

Article

# Productivity economic commentary: January to March 2020

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

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# 1 . Main points

- In Quarter 1 (Jan to Mar) 2020, output per hour, the UK's headline measure of labour productivity, fell by 0.6% compared with the same quarter a year ago, while output per worker fell by 3.1% over the same period; this reflects the impact of "furlough" schemes, which reduced hours worked but preserved workers' employment statuses.
- Multi-factor productivity (MFP) in Quarter 1 2020 is estimated to have decreased by 2.6% compared with the same quarter a year ago; this is the lowest growth rate since Quarter 3 (July to Sept) 2009.
- Public service productivity decreased by 4.8% in Quarter 1 2020 compared with the same quarter a year ago; this fall was driven by an increase in input of 3.2% and a fall in output of 1.6%.
- Healthcare was the main driver of the overall inputs growth, while the output fall was mostly because of health care and education.
- Unit labour costs (ULCs) increased by 6.2% compared with the same quarter a year ago, the largest increase since Quarter 4 (Oct to Dec) 2006.

## 2 . Latest statistics at a glance

Table 1: UK Productivity Statistics for Quarter 1 (Jan to Mar) 2020

Series	Status	Quarter on same quarter a year ago	Quarter on previous quarter
Labour productivity			
• Output per hour	National Statistic	- 0.6%	-1.3%
• Output per worker	National Statistic	-3.1%	-2.8%
• Output per job	National Statistic	-3.3%	-3.0%
Multi-factor productivity	Experimental Statistic	-2.6%	-2.2%
Public service productivity (quarterly estimate)	Experimental Statistic	-4.8%	-4.1%
Unit labour costs	National Statistic	+6.2%	+3.3%

Source: Office for National Statistics, Productivity

### Notes

1. Output per hour is the headline measure of labour productivity in the UK. It is preferable to use quarter on same quarter a year ago comparisons as productivity is a structural feature of economies and quarter on quarter data can be distorted by short-run volatility and transition costs. Public Service Productivity annual estimates are National Statistics. Quarterly (flash) estimates hold quality change constant and are experimental statistics. [Back to table](#)

### 3 . Labour productivity

Productivity is a main driver of economic growth and is an important indicator of the economic health of a nation. It helps define both the scope for raising living standards and the competitiveness of an economy and is increasingly used to inform government policy.

This article provides the first insights on the impact of the coronavirus (COVID-19) on productivity in the UK in Quarter 1 (Jan to Mar) 2020. On 23 March 2020, the UK entered a period of "lockdown" imposed by the government to combat the coronavirus pandemic. Therefore, this article only captures a short period of the impact of the lockdown on productivity. A fuller view of the impact will be contained in the next productivity article, which will cover Quarter 2 (Apr to June) 2020 and will be published on 7 October 2020.

Productivity is a measure of the relationship between inputs and outputs in the economy; the fewer inputs needed to produce the same output, the more productive the economy is. Labour productivity measures the volume of gross value added (GVA) produced per unit of labour input, with hours worked as the preferred labour input.

Figure 1 shows how the 2008 economic downturn served as a break in the labour productivity series between the historical long-term average growth rates of 2.0% and the weak productivity growth that has followed it. Low labour productivity growth looks set to continue into the new decade as the UK economy faces further disruption. This sustained period of weak growth has been labelled the UK's "productivity puzzle" and is arguably the defining economic question of our times. The Royal Statistical Society acknowledged this challenge in December 2019 by awarding the [UK Statistic of the Decade](#) accolade to the Office for National Statistics' (ONS') labour productivity series. The series shows an estimated average annual growth of 0.3% in the decade or so since the 2008 economic downturn.

The coronavirus pandemic has forced employers and employees to adjust to new working schedules and arrangements, such as working from home, which may have either positive or negative impacts on the productivity of different parts of the economy. For example, the short period of lockdown observed in Quarter 1 2020 resulted in a fall in hours worked (1.2%) that was smaller than the fall in GVA (1.7%), which has helped output per hour worked to weaken. However, the government's "furlough" schemes have resulted in a disparity between output per hour and output per worker, which typically are closely aligned because the scheme has caused employment to stay in line with pre-pandemic levels, whereas hours worked has fallen.

Output per worker therefore fell by 3.1% as GVA fell by 1.7% and workers rose by 1.4%, when compared with the same quarter a year ago.

**Figure 1: Output per worker fell more than output per hour, as hours worked fell but the number of workers was sustained by the government “furlough” schemes**

Output per hour, output per worker, quarter-on-same-quarter a year ago log growth rates, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 1998 to Quarter 1 2020

Figure 1: Output per worker fell more than output per hour, as hours worked fell but the number of workers was sustained by the government “furlough” schemes

Output per hour, output per worker, quarter-on-same-quarter a year ago log growth rates, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 1998 to Quarter 1 2020



Source: Office for National Statistics – Productivity economic commentary

Notes:

1. Percentage log growth used in the chart will differ slightly from percentage growth in published datasets.

When looking at which parts of the economy were most affected, output per hour for most non-financial services sections fell in Quarter 1 2020, most notably in real estate activities which fell by 10.5% compared with the same quarter a year ago. However, output per hour for scientific, professional and technical services rose by 2.0%. Outside of services, output per hour fell by a smaller amount in manufacturing (down by 1.4% compared with the same quarter a year ago). Output per hour rose somewhat in non-manufacturing production (1.2%) and more in construction (5.0%).

As drivers of the whole economy fall in output per hour, non-financial services had the largest impact and accounted for 0.9 percentage points of the overall decline. Manufacturing accounted for 0.1 percentage points. Financial services and non-manufacturing production had relatively little impact. Construction slightly offset the trend and pulled up overall output per hour by 0.3 percentage points.

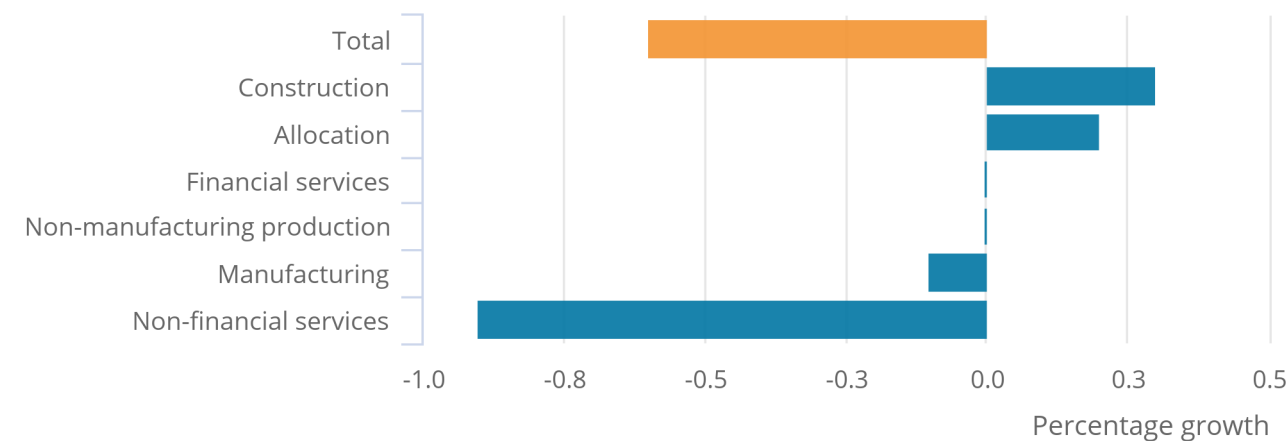
Whole economy output per hour was also pulled up by 0.2 percentage points because of a positive allocation effect. This shows a relative shift in the economy from lower to higher productivity industries, either because more productive firms are expanding or because lower productivity firms are reducing activity. This shift may in part be a result of the furlough schemes, which have particularly affected services sectors such as food and accommodation. These sectors tend to have relatively low output per hour, so if hours worked in these sectors falls disproportionately because of furlough schemes, on average output per hour for the UK is pulled up.

**Figure 2: Non-financial services are the main driver of the whole economy fall in output per hour**

GEAD direct effect contributions to growth of whole economy output per hour, UK, year to Quarter 1 (Jan to Mar) 2020

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GEAD direct effect contributions to growth of whole economy output per hour, UK, year to Quarter 1 (Jan to Mar) 2020



Source: Office for National Statistics, Labour Productivity

Changes to the allocation effect in Figure 2 can have several drivers. Over time, it is reasonable to assume that productive companies and sectors of an economy are likely to grow faster than their less productive counterparts. This will result in a shift of resources, including workers, to those more productive areas of the economy, increasing productivity over time.

Furthermore, less productive firms may go out of business. If this happens, then their more productive counterparts that are still operating will bring up average productivity in the economy. This effect will also be shown in the allocation part of Figure 2.

Data published alongside this article include a new compendium dataset that collates annual time series related to labour productivity at a more granular industry level than what is available in quarterly labour productivity datasets.

Users are invited to guide improvements to labour productivity datasets by commenting on a proposal to show growth rates as percentage log changes rather than the percentage change growth rates that are currently published in labour productivity datasets.

## 4 . Multi-factor productivity

Estimates of multi-factor productivity (MFP) provide a different view of productivity to our labour productivity estimates. MFP attempts to control for the changes in the various inputs used to create economic output and how these inputs are combined to deliver output. These inputs include changes to capital services (such as machinery and software), changes to the composition of the labour market (for example, the number of workers with university degrees) and changes to labour input in terms of hours. This is explained in our [simple guide to MFP](#). MFP only covers the market sector and excludes the public sector and other similar parts of the economy.

MFP in the market sector in Quarter 1 (Jan to Mar) 2020 decreased by 2.6% compared with the same quarter a year ago. This is the lowest rate of MFP growth since 2009.

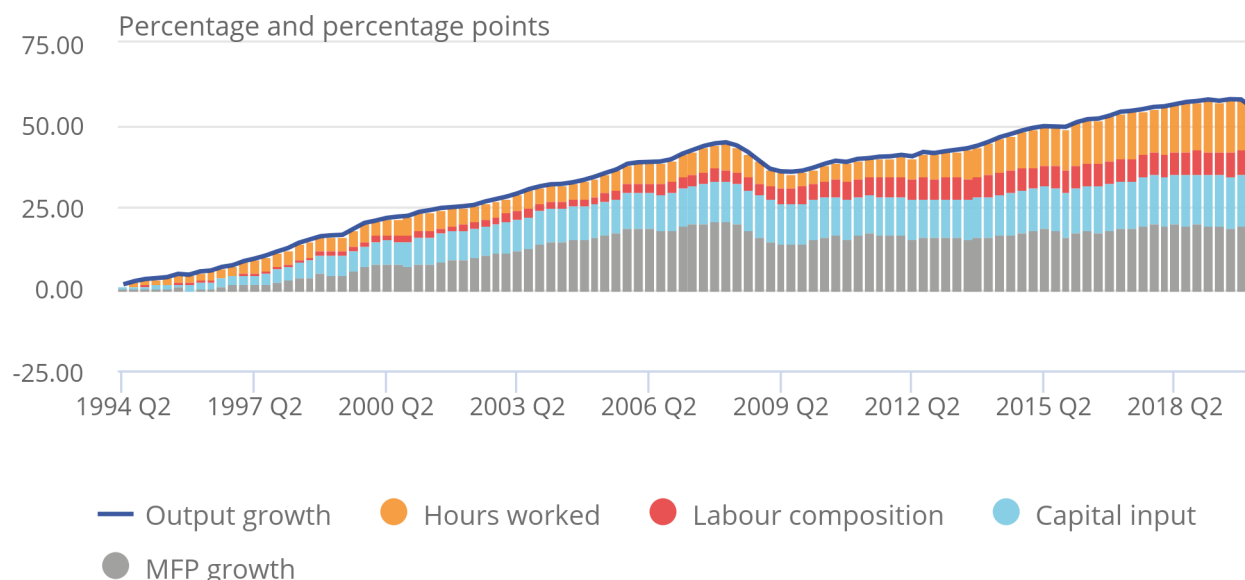
This fall coincides with the largest decrease in market sector gross value added (GVA) over the same period, decreasing by 2.2%. Figure 3 shows this fall in GVA and how changes to labour productivity are decomposed across labour and capital inputs.

### Figure 3: Market sector multi-factor productivity has fallen more than in any single quarter since 2009

Decomposition of cumulative quarterly output growth, Quarter 2 (April to June) 1994 to Quarter 1 (Jan to March) 2020, UK, market sector

#### Figure 3: Market sector multi-factor productivity has fallen more than in any single quarter since 2009

Decomposition of cumulative quarterly output growth, Quarter 2 (April to June) 1994 to Quarter 1 (Jan to March) 2020, UK, market sector



Source: Office for National Statistics – Multi-factor productivity

#### Notes:

1. Labour productivity growth is the cumulative quarter-on-quarter log change in market sector gross value added (GVA) per hour worked.
2. Columns show contributions of components, calculated by weighting log changes in each component by its factor income share.
3. MFP is calculated by residual.

The market sector saw a 1.2% decrease in hours along with the fall in GVA, although labour composition, which reflects labour capability, rose by 1.2%. Capital services, the level of productive capital used in the economy, increased by the same amount. This directly impacts the level of capital deepening, which is the amount of capital workers can utilise per hour worked.

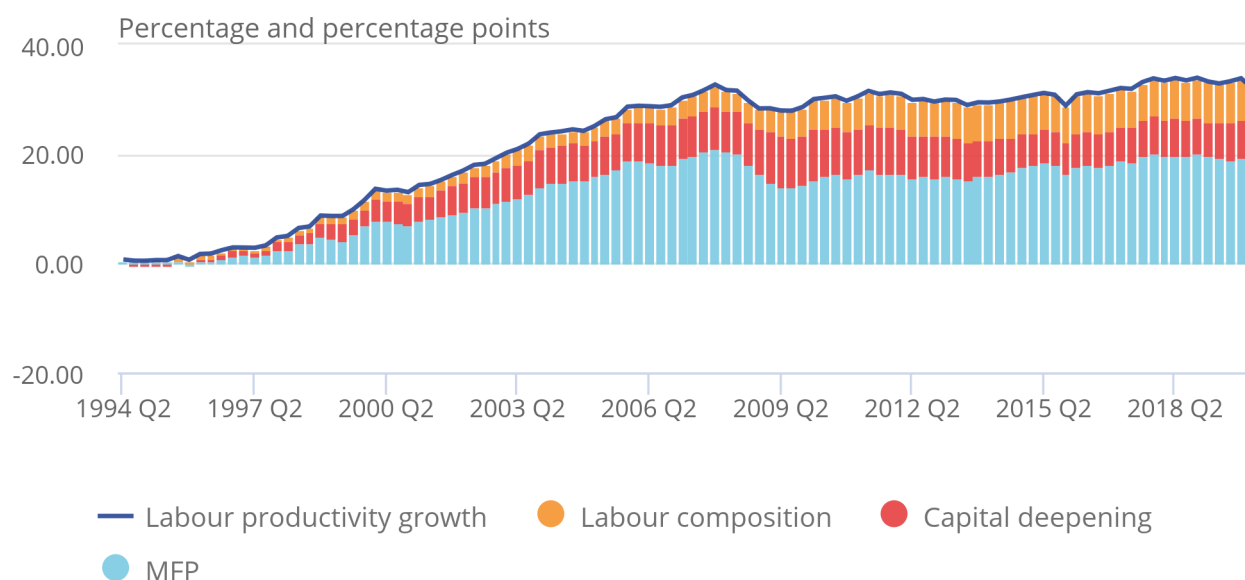
Despite the positive effects of the growth in capital and labour composition, productivity in the market sector fell by 1%. This directly impacts MFP, which is the residual after accounting for changes to labour productivity after the impacts of labour composition and capital deepening. These effects can be seen in Figure 4.

## Figure 4: Multi-factor productivity made a negative contribution to market sector productivity growth

Decomposition of cumulative quarterly growth of output per hour worked, market sector, UK, Quarter 2 (Apr to Jun) 1994 to Quarter 1 (Jan to Mar) 2020

### Figure 4: Multi-factor productivity made a negative contribution to market sector productivity growth

Decomposition of cumulative quarterly growth of output per hour worked, market sector, UK, Quarter 2 (Apr to Jun) 1994 to Quarter 1 (Jan to Mar) 2020



Source: Office for National Statistics – Multi-factor productivity

#### Notes:

1. Labour productivity growth is the cumulative quarter-on-quarter log change in market sector gross value added (GVA) per hour worked.
2. Columns show contributions of components, calculated by weighting log changes in each component by its factor income share.
3. MFP is calculated by residual.

Changes in the composition of labour have helped stabilise output per hour in recent periods. These changes include an increase in the proportion of hours worked by better-qualified and higher-paid workers in the labour force.

This is particularly true in the most recent quarter. In the last week of the quarter, workers were furloughed as companies took advantage of the government scheme that secures employment and wages for their workers. However, workers with less qualifications were disproportionately affected by these changes. Hours for those with no qualifications fell by 5.8%, while hours for the most qualified grew by more than 2.3%.

Younger workers saw a decrease of 5% in hours worked, whereas those aged over 50 years increased their hours by 1%. Younger workers tend to be on lower wages, and wages are used as a quality of labour weight in labour composition measures. As such, older workers boosted the labour composition further.



## 5 . Public service productivity

Alongside our other measures of productivity, we also publish quarterly [experimental](#) measures of total public service productivity, covering both the public sector and private sector delivery. The Office for National Statistics (ONS) also publishes an [annual estimate of total public service productivity](#), which is badged as a [National Statistic](#). The quarterly series offers a timelier measure, as the annual series has a significant time lag but holds quality adjustments constant as these are updated annually.

Compared with the same quarter in the previous year, productivity of total public services fell by 4.8% in Quarter 1 (Jan to Mar) 2020 as over this period, inputs increased by 3.2% while output fell by 1.6%.

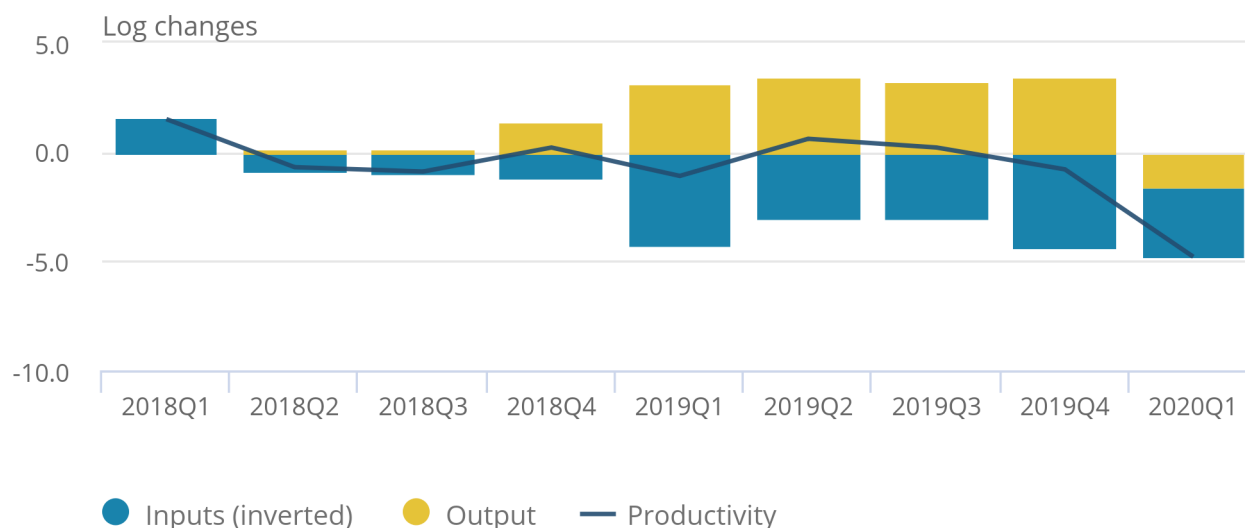
To show this more clearly, as inputs growth has a negative effect on productivity growth, Figure 5 inverts the growth rates of inputs. As such, the sum of the stacked bars (inverted inputs and output) is equal to productivity growth.

**Figure 5: Productivity fell in Quarter 1 2020 compared with the same quarter a year ago**

Public service productivity, inputs and output, quarter-on-same-quarter a year ago growth rates, UK, Quarter 1 (Jan to Mar) 2018 to Quarter 1 (Jan to Mar) 2020

Figure 5: Productivity fell in Quarter 1 2020 compared with the same quarter a year ago

Public service productivity, inputs and output, quarter-on-same-quarter a year ago growth rates, UK, Quarter 1 (Jan to Mar) 2018 to Quarter 1 (Jan to Mar) 2020



Source: Quarterly UK public service productivity: January to March 2020

#### Notes:

1. Data are from this experimental quarterly release.
2. Experimental quarterly estimates of productivity are indirectly seasonally adjusted, calculated using seasonally adjusted inputs and seasonally adjusted output.
3. Growth rates have been expressed in (natural) logarithm changes. Further information on log changes can be found in Section 3 of A simple guide to multi-factor productivity.

An increase in government healthcare expenditure was the main source of total inputs growth, whereas a fall in healthcare and education output were the main causes of the fall in total output.

Our output measures are noticeably impacted by the coronavirus (COVID-19) pandemic. In particular, the impact of the coronavirus on healthcare outputs is large and complicated. In our [health measures](#), we have to consider the reductions in GP appointment services and attendance at accident and emergency alongside the scaling back of non-emergency surgery ("elective surgery"), the cancellation and postponement of outpatient activity and dental and ophthalmic services, and the increase in critical care activity. In addition, an [adjustment to our education measurement methodology](#) was introduced to take into consideration the widespread school closures during March 2020 and a shift to "remote learning".

It is important to note that our quarterly productivity statistics do not adjust for the [quality of services delivered](#). Output estimates use data on changes in the quantity of various services delivered but do not include data on changes in the relative quality of these services. Data including quality adjustment for 2020 will be published in two years' time, as many of these quality factors reflect long-term outcomes where data are collected with a lag.

Placing these movements in the context of a longer time series, Figure 6 shows total public service productivity fell by 0.1% in 2019, the first fall in annual productivity since 2010. Inputs were estimated to have grown by 3.6%; this is greater than the estimated growth in output of 3.5%. This estimate should be treated with caution until the annual estimate for 2019 is available, as these data do not currently include adjustments for changes in the quality of services delivered.

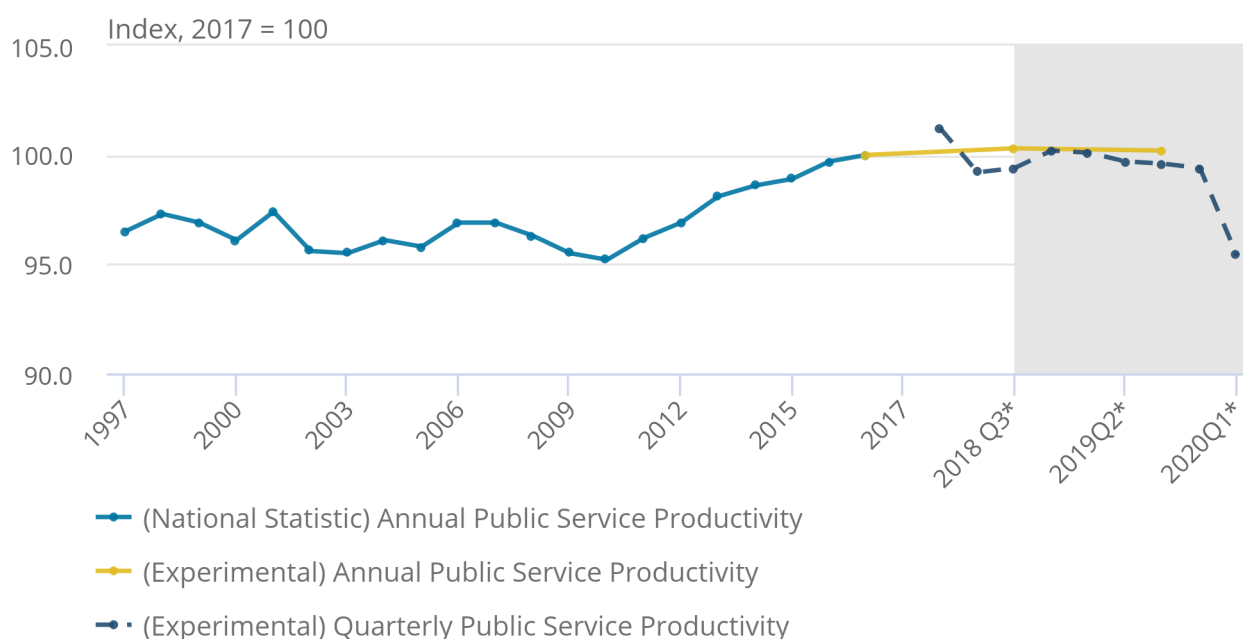
Please note that the quarterly estimate in Quarter 1 2020 does not affect the experimental annualised productivity estimate in 2019.

## Figure 6: Annual public service productivity declines in 2019

Total public service productivity, UK, 1997 to Quarter 1 (Jan to Mar) 2020

Figure 6: Annual public service productivity declines in 2019 Experimental time period

Total public service productivity, UK, 1997 to Quarter 1 (Jan to Mar) 2020



Source: Office for National Statistics – Quarterly UK public service productivity: January to March 2020

### Notes:

1. Estimates from 1997 to 2017 are based on the latest annual public service productivity release.
2. Estimates from Quarter 1 (Jan to Mar) 2018 to Quarter 1 2020 (in grey) are the experimental quarterly estimates in this article and are annualised (in orange) for 2018 and 2019.
3. Estimates of productivity for the experimental period are indirectly seasonally adjusted, calculated using seasonally adjusted inputs and seasonally adjusted output.

## 6 . Unit labour costs

Unit labour costs (ULCs) capture the full costs of labour incurred in the production of a unit of economic output; they reflect the relationship between the cost of labour and the value of the corresponding output. If increases in labour costs are not reflected in the volume of output, this can put upward pressure on the prices of goods and services. Hence, ULCs are a closely watched indicator of domestically generated inflationary pressure in the economy. They are usually expressed as a ratio of the total labour compensation per hour worked, to the output per hour worked.

In Quarter 1 (Jan to Mar) 2020, ULCs increased by 6.2% compared with the same quarter in the previous year. This is the greatest change in ULCs since Quarter 4 (Oct to Dec) 2006. The increase was driven by a fall in gross value added (GVA) over the quarter. During the period of the lockdown covered by this release, government programmes for furloughed workers have helped keep labour costs elevated despite the fall in production activities. This has also had a notable effect on ULCs this period.

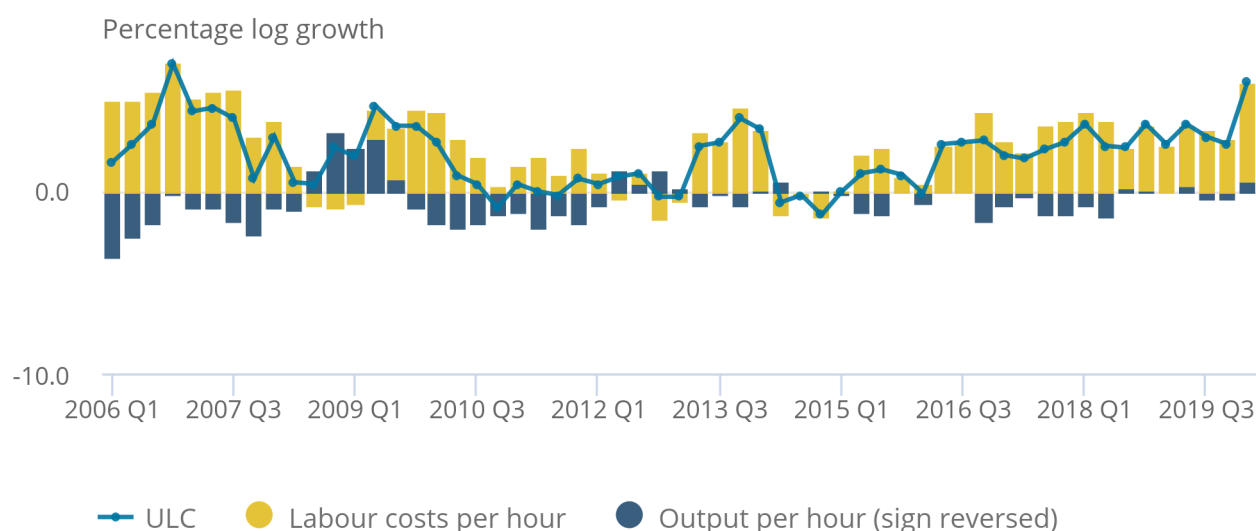
This latest change follows a period of fairly stable ULCs growth, which has occurred since Quarter 2 (Apr to May) 2016. Prior to this, ULCs growth had been volatile.

**Figure 7: Whole economy unit labour costs increased by 6.2% compared with the same quarter a year ago, the largest increase since before the 2008 economic downturn**

Whole economy unit labour costs, quarter on year growth rates, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2006 to Quarter 1 2020

Figure 7: Whole economy unit labour costs increased by 6.2% compared with the same quarter a year ago, the largest increase since before the 2008 economic downturn

Whole economy unit labour costs, quarter on year growth rates, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2006 to Quarter 1 2020



Source: Office for National Statistics – Productivity economic commentary

#### Notes:

1. Labour costs per hour estimates will differ from those in our index of labour costs per hour bulletin because of differences in methodology. Percentage log growth used here will differ slightly from percentage growth values in published datasets.

## 7 . Measuring the data

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

Multi-factor productivity (MFP) estimates are compiled using the growth accounting framework, which decomposes changes in economic output, in this case GVA of the UK market sector, into contributions from changes in measured inputs: labour, capital and a residual element known as MFP. For more information, see our [simple guide to MFP](#) and our [MFP QMI](#).

Additionally, we have previously published details on [how labour productivity and MFP measures differ](#).

Further information on data used in public service productivity can be found in our [previous release](#). We have also published a [Public service productivity QMI](#).

# 1 Labour productivity key measures

## United Kingdom

Seasonally adjusted (2016=100)

Section	Whole economy			Production		Manufacturing		Services	
	Output per worker	Output per job	Output per hour	Output per job	Output per hour	Output per job	Output per hour	Output per job	Output per hour
	A-U	A-U	A-U	B-E	B-E	C	C	G-U	G-U
<b>Indices</b>	A4YM	LNNN	LZVB	DJ4M	DJK3	DJ4P	DJK6	DJE3	DJP9
2016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2017	101.0	101.0	100.9	100.1	100.6	100.7	101.6	101.1	101.0
2018	101.1	101.2	101.4	99.1	100.5	100.3	102.2	101.9	101.9
2019	101.5	101.6	101.5	98.2	99.2	99.1	100.1	102.2	101.8
2016 Q2	99.7	99.7	99.8	100.3	100.7	100.1	100.5	99.5	99.7
Q3	100.0	99.9	100.1	99.9	100.4	99.6	100.1	99.9	100.0
Q4	100.6	100.7	100.5	100.7	100.4	100.7	100.7	100.7	100.5
2017 Q1	100.9	101.0	100.4	101.3	101.4	101.5	102.1	100.9	100.2
Q2	100.8	100.8	100.1	99.7	99.6	100.1	100.5	100.9	100.3
Q3	101.1	101.2	101.5	99.5	100.4	99.8	101.1	101.2	101.7
Q4	101.2	101.2	101.6	100.1	101.0	101.2	102.7	101.3	101.6
2018 Q1	100.7	100.7	101.2	99.4	100.7	100.5	102.3	101.2	101.4
Q2	101.1	101.2	101.5	98.8	100.0	100.1	102.1	101.8	102.3
Q3	101.5	101.6	101.2	99.3	100.6	100.2	102.6	102.2	101.8
Q4	101.2	101.3	101.5	99.0	100.5	100.3	101.8	102.2	102.3
2019 Q1	101.6	101.7	101.1	100.3	99.3	102.0	101.3	102.3	101.8
Q2	101.2	101.3	101.1	98.0	98.8	98.7	99.6	101.9	101.5
Q3	101.9	102.0	101.6	97.5	98.5	98.4	99.2	102.6	102.0
Q4	101.3	101.3	101.9	97.1	100.0	97.5	100.4	102.1	102.0
2020 Q1	98.5	98.3	100.6	95.4	98.6	96.2	99.9	98.8	100.6
<b>Per cent change on quarter a year ago</b>	A4YN	LNNP	LZVD	DJ4O	DJK5	DJ4R	DJK8	DJE5	DJQ3
2016 Q2	-0.3	-	-	1.2	2.0	0.1	0.7	0.1	0.1
Q3	0.5	0.5	-	1.3	1.3	0.2	0.4	0.4	-0.2
Q4	1.1	1.2	1.7	1.7	3.6	1.3	3.6	0.8	1.4
2017 Q1	1.2	1.2	0.8	2.2	3.0	2.0	3.4	0.9	0.5
Q2	1.1	1.2	0.3	-0.6	-1.1	-	-	1.5	0.6
Q3	1.1	1.2	1.3	-0.4	-	0.2	1.0	1.4	1.8
Q4	0.6	0.6	1.2	-0.6	0.6	0.4	2.0	0.6	1.1
2018 Q1	-0.2	-0.2	0.8	-1.8	-0.7	-1.0	0.2	0.3	1.2
Q2	0.3	0.3	1.4	-0.9	0.4	-0.1	1.6	0.9	2.0
Q3	0.4	0.4	-0.2	-0.2	0.3	0.4	1.5	0.9	-
Q4	-	0.1	-0.1	-1.0	-0.5	-0.9	-0.9	0.9	0.7
2019 Q1	0.9	1.0	-	0.8	-1.4	1.5	-1.0	1.1	0.4
Q2	0.1	0.1	-0.4	-0.9	-1.3	-1.4	-2.4	-	-0.8
Q3	0.4	0.4	0.4	-1.8	-2.1	-1.7	-3.3	0.4	0.2
Q4	0.1	-	0.4	-1.9	-0.5	-2.8	-1.4	-0.1	-0.4
2020 Q1	-3.1	-3.3	-0.6	-4.8	-0.7	-5.7	-1.4	-3.5	-1.2
<b>Per cent change on previous quarter</b>	A4YO	DMWR	TXBB	DJ4N	DJK4	DJ4Q	DJK7	DJE4	DJQ2
2016 Q2	-0.1	-0.1	0.2	1.2	2.3	0.6	1.8	-0.5	-
Q3	0.3	0.3	0.3	-0.5	-0.3	-0.5	-0.4	0.4	0.3
Q4	0.6	0.7	0.3	0.8	0.1	1.1	0.6	0.8	0.6
2017 Q1	0.3	0.3	-	0.6	1.0	0.8	1.3	0.2	-0.3
Q2	-0.1	-0.1	-0.3	-1.5	-1.8	-1.3	-1.6	-	-
Q3	0.3	0.3	1.3	-0.3	0.8	-0.4	0.6	0.3	1.5
Q4	0.1	0.1	0.2	0.6	0.6	1.4	1.6	0.1	-0.1
2018 Q1	-0.5	-0.5	-0.4	-0.7	-0.3	-0.6	-0.4	-0.1	-0.2
Q2	0.4	0.5	0.3	-0.6	-0.7	-0.4	-0.2	0.6	0.8
Q3	0.4	0.4	-0.3	0.4	0.6	0.1	0.5	0.3	-0.5
Q4	-0.3	-0.3	0.3	-0.2	-0.1	0.1	-0.7	-	0.6
2019 Q1	0.4	0.4	-0.4	1.2	-1.2	1.7	-0.6	0.1	-0.6
Q2	-0.4	-0.5	-	-2.3	-0.6	-3.3	-1.6	-0.4	-0.3
Q3	0.7	0.7	0.5	-0.5	-0.2	-0.3	-0.4	0.7	0.5
Q4	-0.6	-0.6	0.2	-0.3	1.4	-0.9	1.2	-0.5	-
2020 Q1	-2.8	-3.0	-1.3	-1.7	-1.3	-1.3	-0.6	-3.2	-1.3

†Indicates that estimates are new or have been revised. The period marked is the earliest in the table to have been revised

## 2 Output per job: Manufacturing subsections

United Kingdom

Seasonally adjusted (2016=100)

	Food, beverages & tobacco	Textiles, wearing apparel & leather	Wood & paper products, & printing	Chemicals, Pharmaceuti- cals	Rubber, plastics & non-metallic minerals	Basic metals & metal products	Computer etc products, Electrical equipment	Machinery & equipment	Transport equipment	Coke & refined petroleum, Other manufacturing
Divisions	10-12	13-15	16-18	20-21	22-23	24-25	26-27	28	29-30	19,31-33
<b>Level (£k)</b>										
2016	65.7	50.5	52.8	180.9	54.0	54.2	87.7	74.8	83.3	56.0
<b>Indices</b>										
	DJ54	DJ57	DJ5F	DJ5I	DJ5L	DJB2	DJB7	DJC2	DJC5	DJD3
2016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2017	97.9	102.7	103.5	92.0	94.0	98.6	99.6	103.0	108.6	105.5
2018	99.9	101.8	102.4	90.8	91.7	92.7	109.0	105.2	103.6	103.6
2019	102.2	106.1	101.4	90.3	91.5	88.7	112.1	100.1	98.5	102.3
2016 Q2	101.0	98.6	100.5	102.4	101.7	99.4	100.1	97.6	101.7	97.5
Q3	99.3	97.8	100.2	98.8	98.6	100.3	99.3	102.8	97.9	101.7
Q4	98.3	95.0	100.5	100.9	99.5	100.1	103.6	103.1	101.4	101.6
2017 Q1	99.2	99.1	104.4	91.4	97.0	99.0	101.6	105.7	106.0	109.7
Q2	97.3	101.1	101.9	93.9	94.8	98.1	99.3	102.0	106.5	105.0
Q3	97.4	103.2	104.4	90.9	91.7	97.2	97.7	101.1	111.0	102.3
Q4	97.9	107.3	103.3	91.8	92.3	100.3	100.0	103.3	110.8	105.1
2018 Q1	98.0	97.7	101.3	90.1	90.0	97.0	107.4	105.7	108.3	103.9
Q2	100.2	102.1	102.3	90.3	91.1	92.7	108.3	104.7	104.3	102.4
Q3	100.8	101.5	101.7	88.0	92.9	93.0	108.5	105.3	103.1	104.0
Q4	100.6	106.0	104.3	94.9	92.8	87.9	111.7	105.3	98.7	104.2
2019 Q1	102.9	105.8	105.7	96.9	95.4	91.4	115.1	103.5	100.2	103.5
Q2	100.9	104.6	103.5	88.3	91.1	87.7	113.5	100.1	94.3	106.5
Q3	102.4	104.3	98.4	90.1	89.2	87.8	110.4	98.5	100.5	102.2
Q4	102.6	109.6	98.3	85.9	90.2	88.0	109.6	98.1	98.9	96.9
2020 Q1	102.3	90.9	98.1	92.2	89.9	88.8	108.6	90.7	91.0	95.4
<b>Per cent change on quarter a year ago</b>										
	DJ56	DJ5E	DJ5H	DJ5K	DJ5N	DJB6	DJB9	DJC4	DJD2	DJD7
2016 Q2	-1.3	-5.9	1.6	5.7	8.6	-2.7	2.7	-0.6	-2.4	-2.7
Q3	-3.5	-9.6	-	1.3	2.6	3.4	2.0	6.0	-3.3	3.7
Q4	-4.3	-8.2	-0.4	3.3	2.8	2.8	6.7	8.2	0.1	2.8
2017 Q1	-2.1	-8.6	5.5	-6.6	-3.2	-1.2	4.8	9.5	7.1	10.5
Q2	-3.7	2.5	1.4	-8.3	-6.7	-1.3	-0.9	4.5	4.8	7.7
Q3	-1.9	5.5	4.3	-7.9	-7.1	-3.1	-1.7	-1.6	13.3	0.6
Q4	-0.5	12.9	2.8	-9.0	-7.2	0.2	-3.4	0.2	9.3	3.4
2018 Q1	-1.3	-1.4	-2.9	-1.5	-7.2	-2.0	5.7	-0.1	2.2	-5.2
Q2	3.0	1.0	0.4	-3.8	-4.0	-5.5	9.0	2.6	-2.1	-2.5
Q3	3.5	-1.6	-2.6	-3.2	1.4	-4.3	11.1	4.1	-7.1	1.7
Q4	2.8	-1.2	0.9	3.4	0.6	-12.3	11.7	1.9	-10.9	-0.9
2019 Q1	5.0	8.3	4.3	7.6	6.0	-5.8	7.2	-2.0	-7.6	-0.4
Q2	0.7	2.4	1.1	-2.3	0.1	-5.4	4.8	-4.3	-9.5	4.0
Q3	1.7	2.7	-3.3	2.3	-3.9	-5.7	1.7	-6.5	-2.6	-1.7
Q4	2.1	3.4	-5.8	-9.5	-2.8	0.1	-1.9	-6.8	0.2	-7.1
2020 Q1	-0.5	-14.1	-7.2	-4.9	-5.7	-2.8	-5.6	-12.4	-9.1	-7.8
<b>Per cent change on previous quarter</b>										
	DJ55	DJ58	DJ5G	DJ5J	DJ5M	DJB3	DJB8	DJC3	DJC6	DJD4
2016 Q2	-0.3	-9.1	1.6	4.6	1.4	-0.8	3.3	1.1	2.7	-1.7
Q3	-1.7	-0.8	-0.3	-3.6	-3.0	0.8	-0.8	5.3	-3.7	4.3
Q4	-1.0	-2.8	0.3	2.1	0.9	-0.2	4.3	0.3	3.6	-
2017 Q1	0.9	4.3	3.9	-9.4	-2.6	-1.1	-1.9	2.6	4.5	7.9
Q2	-2.0	2.0	-2.4	2.7	-2.2	-0.9	-2.3	-3.6	0.5	-4.2
Q3	0.1	2.1	2.5	-3.1	-3.4	-0.9	-1.6	-0.9	4.2	-2.6
Q4	0.5	3.9	-1.1	0.9	0.7	3.2	2.4	2.1	-0.1	2.8
2018 Q1	0.1	-8.9	-1.9	-1.9	-2.5	-3.2	7.3	2.3	-2.3	-1.1
Q2	2.3	4.5	1.0	0.3	1.1	-4.5	0.8	-1.0	-3.7	-1.5
Q3	0.6	-0.6	-0.6	-2.5	2.0	0.3	0.3	0.6	-1.1	1.6
Q4	-0.2	4.4	2.5	7.8	-0.1	-5.5	2.9	-	-4.3	0.2
2019 Q1	2.3	-0.1	1.4	2.1	2.8	3.9	3.0	-1.7	1.4	-0.7
Q2	-1.9	-1.2	-2.1	-8.9	-4.5	-4.0	-1.4	-3.3	-5.8	2.8
Q3	1.5	-0.3	-4.9	2.1	-2.1	-	-2.7	-1.7	6.5	-4.0
Q4	0.2	5.1	-0.1	-4.7	1.1	0.3	-0.7	-0.3	-1.5	-5.3
2020 Q1	-0.3	-17.1	-0.1	7.4	-0.3	0.9	-0.9	-7.6	-8.0	-1.5

† indicates that estimates are new or have been revised. The period marked is the earliest in the table to have been revised.



# 3 Output per hour worked: Manufacturing subsections

## United Kingdom

Seasonally adjusted (2016=100)

	Food, beverages & tobacco	Textiles, wearing apparel & leather	Wood & paper products, & printing	Chemicals, Pharmaceutic- als	Rubber, plastics & non-metallic minerals	Basic metals & metal products	Computer etc products, Electrical equipment	Machinery & equipment	Transport equipment	Coke & refined petroleum, Other manufacturing
Divisions	10-12	13-15	16-18	20-21	22-23	24-25	26-27	28	29-30	19,31-33
<b>Level (£)</b>										
2016	36.0	29.2	28.9	99.8	29.6	29.0	46.9	39.9	44.7	28.8
<b>Indices</b>										
	DJK9	DJL4	DJL7	DJM4	DJM7	DJN4	DJN7	DJO5	DJO8	DJP3
2016 Q2	99.0	100.6	99.8	102.3	101.5	101.4	100.4	96.6	103.8	99.3
Q3	101.5	98.9	103.8	97.5	99.0	101.0	100.0	100.7	97.4	100.3
Q4	99.6	95.4	100.7	100.1	101.4	99.0	102.1	104.7	100.1	100.7
2017 Q1	100.4	97.9	102.6	90.5	96.2	103.4	101.9	105.7	104.6	111.2
Q2	101.6	100.3	100.2	91.0	91.8	98.1	102.9	103.7	104.1	106.2
Q3	100.9	100.2	102.9	95.4	87.6	100.0	102.1	103.7	109.7	105.3
Q4	98.7	104.6	105.5	94.3	87.4	103.3	107.2	106.2	111.9	108.5
2018 Q1	100.4	99.7	101.2	95.1	87.9	94.9	113.7	108.8	110.5	109.6
Q2	99.9	99.9	105.0	98.5	95.0	91.9	109.2	104.9	105.6	109.9
Q3	102.4	104.4	102.8	91.8	92.5	92.8	113.7	106.0	108.6	110.5
Q4	101.2	103.5	104.6	95.4	91.4	89.1	116.9	110.6	101.2	107.8
2019 Q1	100.6	102.3	105.9	96.1	91.3	91.3	116.2	104.1	99.8	104.9
Q2	99.2	108.9	106.3	89.8	88.0	89.3	116.6	101.6	95.7	109.9
Q3	101.3	106.6	101.3	89.7	90.9	87.1	114.3	98.0	99.3	107.1
Q4	109.1	104.9	101.4	86.6	94.7	89.0	115.2	98.0	98.1	104.4
2020 Q1	106.5	97.4	102.9	97.0	93.4	92.6	113.9	90.6	91.2	100.9
<b>Per cent change on quarter a year ago</b>										
	DJL3	DJL6	DJM3	DJM6	DJM9	DJN6	DJN9	DJO7	DJP2	DJP5
2016 Q2	-4.8	-1.3	2.1	3.3	14.8	-0.1	2.9	-2.2	3.5	-6.8
Q3	1.0	-10.9	6.9	-1.3	7.3	3.3	-1.2	2.2	-3.4	-3.5
Q4	-	-11.9	6.7	3.5	8.7	7.5	2.9	13.4	0.6	-0.4
2017 Q1	0.5	-6.9	7.2	-9.6	-1.9	4.8	4.5	8.0	6.0	11.6
Q2	2.7	-0.3	0.4	-11.1	-9.6	-3.3	2.5	7.3	0.2	6.9
Q3	-0.7	1.4	-0.9	-2.1	-11.6	-1.0	2.1	2.9	12.6	4.9
Q4	-0.9	9.6	4.8	-5.7	-13.8	4.4	5.0	1.4	11.8	7.8
2018 Q1	0.1	1.9	-1.3	5.1	-8.7	-8.2	11.6	2.8	5.6	-1.4
Q2	-1.7	-0.4	4.7	8.3	3.4	-6.3	6.1	1.2	1.5	3.4
Q3	1.5	4.1	-0.1	-3.8	5.7	-7.3	11.4	2.2	-1.0	5.0
Q4	2.5	-1.1	-0.9	1.1	4.5	-13.7	9.0	4.2	-9.6	-0.6
2019 Q1	0.2	2.6	4.7	1.1	3.8	-3.8	2.2	-4.3	-9.7	-4.3
Q2	-0.7	9.0	1.2	-8.9	-7.3	-2.8	6.8	-3.2	-9.4	-
Q3	-1.1	2.2	-1.4	-2.3	-1.8	-6.2	0.5	-7.5	-8.5	-3.0
Q4	7.8	1.4	-3.0	-9.2	3.6	-0.2	-1.4	-11.4	-3.1	-3.2
2020 Q1	5.8	-4.8	-2.9	0.9	2.4	1.4	-2.0	-12.9	-8.6	-3.8
<b>Per cent change on previous quarter</b>										
	DJL2	DJL5	DJM2	DJM5	DJM8	DJN5	DJN8	DJO6	DJO9	DJP4
2016 Q2	-0.8	-4.3	4.3	2.3	3.6	2.8	2.9	-1.4	5.2	-0.3
Q3	2.6	-1.7	4.0	-4.7	-2.5	-0.4	-0.4	4.3	-6.1	1.0
Q4	-1.9	-3.5	-3.0	2.6	2.4	-2.0	2.1	3.9	2.7	0.4
2017 Q1	0.7	2.5	1.9	-9.6	-5.1	4.4	-0.1	1.0	4.5	10.4
Q2	1.3	2.5	-2.3	0.6	-4.6	-5.1	0.9	-2.0	-0.5	-4.5
Q3	-0.8	-0.1	2.6	4.9	-4.6	2.0	-0.8	-	5.4	-0.9
Q4	-2.1	4.3	2.6	-1.1	-0.2	3.3	5.0	2.4	2.1	3.1
2018 Q1	1.7	-4.7	-4.1	0.8	0.5	-8.1	6.1	2.5	-1.3	1.0
Q2	-0.5	0.2	3.7	3.6	8.1	-3.2	-4.0	-3.5	-4.4	0.2
Q3	2.5	4.5	-2.1	-6.9	-2.6	1.0	4.1	1.0	2.8	0.6
Q4	-1.2	-0.9	1.7	4.0	-1.3	-3.9	2.8	4.4	-6.8	-2.4
2019 Q1	-0.5	-1.1	1.3	0.7	-0.1	2.5	-0.6	-5.9	-1.4	-2.7
Q2	-1.4	6.4	0.3	-6.6	-3.6	-2.2	0.4	-2.4	-4.1	4.8
Q3	2.0	-2.1	-4.7	-0.1	3.3	-2.5	-2.0	-3.5	3.8	-2.5
Q4	7.7	-1.6	0.1	-3.4	4.2	2.2	0.8	-	-1.3	-2.5
2020 Q1	-2.3	-7.1	1.4	11.9	-1.3	4.1	-1.2	-7.5	-7.0	-3.3

† indicates that estimates are new or have been revised. The period marked is the earliest in the table to have been revised.

# 4 Output per job: Services sections

United Kingdom

Seasonally adjusted (2016=100)

	Wholesale & retail trade, motor vehicle repair	Transport & storage	Accommodation & food services	Information & communication	Finance & insurance	Real estate activities	Professional, scientific & technical activities	Admin & support services	Government services	Arts, entertainment & recreation	Other services
Section	G	H	I	J	K	L	M	N	O-Q	R	S-U
<b>Level (£k)</b>											
2016	37.6	48.1	22.2	85.5	117.8	461.9	50.2	32.4	38.6	30.6	37.2
<b>Indices</b>											
	DJE6	DJE9	DJF4	DJF7	DJG5	DJH4	DJH7	DJI2	DJI5	DJJ3	DJJ6
2016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2017	102.4	102.4	100.4	100.3	99.8	97.0	105.8	102.1	100.9	100.1	101.8
2018	105.1	102.4	101.0	105.1	97.9	94.5	108.7	104.6	100.4	100.6	102.1
2019	109.3	99.7	101.2	108.7	95.8	93.9	105.5	107.4	101.4	99.7	97.6
2016 Q2	99.4	100.4	100.5	98.1	99.1	98.7	99.7	98.4	99.6	101.2	100.4
Q3	99.5	98.7	99.1	100.8	101.1	100.5	99.7	100.3	99.8	99.3	97.4
Q4	102.0	98.6	99.2	101.9	101.4	102.3	100.4	101.2	100.4	96.1	101.9
2017 Q1	102.0	102.3	100.0	99.2	101.2	96.3	103.2	102.0	101.3	100.5	100.1
Q2	101.9	101.4	100.3	100.0	100.2	98.6	104.9	101.2	100.8	102.8	102.5
Q3	102.9	102.5	100.7	100.2	99.5	97.3	106.9	102.1	101.0	98.1	102.3
Q4	102.6	103.3	100.7	102.0	98.4	95.7	108.0	103.2	100.5	99.1	102.3
2018 Q1	102.6	102.8	100.3	102.3	98.4	92.6	109.0	103.6	99.9	99.5	102.2
Q2	104.7	102.7	100.5	104.7	98.7	95.8	109.7	104.9	100.1	99.5	102.0
Q3	106.1	102.6	101.1	106.5	97.7	95.9	108.7	104.3	100.7	100.7	102.8
Q4	106.8	101.4	102.1	106.8	96.9	93.5	107.5	105.5	101.0	102.5	101.3
2019 Q1	108.2	101.4	102.8	108.8	96.1	96.4	105.5	107.1	101.4	99.4	98.3
Q2	109.3	98.6	101.1	109.2	95.9	96.6	104.0	106.4	101.1	99.4	95.2
Q3	110.1	99.9	101.0	109.3	96.4	91.7	106.0	107.7	101.6	100.2	99.7
Q4	109.6	98.9	100.0	107.3	94.6	91.0	106.7	108.3	101.4	99.9	97.0
2020 Q1	105.3	94.7	87.7	103.3	94.7	85.3	104.6	104.5	97.4	95.8	92.0
<b>Per cent change on quarter a year ago</b>											
	DJE8	DJF3	DJF6	DJF9	DJG8	DJH6	DJH9	DJI4	DJI7	DJJ5	DJJ8
2016 Q2	3.6	-7.8	-1.5	2.4	4.2	2.6	-2.6	-0.8	-0.8	-1.1	-2.0
Q3	3.7	-7.5	-2.6	4.7	7.7	1.9	-1.6	-0.4	-1.0	-3.0	-5.9
Q4	5.8	-4.9	-3.3	5.0	3.4	2.6	-0.7	1.8	-0.5	-7.6	-5.6
2017 Q1	3.0	-	-1.2	-	2.9	-2.2	3.1	1.9	1.1	-2.8	-0.2
Q2	2.5	0.9	-0.2	1.9	1.1	-	5.2	2.8	1.2	1.6	2.1
Q3	3.4	3.9	1.6	-0.6	-1.6	-3.2	7.2	1.8	1.2	-1.2	5.0
Q4	0.6	4.8	1.5	0.1	-2.9	-6.5	7.6	2.0	-	3.1	0.4
2018 Q1	0.6	0.5	0.3	3.0	-2.8	-3.9	5.6	1.5	-1.4	-1.0	2.1
Q2	2.8	1.3	0.1	4.7	-1.5	-2.9	4.6	3.7	-0.7	-3.2	-0.5
Q3	3.2	-	0.4	6.3	-1.8	-1.4	1.7	2.1	-0.2	2.7	0.5
Q4	4.1	-1.9	1.5	4.7	-1.5	-2.2	-0.5	2.3	0.5	3.4	-1.0
2019 Q1	5.5	-1.4	2.4	6.4	-2.3	4.1	-3.2	3.4	1.5	-	-3.9
Q2	4.4	-4.1	0.6	4.4	-2.8	0.8	-5.2	1.4	1.0	-0.2	-6.7
Q3	3.7	-2.6	-0.1	2.7	-1.3	-4.4	-2.5	3.3	0.8	-0.5	-3.0
Q4	2.6	-2.4	-2.1	0.4	-2.4	-2.7	-0.7	2.6	0.4	-2.6	-4.2
2020 Q1	-2.7	-6.5	-14.6	-5.0	-1.4	-11.5	-0.9	-2.4	-3.9	-3.6	-6.4
<b>Per cent change on previous quarter</b>											
2016 Q2	3.6	-7.8	-1.5	2.4	4.2	2.6	-2.6	-0.8	-0.8	-1.1	-2.0
Q3	3.7	-7.5	-2.6	4.7	7.7	1.9	-1.6	-0.4	-1.0	-3.0	-5.9
Q4	5.8	-4.9	-3.3	5.0	3.4	2.6	-0.7	1.8	-0.5	-7.6	-5.6
2017 Q1	3.0	-	-1.2	-	2.9	-2.2	3.1	1.9	1.1	-2.8	-0.2
Q2	2.5	0.9	-0.2	1.9	1.1	-	5.2	2.8	1.2	1.6	2.1
Q3	3.4	3.9	1.6	-0.6	-1.6	-3.2	7.2	1.8	1.2	-1.2	5.0
Q4	0.6	4.8	1.5	0.1	-2.9	-6.5	7.6	2.0	-	3.1	0.4
2018 Q1	0.6	0.5	0.3	3.0	-2.8	-3.9	5.6	1.5	-1.4	-1.0	2.1
Q2	2.8	1.3	0.1	4.7	-1.5	-2.9	4.6	3.7	-0.7	-3.2	-0.5
Q3	3.2	-	0.4	6.3	-1.8	-1.4	1.7	2.1	-0.2	2.7	0.5
Q4	4.1	-1.9	1.5	4.7	-1.5	-2.2	-0.5	2.3	0.5	3.4	-1.0
2019 Q1	5.5	-1.4	2.4	6.4	-2.3	4.1	-3.2	3.4	1.5	-	-3.9
Q2	4.4	-4.1	0.6	4.4	-2.8	0.8	-5.2	1.4	1.0	-0.2	-6.7
Q3	3.7	-2.6	-0.1	2.7	-1.3	-4.4	-2.5	3.3	0.8	-0.5	-3.0
Q4	2.6	-2.4	-2.1	0.4	-2.4	-2.7	-0.7	2.6	0.4	-2.6	-4.2
2020 Q1	-2.7	-6.5	-14.6	-5.0	-1.4	-11.5	-0.9	-2.4	-3.9	-3.6	-6.4

† indicates that estimates are new or have been revised. The period marked is the earliest in the table to have been revised.

# 5 Output per hour worked: Services sections

United Kingdom

Seasonally adjusted (2016=100)

	Wholesale & retail trade, motor vehicle repair	Transport & storage	Accommodation & food services	Information & communication	Finance & insurance	Real estate activities	Professional, scientific & technical activities	Admin & support services	Government services	Arts, entertainment & recreation	Other services
Section	G	H	I	J	K	L	M	N	O-Q	R	S-U
<b>Level (£)</b>											
2016	24.5	26.6	16.3	46.3	64.9	292.4	28.6	20.5	27.0	23.7	24.9
<b>Indices</b>											
	DJQ4	DJQ7	DJR2	DJR5	DJS3	DJS6	DJS9	DJT7	DJU2	DJV6	DJV9
2016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2017	101.5	102.9	100.5	100.2	101.8	98.6	107.3	102.5	100.4	95.6	99.3
2018	105.0	102.1	103.3	105.7	98.7	97.7	109.0	104.8	100.2	97.1	99.0
2019	108.9	98.4	100.6	108.3	97.0	97.2	106.2	108.9	100.4	96.3	94.5
2016 Q2	99.9	100.4	99.8	99.4	99.4	96.0	101.4	96.4	100.5	102.5	98.5
Q3	99.8	98.7	99.5	99.7	100.5	103.8	99.7	100.3	99.9	99.3	99.8
Q4	102.3	98.6	99.3	100.7	101.8	98.4	99.6	101.8	100.2	96.5	101.5
2017 Q1	101.4	101.9	99.4	97.2	103.1	96.5	103.5	101.4	100.2	97.6	99.1
Q2	101.3	102.1	99.1	97.8	101.9	98.1	104.9	101.2	99.8	99.2	100.2
Q3	102.6	103.7	101.4	101.3	101.3	101.0	110.5	102.7	101.2	91.1	99.9
Q4	100.8	104.0	102.0	104.4	100.8	98.6	110.2	104.8	100.6	94.7	98.0
2018 Q1	102.6	101.3	103.1	103.3	100.4	98.1	109.1	104.1	99.8	95.9	98.1
Q2	104.6	103.4	105.0	105.2	99.9	99.4	110.6	104.4	100.1	95.0	100.0
Q3	106.0	102.2	101.7	106.9	97.9	95.4	108.1	105.0	99.9	96.9	99.8
Q4	106.8	101.4	103.4	107.3	96.8	98.1	108.1	105.9	101.2	100.6	98.1
2019 Q1	107.9	99.6	99.5	108.4	96.5	101.4	105.7	108.6	101.0	95.8	94.6
Q2	108.5	97.8	100.1	109.2	96.6	97.4	104.9	109.0	100.0	96.4	93.2
Q3	109.1	99.3	100.4	108.7	98.6	94.1	106.6	108.9	100.0	96.5	97.9
Q4	110.0	96.8	102.3	106.8	96.4	96.0	107.6	109.2	100.5	96.7	92.4
2020 Q1	106.8	95.6	94.9	106.7	96.1	90.7	107.8	105.9	97.8	95.2	92.6
<b>Per cent change on quarter a year ago</b>											
	DJQ6	DJQ9	DJR4	DJR7	DJS5	DJS8	DJT6	DJT9	DJU7	DJV8	DJW3
2016 Q2	4.1	-7.2	-1.4	2.0	1.9	-0.5	-	-4.7	0.4	1.6	-6.0
Q3	2.5	-7.0	-2.1	0.2	3.9	4.3	-1.2	-2.0	-0.8	-3.1	-4.8
Q4	6.3	-2.8	-3.6	1.7	3.1	-5.4	0.5	3.3	0.7	-4.7	-5.8
2017 Q1	3.4	-0.4	-2.0	-3.1	4.9	-5.2	4.3	-0.1	0.7	-4.0	-1.1
Q2	1.4	1.7	-0.7	-1.6	2.5	2.2	3.4	5.0	-0.6	-3.2	1.7
Q3	2.8	5.0	1.9	1.6	0.8	-2.7	10.8	2.5	1.3	-8.3	0.1
Q4	-1.4	5.5	2.7	3.7	-1.0	0.2	10.6	2.9	0.3	-1.9	-3.5
2018 Q1	1.2	-0.6	3.7	6.3	-2.7	1.6	5.4	2.6	-0.4	-1.7	-1.0
Q2	3.3	1.2	6.0	7.6	-2.0	1.3	5.4	3.1	0.3	-4.2	-0.2
Q3	3.3	-1.5	0.3	5.5	-3.4	-5.6	-2.2	2.2	-1.3	6.3	-0.1
Q4	5.9	-2.5	1.4	2.8	-3.9	-0.6	-1.9	1.1	0.6	6.3	0.1
2019 Q1	5.2	-1.7	-3.5	4.9	-3.8	3.4	-3.1	4.3	1.2	-0.2	-3.5
Q2	3.7	-5.4	-4.6	3.8	-3.3	-2.0	-5.1	4.5	-0.1	1.5	-6.8
Q3	2.9	-2.8	-1.3	1.7	0.7	-1.4	-1.3	3.7	0.1	-0.4	-1.9
Q4	3.0	-4.5	-1.1	-0.4	-0.4	-2.1	-0.5	3.1	-0.6	-3.9	-5.8
2020 Q1	-1.1	-4.0	-4.6	-1.6	-0.4	-10.5	2.0	-2.5	-3.1	-0.6	-2.1
<b>Per cent change on previous quarter</b>											
	DJQ5	DJQ8	DJR3	DJR6	DJS4	DJS7	DJT2	DJT8	DJU6	DJV7	DJW2
2016 Q2	1.9	-1.9	-1.6	-0.9	1.1	-5.8	2.2	-5.0	1.1	0.7	-1.6
Q3	-0.1	-1.7	-0.3	0.3	1.1	8.1	-1.6	4.0	-0.6	-3.0	1.4
Q4	2.5	-0.1	-0.1	1.0	1.4	-5.2	-0.1	1.6	0.4	-2.8	1.7
2017 Q1	-0.8	3.3	0.1	-3.5	1.3	-1.9	3.9	-0.4	-0.1	1.1	-2.4
Q2	-0.1	0.2	-0.3	0.7	-1.2	1.6	1.3	-0.2	-0.3	1.6	1.1
Q3	1.3	1.5	2.3	3.6	-0.6	3.0	5.3	1.5	1.4	-8.1	-0.3
Q4	-1.7	0.3	0.6	3.1	-0.5	-2.4	-0.3	2.0	-0.6	3.9	-1.9
2018 Q1	1.8	-2.6	1.0	-1.0	-0.4	-0.6	-1.0	-0.7	-0.8	1.3	0.1
Q2	2.0	2.0	1.9	1.8	-0.5	1.4	1.4	0.3	0.3	-1.0	1.9
Q3	1.3	-1.2	-3.1	1.6	-2.0	-4.0	-2.3	0.6	-0.2	2.0	-0.2
Q4	0.8	-0.8	1.7	0.4	-1.1	2.8	0.1	0.8	1.2	3.9	-1.7
2019 Q1	1.1	-1.8	-3.8	1.0	-0.3	3.4	-2.3	2.6	-0.2	-4.8	-3.5
Q2	0.6	-1.8	0.6	0.7	-	-4.0	-0.7	0.4	-1.0	0.7	-1.6
Q3	0.5	1.6	0.3	-0.5	2.1	-3.4	1.6	-0.1	-	-	5.1
Q4	0.9	-2.6	1.9	-1.7	-2.2	2.0	1.0	0.2	0.5	0.3	-5.7
2020 Q1	-2.9	-1.2	-7.2	-0.2	-0.3	-5.5	0.2	-3.0	-2.7	-1.5	0.3

† indicates that estimates are new or have been revised. The period marked is the earliest in the table to have been revised.

# 6 Market Sector productivity

## United Kingdom

Seasonally adjusted (2016=100)

	Output per worker			Output per hour worked		
	Index	Per cent change on quarter a year ago	Per cent change on previous quarter	Index	Per cent change on quarter a year ago	Per cent change on previous quarter
	GY4	GY5	GY6	GY7	GY8	GY9
2016	100.0	..	..	100.0	..	..
2017	101.6	..	..	101.7	..	..
2018	102.3	..	..	102.7	..	..
2019	102.4	..	..	102.5	..	..
2016 Q2	100.0	-0.3	0.4	100.1	0.2	0.6
Q3	99.8	0.6	-0.2	100.0	0.3	-0.1
Q4	100.6	2.2	0.8	100.5	2.8	0.5
2017 Q1	101.4	1.7	0.8	100.9	1.4	0.4
Q2	101.4	1.3	-	100.7	0.6	-0.1
Q3	101.7	1.9	0.3	102.2	2.3	1.5
Q4	102.1	1.5	0.4	102.9	2.4	0.7
2018 Q1	101.7	0.3	-0.4	102.5	1.6	-0.5
Q2	102.3	0.9	0.6	102.9	2.2	0.5
Q3	102.7	1.0	0.3	102.8	0.5	-0.2
Q4	102.4	0.3	-0.3	102.8	-0.1	0.1
2019 Q1	102.7	1.0	0.3	102.3	-0.2	-0.5
Q2	102.1	-0.2	-0.6	102.2	-0.7	-0.1
Q3	102.7	-	0.6	102.8	-	0.6
Q4	102.0	-0.4	-0.6	102.8	-	0.1
2020 Q1	99.1	-3.5	-2.9	101.7	-0.6	-1.1

† indicates that estimates are new or have been revised. The period marked is the earliest in the table to have been revised.

# 7 Output per job and hour worked: Other industries

United Kingdom

Seasonally adjusted (2016=100)

Section	Agriculture, forestry and fishing		Construction	
	Output per job	Output per hour worked	Output per job	Output per hour worked
Level (£)	A	A	F	F
2016	31 310.7	14.3	51 119.3	26.2
<b>Indices</b>				
	DJ4K	DJJ9	DJD8	DJP6
2003	106.7	107.3	97.8	98.0
2004	101.7	100.8	100.4	101.0
2005	103.0	107.8	95.1	96.3
2006	98.2	101.3	94.7	95.8
2007	95.2	100.2	93.7	95.1
2008	98.5	103.3	90.9	93.2
2009	91.6	87.5	82.0	84.9
2010	85.6	81.2	93.9	96.1
2011	95.7	94.1	95.7	99.8
2012	87.6	90.1	89.4	92.7
2013	96.3	96.5	90.8	92.0
2014	95.0	95.3	97.0	95.9
2015	104.6	108.4	98.8	98.5
2016	100.0	100.0	100.0	100.0
2017	102.2	102.2	102.3	102.4
2018	101.6	102.2	101.8	102.0
2019	103.7	103.7	104.2	105.5
<b>Per cent change on previous year</b>				
	DJ4L	DJK2	DJE2	DJP8
2003	-3.8	-5.9	2.3	3.6
2004	-4.6	-6.1	2.7	3.0
2005	1.3	6.9	-5.3	-4.6
2006	-4.7	-5.9	-0.5	-0.5
2007	-3.0	-1.1	-1.0	-0.8
2008	3.4	3.1	-3.1	-1.9
2009	-6.9	-15.3	-9.7	-8.9
2010	-6.6	-7.2	14.4	13.2
2011	11.7	15.9	1.9	3.8
2012	-8.4	-4.2	-6.6	-7.2
2013	9.9	7.2	1.6	-0.7
2014	-1.4	-1.3	6.8	4.2
2015	10.1	13.7	1.8	2.8
2016	-4.4	-7.7	1.3	1.5
2017	2.2	2.2	2.3	2.4
2018	-0.5	-	-0.4	-0.4
2019	2.1	1.5	2.4	3.5

† indicates that estimates are new or have been revised. The period marked is the earliest in the table to have been revised.

# 8 Labour input indices: Workers, productivity jobs and productivity hours

United Kingdom

Seasonally adjusted (2016=100)

Section	Whole economy				Production		Manufacturing		Services	
	Workers	Jobs	Hours	Ratio of jobs to workers	Productivity jobs	Productivity hours	Productivity jobs	Productivity hours	Productivity jobs	Productivity hours
	A-U	A-U	A-U		B-E	B-E	C	C	G-U	G-U
<b>Indices</b>	TXEL	LNNM	LZVA	TXET	DJW6	DK3S	DJW9	DK3V	DK2G	DK56
2016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2017	101.0	100.9	101.1	99.9	101.6	101.2	101.6	100.6	100.6	100.7
2018	102.2	102.1	101.9	99.9	103.4	102.1	102.8	100.9	101.8	101.7
2019	103.3	103.2	103.3	99.9	103.1	102.1	102.2	101.2	103.2	103.7
2016 Q2	100.0	100.0	99.9	100.0	100.4	100.0	100.6	100.3	100.0	99.7
Q3	100.2	100.3	100.1	100.1	100.0	99.5	100.1	99.6	100.4	100.3
Q4	100.3	100.3	100.5	100.0	99.9	100.2	99.8	99.8	100.3	100.4
2017 Q1	100.6	100.6	101.1	99.9	100.0	99.9	100.0	99.4	100.3	100.9
Q2	101.0	100.9	101.6	99.9	101.2	101.3	101.2	100.8	100.6	101.3
Q3	101.0	101.0	100.6	100.0	102.4	101.5	102.5	101.2	100.6	100.1
Q4	101.3	101.3	100.9	100.0	102.9	101.9	102.7	101.1	100.9	100.6
2018 Q1	101.9	101.8	101.4	100.0	103.4	102.1	103.1	101.2	101.4	101.2
Q2	102.0	101.9	101.5	99.9	103.6	102.3	103.1	101.0	101.5	101.1
Q3	102.2	102.1	102.4	99.9	103.7	102.3	103.1	100.7	101.8	102.3
Q4	102.7	102.6	102.3	99.9	103.0	101.5	102.1	100.6	102.4	102.2
2019 Q1	103.0	102.8	103.4	99.8	102.7	103.6	101.9	102.7	102.6	103.2
Q2	103.4	103.3	103.4	99.9	103.2	102.4	102.3	101.3	103.3	103.7
Q3	103.2	103.1	103.4	99.9	103.4	102.2	102.3	101.5	103.2	103.8
Q4	103.8	103.7	103.2	100.0	103.2	100.2	102.2	99.2	103.9	104.0
2020 Q1	104.4	104.6	102.2	100.1	103.5	100.1	102.5	98.8	104.8	102.9
<b>Per cent change on quarter a year ago</b>	DIW9	LNN0	LZVC		DJW8	DK3U	DJX3	DK44	DK2I	DK58
2016 Q2	2.0	1.8	1.8		0.1	-0.7	0.5	-	1.7	1.7
Q3	1.5	1.4	2.0		-0.3	-0.3	-	-0.2	1.6	2.2
Q4	1.0	0.9	0.4		0.5	-1.4	0.1	-2.1	1.0	0.5
2017 Q1	1.2	1.1	1.5		0.4	-0.4	0.5	-0.9	0.9	1.3
Q2	1.0	0.9	1.8		0.8	1.3	0.5	0.6	0.6	1.5
Q3	0.8	0.7	0.6		2.4	2.0	2.4	1.6	0.2	-0.2
Q4	1.0	1.0	0.4		2.9	1.8	2.9	1.3	0.6	0.2
2018 Q1	1.2	1.3	0.3		3.4	2.2	3.1	1.8	1.1	0.2
Q2	1.0	1.0	-0.1		2.3	1.0	1.9	0.2	0.9	-0.2
Q3	1.1	1.1	1.8		1.3	0.8	0.6	-0.5	1.2	2.2
Q4	1.4	1.3	1.5		0.2	-0.4	-0.5	-0.5	1.5	1.6
2019 Q1	1.1	1.0	2.0		-0.7	1.5	-1.1	1.4	1.2	2.0
Q2	1.3	1.3	1.8		-0.4	-	-0.7	0.3	1.7	2.6
Q3	1.0	1.0	1.0		-0.3	-	-0.7	0.8	1.3	1.5
Q4	1.0	1.1	0.8		0.1	-1.3	0.1	-1.3	1.5	1.7
2020 Q1	1.4	1.7	-1.2		0.8	-3.4	0.6	-3.8	2.1	-0.2
<b>Per cent change on previous quarter</b>	DIW8	TXAJ	TXBU		DJW7	DK3T	DJX2	DK3Y	DK2H	DK57
2016 Q2	0.6	0.6	0.3		0.8	-0.3	1.1	-0.1	0.7	0.2
Q3	0.2	0.3	0.2		-0.4	-0.6	-0.5	-0.7	0.4	0.5
Q4	0.1	-	0.4		-	0.7	-0.3	0.3	-0.2	0.1
2017 Q1	0.3	0.3	0.6		0.1	-0.3	0.2	-0.4	-	0.5
Q2	0.4	0.4	0.5		1.2	1.5	1.2	1.4	0.3	0.3
Q3	-	-	-1.0		1.2	0.1	1.3	0.3	-	-1.2
Q4	0.3	0.3	0.2		0.5	0.5	0.2	-0.1	0.3	0.5
2018 Q1	0.6	0.6	0.5		0.5	0.1	0.4	0.1	0.5	0.6
Q2	0.1	0.1	0.2		0.2	0.3	-	-0.2	0.1	-0.1
Q3	0.1	0.2	0.9		0.1	-0.1	-	-0.4	0.3	1.2
Q4	0.5	0.5	-0.1		-0.6	-0.7	-1.0	-0.1	0.5	-0.1
2019 Q1	0.3	0.3	1.1		-0.3	2.1	-0.2	2.1	0.3	1.0
Q2	0.3	0.4	-		0.5	-1.2	0.4	-1.3	0.6	0.5
Q3	-0.2	-0.2	-		0.2	-0.1	-	0.1	-0.1	0.1
Q4	0.6	0.6	-0.2		-0.2	-2.0	-0.1	-2.2	0.7	0.2
2020 Q1	0.6	0.8	-0.9		0.3	-0.1	0.3	-0.5	0.9	-1.0

† indicates that estimates are new or have been revised. The period marked is the earliest in the table to have been revised.

# R1 REVISIONS ANALYSIS

## Revisions since previously published estimates

Whole economy							
	Output per worker		Output per job		Output per hour worked		
	Per cent change on quarter a year ago	Per cent change on previous quarter	Per cent change on quarter a year ago	Per cent change on previous quarter	Per cent change on quarter a year ago	Per cent change on previous quarter	
	A4YN	A4YO	LNNP	DMWR	LZVD	TXBB	
2015 Q4	–	–	–	–	–	–	–
2016 Q1	–	–	–	–	–	–	–
Q2	–	–	–	–	–	–	–
Q3	–	–	–	–	–	–	–
Q4	–	–	–	–	–	–	–
2017 Q1	–	–	–	–	–	–	–
Q2	–	–	–	–	–	–	–
Q3	–	–	–	–	–	–	–
Q4	–	–	–	–	–	–	–
2018 Q1	–	–	–	–	–	–	–
Q2	–	–	–	–	–	–	–
Q3	–	–	–	–	–	–	–
Q4	–	–	–	–	–	–	–
2019 Q1	–	–	–	–	–	–	–
Q2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Q3	0.1	–	0.1	–	0.1	0.1	–
Q4	0.1	–0.1	0.1	–	0.1	–	–0.1
2020 Q1	..	..	..	..	..	..	..
Manufacturing							
	Output per job		Output per hour worked				
	Per cent change on quarter a year ago	Per cent change on previous quarter	Per cent change on quarter a year ago	Per cent change on previous quarter			
	DJ4R	DJ4Q	DJK8	DJK7			
2015 Q4	–	–	–	–	–	–	–
2016 Q1	–	–0.1	–	–0.1	–	–	–
Q2	–	–	–	–	–	–	–
Q3	–	–	–	–0.1	–	–	–
Q4	–	–	–	–	–	–	–
2017 Q1	–	–	–	–	–	–	–
Q2	–	–	–	–	–	–	–
Q3	–	–	0.1	–	–	–	–
Q4	–	–	–	–0.1	–	–	–0.1
2018 Q1	–	–	–	–	–	–	0.1
Q2	–	–	–0.1	–0.1	–	–	–0.1
Q3	–	0.1	–	–	–	–	0.1
Q4	–	–	–0.1	–0.1	–	–	–0.1
2019 Q1	–0.2	–0.2	–0.2	–0.1	–	–	–0.1
Q2	–	0.2	0.1	–	–	–	0.1
Q3	–	–	–	–	–	–	–
Q4	0.1	0.1	0.2	–	–	–	0.1
2020 Q1	..	..	..	..	..	..	..
Services							
	Output per job		Output per hour worked				
	Per cent change on quarter a year ago	Per cent change on previous quarter	Per cent change on quarter a year ago	Per cent change on previous quarter			
	DJE5	DJE4	DJQ3	DJQ2			
2015 Q4	–	–	–	–	–	–	–
2016 Q1	0.1	–	–	–	–	–	–
Q2	–	–	–	–	–	–	–
Q3	–	–	–	–	–	–	–
Q4	–0.1	–	–	–	–	–	0.1
2017 Q1	–	–	–	–	–	–	–
Q2	–	–	–	–	–	–	–
Q3	–	–	–	–	–	–	–
Q4	–	–	0.1	–	–	–	0.1
2018 Q1	–	0.1	–	–	–	–	–
Q2	–	–0.1	–	–	–	–	–
Q3	–0.1	–0.1	–	–	–	–	–
Q4	–	–	–	–	–	–	0.1
2019 Q1	–	0.1	0.1	–	–	–	–0.1
Q2	–	–	–	–	–	–	–

Q3  
Q4

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