020
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: October 2020
Bulletin | Released 13 October 2020
Estimates of employment, unemployment, economic inactivity and other employment-related statistics for the UK.

Sub regional productivity in the UK: February 2020
Article | Released 28 February 2020
The article provides estimates for sub regional labour productivity measured as gross value added (GVA) per hour worked and GVA per filled job.

Public service productivity: total, UK, 2017
Article | Released 8 January 2020
Updated measures of output, inputs and productivity for public services in the UK between 1997 and 2017. Includes service area breakdown, as well as the impact of quality adjustment and latest revisions.