

Article

# UK productivity flash estimate: July to September 2020

Flash estimate of labour productivity for Quarter 3 (July to Sept) 2020 based on the latest data from the gross domestic product (GDP) first quarterly estimate and labour market statistics.

Contact:  
Jack Bolshaw and Stuart  
Mackenzie  
productivity@ons.gov.uk  
+44 (0)1633 455086

Release date:  
12 November 2020

Next release:  
23 February 2021

## Table of contents

1. [Main points](#)
2. [Output per hour and output per worker](#)
3. [Output per hour by industry](#)
4. [Things you need to know about this release](#)
5. [Data sources and revisions](#)

# 1 . Main points

- The labour productivity flash publication uses the latest labour market statistics and the gross domestic product (GDP) first quarterly estimates to calculate labour productivity; this publication provides the first look at UK productivity for Quarter 3 (July to Sept) 2020, which followed the relaxing of coronavirus (COVID-19) lockdown restrictions by the government.
- Labour productivity for Quarter 3 2020, as measured by output per hour, grew by 3.0% when compared with the same quarter a year ago (Quarter 3 2019).
- In Quarter 3 2020, output per worker fell by 8.8% compared with the same quarter a year ago; furlough continues to affect this as people retain their employment status as a worker, but are not undertaking work activities.
- Output per hour increased by 5.2% compared with the previous quarter, caused by gross value added (GVA) recovering more strongly than total hours worked.
- Output per worker rose by 16.2% compared with the previous quarter, demonstrating how an increasing number of people have been returning to work throughout Quarter 3, as lockdown restrictions reduced and the “R rate” of the coronavirus declined.
- This article is the second to include flash estimates of labour productivity at the sector level; every sector in the economy saw a quarter-on-year rise in output per hour – construction saw the largest rise (9.3%) and services the smallest rise (1.3%); users are advised to note the methodology caveats around this work in the following sections.

## 2 . Output per hour and output per worker

In [our last publication](#), we used output per hour compared with the previous quarter to highlight the immediate effects of the coronavirus (COVID-19) on the economy. However, for this publication we are returning to our standard measure – output per hour compared with the same quarter a year ago. This removes any seasonal impact that may affect productivity and better shows the impact on people’s quality of life. Therefore, unless stated otherwise this publication will primarily make comparisons with the previous year.

Throughout Quarter 3 (July to Sept), coronavirus restrictions were loosened by the government as the pandemic’s infection rate slowed. In this quarter’s article, we begin to see the recovery of the economy and how this affects productivity.

Compared with the same quarter in the previous year, output per hour rose by 3.0% in Quarter 3 2020. This rise was driven by gross value added (GVA) falling less over the year than hours worked. Compared with the previous year, GVA fell by 9.5%, whereas hours worked fell by 12.1%.

We also saw output per hour rise by 5.2% when compared with the previous quarter for the same reason, as the recovery in GVA since the Quarter 2 (Apr to June) 2020 trough was faster than the recovery in hours worked.

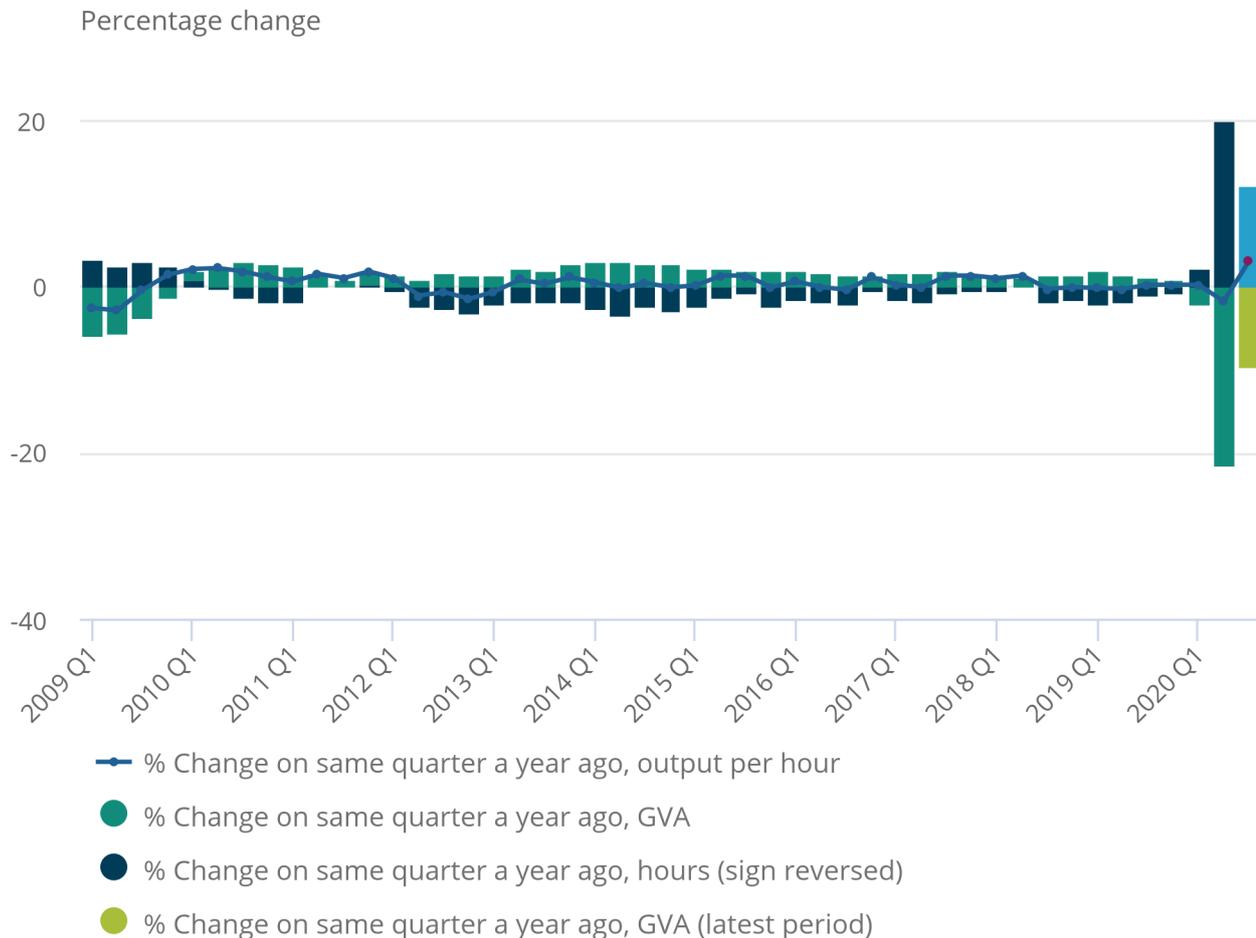
The 9.5% contraction in GVA, compared with the previous year, was particularly driven by services, which accounted for 8.0 percentage points (pp) of the fall compared with the previous year. Within the services sector, “government and other services” and “business services and finance” contributed 3.4pp and 2.5pp to the fall respectively.

**Figure 1: Output per hour rose by 3.0% in Quarter 3 2020 compared with the previous year**

Quarter on year, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2009 to Quarter 3 (July to Sept) 2020

## Figure 1: Output per hour rose by 3.0% in Quarter 3 2020 compared with the previous year

Quarter on year, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2009 to Quarter 3 (July to Sept) 2020



Source: Office for National Statistics – UK productivity flash estimate

**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.
2. Quarter 3 2020 statistics are coloured differently as they are provisional estimates.

Figure 1 separates the output per hour rise into its two main components – GVA and hours worked – demonstrating the main factors behind the rise. GVA rising faster than hours has resulted in the large growth in output per hour. Whether this is maintained as hours worked returns to normal conditions in the medium term, or the pandemic delivers a sustained change in the relationship between output and hours worked will be dependent on a large number of factors.

The Coronavirus Job Retention Scheme (CJRS) allows companies to furlough workers, keeping them employed and allowing them to work zero hours, as described in the [Coronavirus and the effects on UK GDP article](#). The CJRS has resulted in a large disparity between output per hour and output per worker. Historically, both series have been much more closely aligned.

Labour productivity as measured by output per worker decreased by 8.8% compared with the previous year. The total number of workers has fallen by 0.8% on the year, which is a much smaller movement than would be expected in response to a 9.5% fall in GVA. Output per worker increased by 16.2% when compared with the previous quarter as the economy recovered from the Quarter 2 2020 trough.

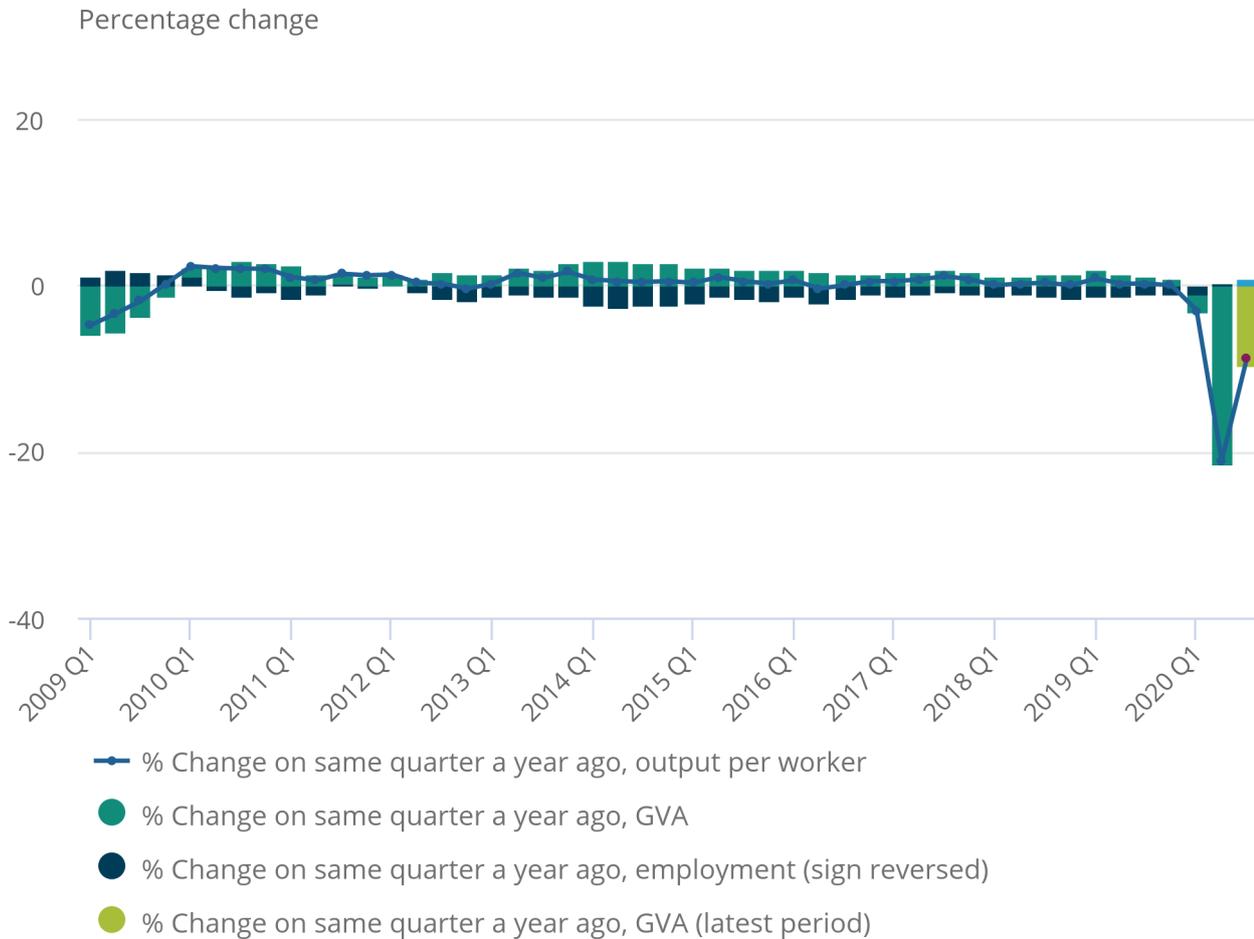
The large output per worker fall compared with the previous year is because of the furlough scheme, as workers are retaining their jobs but not undertaking work activities. The furlough scheme, by design, makes this an extremely difficult period to compare with the historical data and strengthens our argument that output per hour should be considered the headline measure.

**Figure 2: Output per worker fell by 8.8% in Quarter 3 2020 compared with the previous year as the furlough scheme retains workers despite falling GVA**

Quarter on year, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2009 to Quarter 3 (July to Sept) 2020

Figure 2: Output per worker fell by 8.8% in Quarter 3 2020 compared with the previous year as the furlough scheme retains workers despite falling GVA

Quarter on year, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2009 to Quarter 3 (July to Sept) 2020



Source: Office for National Statistics – UK productivity flash estimate

Notes:

1. Estimates of employment have had their sign reversed to reflect how they affect output per worker. An increase in employment will contribute negatively to output per worker, while a decrease in employment will contribute positively to output per worker.
2. Quarter 3 2020 statistics are coloured differently as they are provisional estimates.

Figure 2 separates output per worker into its main two factors – GVA and employment. Despite the large fall in relation to the previous year, you can see the recovery compared with the previous quarter's performance against the previous year.

Table 1: Headline labour productivity indicators for the UK  
Seasonally adjusted, UK, Quarter 4 (Oct to Dec) 2016 to Quarter 3 (July to Sept) 2020

## Whole economy

	Quarter on same quarter in previous year		Quarter on previous quarter	
	Output per hour	Output per worker	Output per hour	Output per worker
	(growth %)	(growth %)	(growth %)	(growth %)
<b>2016 Q4</b>	1.1	0.5	0.2	0.5
<b>2017 Q1</b>	0.2	0.5	-0.2	0.2
<b>2017 Q2</b>	-0.1	0.7	-0.1	0
<b>2017 Q3</b>	1.3	1.1	1.5	0.5
<b>2017 Q4</b>	1.3	0.7	0.1	0.1
<b>2018 Q1</b>	1	0	-0.4	-0.5
<b>2018 Q2</b>	1.3	0.2	0.2	0.2
<b>2018 Q3</b>	-0.3	0.3	-0.2	0.5
<b>2018 Q4</b>	-0.1	0	0.4	-0.2
<b>2019 Q1</b>	-0.2	0.8	-0.5	0.2
<b>2019 Q2</b>	-0.3	0.2	0	-0.4
<b>2019 Q3</b>	0.2	0.2	0.3	0.5
<b>2019 Q4</b>	0.2	0	0.4	-0.4
<b>2020 Q1</b>	0.2	-3	-0.5	-2.7
<b>2020 Q2</b>	-1.8	-21.1	-2	-19
<b>2020 Q3</b>	3	-8.8	5.2	16.2

Source: Office for National Statistics – UK productivity flash estimate

## Notes

1. Quarter 3 2020 contains data from the first available information on output and labour inputs. Data for the earlier quarters are consistent with the labour productivity National Statistics.

Output per hour grew by 3.0% during Quarter 3 2020 compared with the same quarter in the previous year. During the same period, output per worker fell by 8.8%.

## 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.

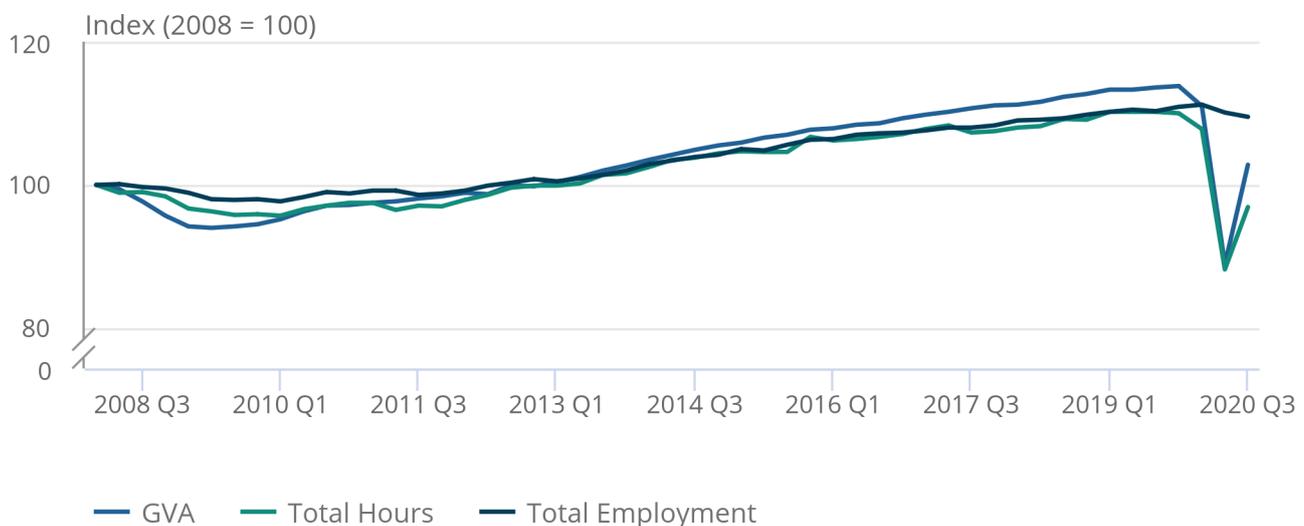
The consequences of the coronavirus pandemic have resulted in a fall in economic activity. However, in Quarter 3, we saw the economy bounce back with a significant rise in GVA and hours worked. Figure 3 highlights how GVA and hours worked have fallen at historic rates but are starting to return to the levels seen before the impact of the coronavirus. The government furlough scheme has resulted in total employment only slightly reducing, compared with pre-lockdown levels.

**Figure 3: Gross value added and hours worked rose significantly while total workers remained comparatively stable because of the government furlough scheme**

Seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 3 (July to September) 2020

Figure 3: Gross value added and hours worked rose significantly while total workers remained comparatively stable because of the government furlough scheme

Seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 3 (July to September) 2020



Source: Office for National Statistics – UK productivity flash estimate

### 3 . Output per hour by industry

We have put together a flash estimate of output per hour by industry for Quarter 3 (July to Sept) 2020. Data by industry are available in the [dataset](#) accompanying this release. The data are [experimental](#) and compiled by carrying forward Quarter 2 (Apr to June) 2020 estimates from short-term employment surveys that allocate workers to industries. These data will be revised after Quarter 3 2020 data become available and published in our subsequent [productivity bulletin](#).

Every sector in the economy saw a rise compared to same quarter a year ago in output per hour. Construction saw the largest rise of 9.3% and services saw the smallest at 1.3%.

Table 2: Growth in output per hour by industry sector, with growth in gross value added and hours worked  
Seasonally adjusted, UK, Quarter 3 (July to Sept) 2020

	Quarter on same quarter in previous year			Quarter on previous quarter		
	Output per hour (growth %)	GVA (growth %)	Hours Worked (growth %)	Output per hour (growth %)	GVA (growth %)	Hours Worked (growth %)
<b>Whole economy</b>	3	-9.5	-12.1	5.2	15.6	9.9
<b>Non-manufacturing production</b>	4.7	-1.2	-5.7	0.9	5.1	4.1
<b>Manufacturing</b>	8.2	-8.8	-15.7	8.5	18.7	9.4
<b>Construction</b>	9.3	-12.5	-20	25.5	41.7	12.9
<b>Services</b>	1.3	-10	-11.2	3.9	14.2	9.9

Source: Office for National Statistics – UK productivity flash estimate

These industry-level flash estimates assume no change to the proportion of employee jobs in each industry from the previous quarter to the latest one. These estimates will be revised in future releases as data become available on the actual distribution of employee jobs across industries in the latest quarter. The flash data should therefore be interpreted with caution.

The large 9.3% increase of output per hour in construction, when compared with the same quarter a year ago, was driven by a large bounce-back in gross value added (GVA) since Quarter 2 2020, although it remains 12.5% lower than it was a year ago. This was significantly larger than the bounce-back in total hours worked, which is still down 20% compared with a year ago.

The second largest rise was seen in manufacturing, which saw GVA 8.8% lower than last year. With total hours worked still down 15.7% on the previous year, we can see this is another example of GVA rising to its early 2020 levels (before the impact of the coronavirus) more quickly than total hours worked. These changes resulted in an 8.2% rise in output per hour.

When we look at individual industries, there were some very large changes. By far the most significant rise in output per hour was in the “wood, paper products and printing” industry. Productivity in this industry increased by 30.9%. This represents decreases of 8.8% in output and 30.3% in hours worked compared with the previous year.

The second largest rise was in “chemical and pharmaceutical products”, which rose by 21.8% compared with the previous year. This can be split into a 12.6% rise in GVA and a 7.5% decrease in hours worked when compared with last year. This was followed by the “hotels and catering” and “wholesale and retail” industries, where output per hour rose by 15.1% and 14.2% respectively.

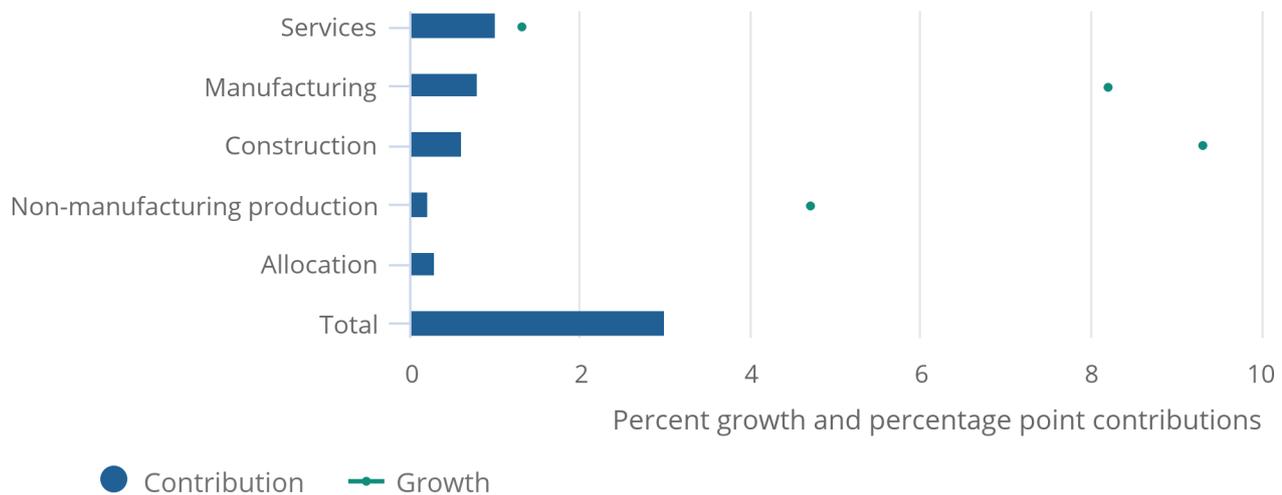
There were some industries that saw a reduction in their productivity. The “other services” industry saw a GVA decrease of 24.2% and a 13.6% fall in hours worked, resulting in a 12.3% decrease in output per hour compared with last year. “Public services” was relatively close behind with an 11.2% decrease in output per hour compared with last year, where GVA decreased by 13.6% and hours worked decreased by a far smaller 2.8%.

## Figure 4: Services and manufacturing were the main contributors to whole economy output per hour growth

Contributions to quarter on year output per hour growth, seasonally adjusted, UK, Quarter 3 (July to September) 2020

### Figure 4: Services and manufacturing were the main contributors to whole economy output per hour growth

Contributions to quarter on year output per hour growth, seasonally adjusted, UK, Quarter 3 (July to September) 2020



Source: Office for National Statistics – UK productivity flash estimate

Notes:

1. Growths can be far larger than contributions because of the relative size of the industry.

## 4 . Things you need to know about this release

This flash estimate of UK productivity uses the first available information on output and labour input for the latest quarter, Quarter 3 (July to Sept) 2020. These data may be revised in subsequent months. As such, we release the more detailed [productivity bulletin](#) after the publication of [gross domestic product \(GDP\) quarterly national accounts](#).

This release uses gross value added (GVA) to determine growth in output for the latest quarter and uses the latest estimates from the [GDP first quarterly estimate](#) released concurrently. Estimates of earlier quarters are consistent with the Labour productivity [National Statistics](#).

## 5 . Data sources and revisions

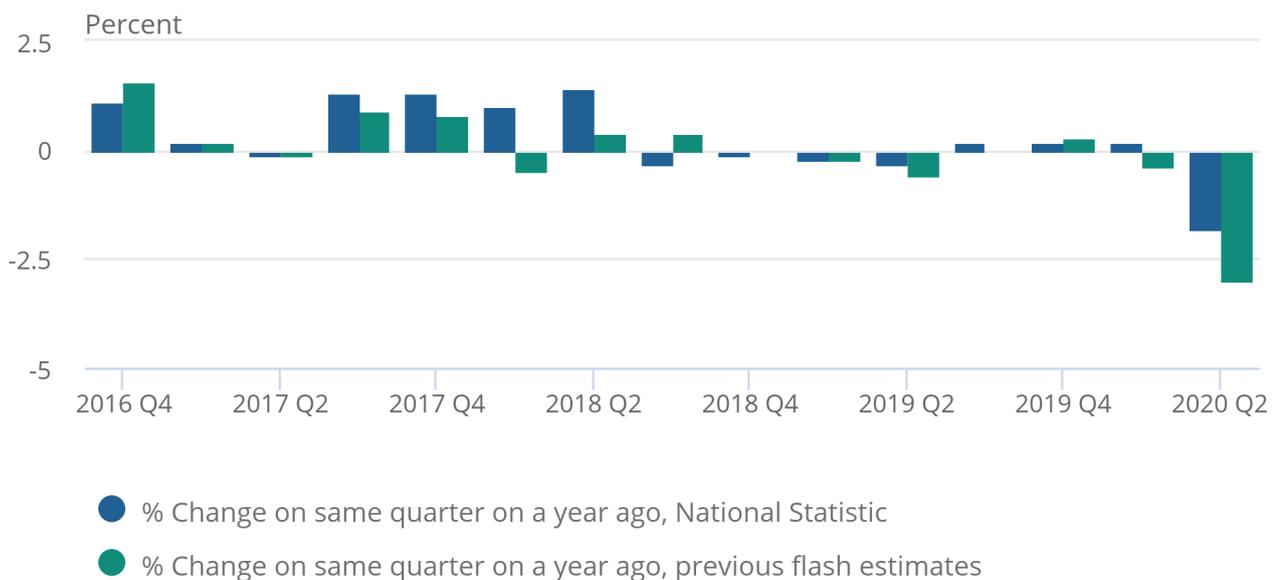
This flash estimate of UK productivity uses the first available information on output and labour inputs for the latest quarter; earlier quarters are consistent with the [Labour productivity statistics](#). The latest whole economy flash estimate data have been appended onto previous productivity statistics.

GDP data for Quarter 3 (July to Sept) 2020 are from the [GDP first quarterly estimate, UK: July to September 2020](#), published on 12 November 2020.

Contributions are to output gross value added (GVA) and therefore may not sum to the percentage change in average GDP. More information of the difference between the three measures can be found in the [UK National Accounts – a short guide \(PDF, 137KB\)](#).

**Figure 5: Output per hour flash estimate revisions, UK, Quarter 4 (Oct to Dec) 2016 to Quarter 2 (Apr to June) 2020**

Figure 5: Output per hour flash estimate revisions, UK, Quarter 4 (Oct to Dec) 2016 to Quarter 2 (Apr to June) 2020



Source: Office for National Statistics – UK productivity flash estimate

Labour market data for the same period are from the [Labour market overview, UK: November 2020 statistical bulletin](#), published on 10 November 2020.

Data for the earlier quarters, Quarter 1 (Jan to Mar) 2008 until Quarter 2 2020, are consistent with the [Labour productivity National Statistics](#). Figure 5 shows revisions to growth rates on the quarter a year ago compared with the first whole economy flash estimates published for the corresponding period. The aim is to show the reliability of the initial flash estimates over time.

This is the second quarter that we have published flash estimates of output per hour split by industry, and these [Experimental Statistics](#) continue to be evaluated. Preliminary assessment indicates that the data for the previous time period gave potentially useful early estimates of output per hour growth on the same quarter a year ago. Across industries, there was an average absolute departure of about 1.3 percentage points between flash growth estimates and the eventual National Statistics estimates of output per hour growth (compared with the same quarter a year ago), in a period with exceptional growth rates ranging from about negative 70% to positive 14%.

Details of the [policy governing the release of new data](#) are available from the UK Statistics Authority.