Office for National Statistics

Statistical bulletin

Labour productivity, UK: October to December 2018

Output per hour, output per job and output per worker for the whole economy and a range of industries. Includes estimates of unit labour costs.

Notice

5 April 2019

Informed by quality assurance prior to publication we would like to draw users' attention to this note, which provides further information on the particularly large impact of revisions between Quarter 4 (Oct to Dec) 1997 and Quarter 1 (Jan to Mar) 1998, on industry K, which covers the financial and insurance industries.

Table of contents

1 . Main points

- Labour productivity for Quarter 4 (Oct to Dec) 2018, as measured by output per hour, decreased by 0.1% compared with the same quarter a year ago; this is the second successive quarterly fall following the decrease of 0.2% seen for the previous quarter (Quarter 3 (July to Sept) 2018).

- Whilst services experienced labour productivity growth of 0.4%, manufacturing decreased by 1.1%.

- Compared with the previous quarter, UK labour productivity is estimated to have grown by 0.3% in Quarter 4 (Oct to Dec) 2018; the increase in productivity reflected a slight decrease in the number of actual hours worked, whilst there was a larger increase in output growth for the quarter.

- Productivity hours worked increased by 1.5% in Quarter 4 (Oct to Dec) 2018 compared with the same quarter a year ago, while the number of jobs increased by 1.3% over the same period.

- In 2018, labour productivity measured as output per hour grew by 0.5% compared with the previous year, with increases in both services and manufacturing of 0.8% and 0.3% respectively.

- Output per job increased by 0.3% in 2018 compared with the previous year. Services grew by 0.6% over the year whilst, in contrast, manufacturing fell by 0.7%.

- Earnings and other labour costs outpaced productivity growth, resulting in unit labour cost growth of 3.1% in the year to 4 (Oct to Dec) 2018, compared with growth of 2.9% in the previous quarter.

2 . Things you need to know about this release

This release reports labour productivity estimates for Quarter 4 (Oct to Dec) 2018 for the whole economy, the UK regions at NUTS1 level and a range of industries, together with estimates of unit labour costs. Productivity is important as it is considered to be a driver of long-run changes in average living standards.

This edition forms part of our quarterly productivity bulletin, which also includes an overarching commentary, quarterly estimates of public service productivity and quarterly estimates of multi-factor productivity.

Labour productivity is calculated by dividing output by labour input. 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 as a whole. Labour inputs in this release are measured in terms of workers, jobs ("productivity jobs") and hours worked ("productivity hours").

This release also reports estimates of unit labour costs (ULCs), which capture the full labour costs – including social security and employers' pension contributions – incurred in the production of a unit of economic output. Labour costs make up around two-thirds of the overall cost of production of UK economic output. Changes in labour costs are therefore a large factor in overall changes in the cost of production. 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, therefore this is a closely watched indicator of inflationary pressure in the economy.

Following the recent productivity user forum, we are exploring streamlining this release into three separate publications focusing on labour productivity, unit labour costs and regional accounts. We would be interested in users' views on whether this may be positive, please send us your comments by email to productivity@ons.gov.uk .

The equations for labour productivity and ULCs can be found in the Quality and methodology section of this release.

The output statistics in this release are consistent with the latest Quarterly national accounts published on 29 March 2019. Note that productivity in this release does not refer to gross domestic product (GDP) per person, which is a measure that includes people who are not in employment. Regional productivity figures presented in this release use the unbalanced income measure of current price gross value added and are consistent with the Regional GVA NUTS1 published on 10 December 2018.

The labour input measures used in this release are consistent with the latest labour market statistics, as described further in the Quality and methodology section of this bulletin.

Unless otherwise stated all figures are seasonally adjusted.

3 . Labour productivity falls for the second consecutive quarter compared with the same quarter in the previous year.

Compared with the same quarter a year ago, labour productivity, on an output per hour basis, fell by 0.1% and has decreased for a second consecutive quarter.

A 0.1% decline compared with the same quarter in the previous year represents a continuation of the UK's "productivity puzzle", with productivity since the economic downturn in 2008 growing more slowly than during the long period prior to downturn. This sustained stagnation contrasts with patterns following previous UK economic downturns, when productivity initially fell, but subsequently recovered to the previous trend rate of growth.

There is wide and varied economic debate regarding the causes of this puzzle and further analysis of recent UK productivity trends can be found in the January 2016, May 2016 and June 2016 Economic Reviews, as well as in several standalone articles including:

- What is the productivity puzzle?

- The productivity conundrum, explanations and preliminary analysis

- The productivity conundrum, interpreting the recent behaviour of the economy

This puzzle is shown in Figure 1, which presents two alternative measures of productivity – output per hour and output per worker – alongside their projected 1994 to 2007 trends. Following years of steady growth, each measure peaked prior to and fell during the economic downturn. However, due to a strong labour market performance accompanying a relatively weak recovery in output growth, productivity has not returned to its pre-downturn trend. Productivity in Quarter 4 (Oct to Dec) 2018, as measured by output per hour, was 18.3% below its pre-downturn trend – or, equivalently, productivity would have been 22.5% higher had it followed this pre-downturn trend[1].

Labour productivity increased by 0.3% in Quarter 4 2018 compared with the previous quarter. This increase left productivity 2.0% above its pre-downturn peak in Quarter 4 2007, although productivity has been consistently above its pre-downturn peak since Quarter 3 (July to Sept) 2016.

Figure 1: Productivity, as measured by output per hour, was 18.3% beneath its pre-downturn trend

Output per hour and output per worker, seasonally adjusted, UK, Quarter 1 (Jan to March) 1994 to Quarter 4 (Oct to Dec) 2018

Figure 1: Productivity, as measured by output per hour, was 18.3% beneath its pre-downturn trend

Output per hour and output per worker, seasonally adjusted, UK, Quarter 1 (Jan to March) 1994 to Quarter 4 (Oct to Dec) 2018
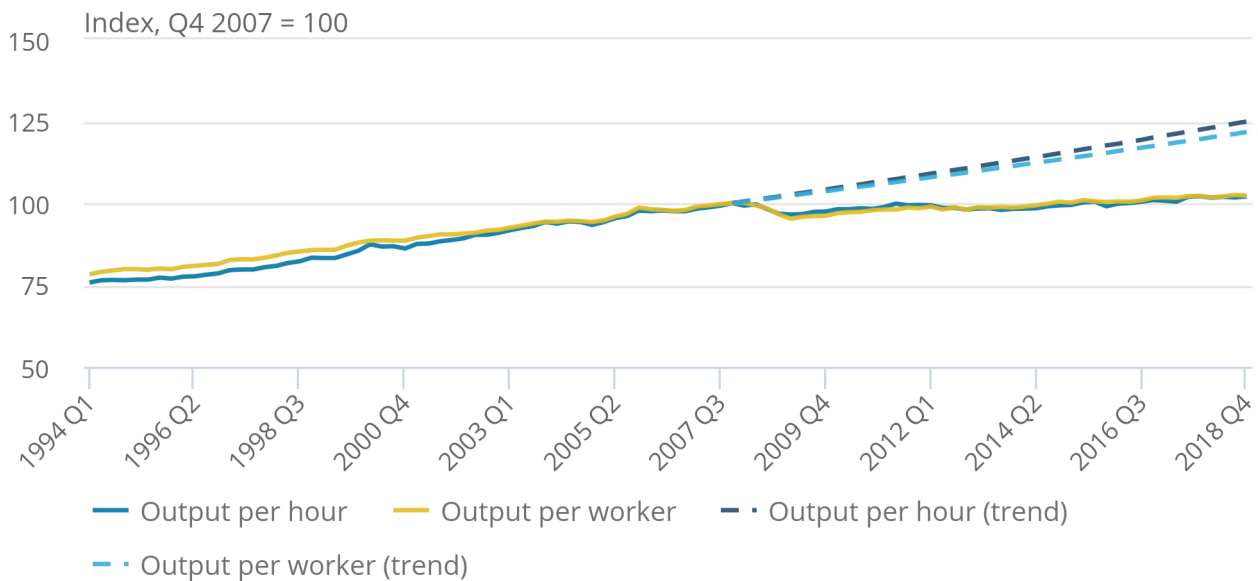
Source: Office for National Statistics

Notes:

1. Differences between these two measures are due to differences in the denominator used in the calculation. Using the actual output per hour series as the denominator, rather than the trend series, results in a higher percentage gap. This is due to the actual series being lower than the trend series post-downturn.

Figure 2 breaks down the growth in productivity between Quarter 1 (Jan to Mar) 2008 and Quarter 4 2018 into contributions from different industry groupings and an "allocation effect" due to movements in the share of output, labour or relative prices between each grouping. For example, a movement of labour from lower productivity industries to higher productivity industries will tend to increase aggregate productivity growth, even if both industries have static productivity in the same period.

Non-financial services were the main positive contributor to productivity growth over this period, partly offset by negative contributions from non-manufacturing production and finance. The negative allocation effect – suggesting that nominal output and labour have been moving away from higher to lower productivity industries in recent years – includes the falling share of output in mining and quarrying, which has among the highest levels of productivity of UK industry. This is partially a result of the falling reserves of oil and gas in the North Sea. Although negative for the period as a whole, the allocation effect was initially positive following the downturn, but turned negative in recent years.

Figure 2: Non-financial services has been the largest positive contributor to whole economy output per hour growth since Quarter 1 (Jan to Mar) 2008

Contributions to growth of whole economy output per hour, seasonally adjusted, cumulative changes, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 4 (Oct to Dec) 2018

Figure 2: Non-financial services has been the largest positive contributor to whole economy output per hour growth since Quarter 1 (Jan to Mar) 2008

Contributions to growth of whole economy output per hour, seasonally adjusted, cumulative changes, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 4 (Oct to Dec) 2018
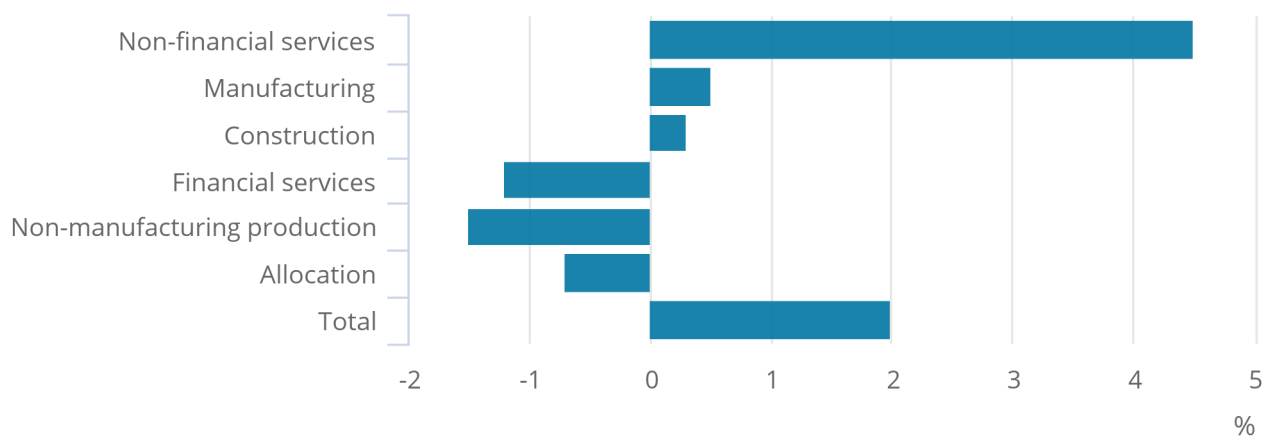
Source: Office for National Statistics

Notes:

1. Non-manufacturing production refers to: agriculture, forestry and fishing; mining and quarrying; electricity, gas, steam and air-conditioning supply; and water supply, sewerage, waste management and remediation activities.

4 . Output per hour increased in services and decreased in manufacturing, compared with a year ago

Services output per hour, compared with the same period a year ago, increased by 0.4% in the latest quarter (Quarter 4 (Oct to Dec) 2018), with output increasing faster than hours worked. In manufacturing, over the year labour productivity fell by 1.1%, with both output and hours worked falling. Compared with the previous quarter, output per hour in services increased by 0.5%, while manufacturing output per hour did not change.

Figure 3 shows longer-term trends for output per hour and its components since Quarter 1 (Jan to Mar) 2007. Services are shown in the left-hand panel, while manufacturing is shown in the right-hand panel. Manufacturing output per hour has been more volatile than services in recent years. This reflects a degree of divergence in manufacturing between gross value added (GVA) and hours, most noticeable in 2009 and between 2011 to 2012, whereas in services, GVA and hours follow similar trends.

Figure 3: Output per hour for services and manufacturing are above their Q1 2007 levels, by 5.6% and 8.9% respectively

Seasonally adjusted, Quarter 1 (Jan to Mar) 2007 to Quarter 4 (Oct to Dec) 2019, UK
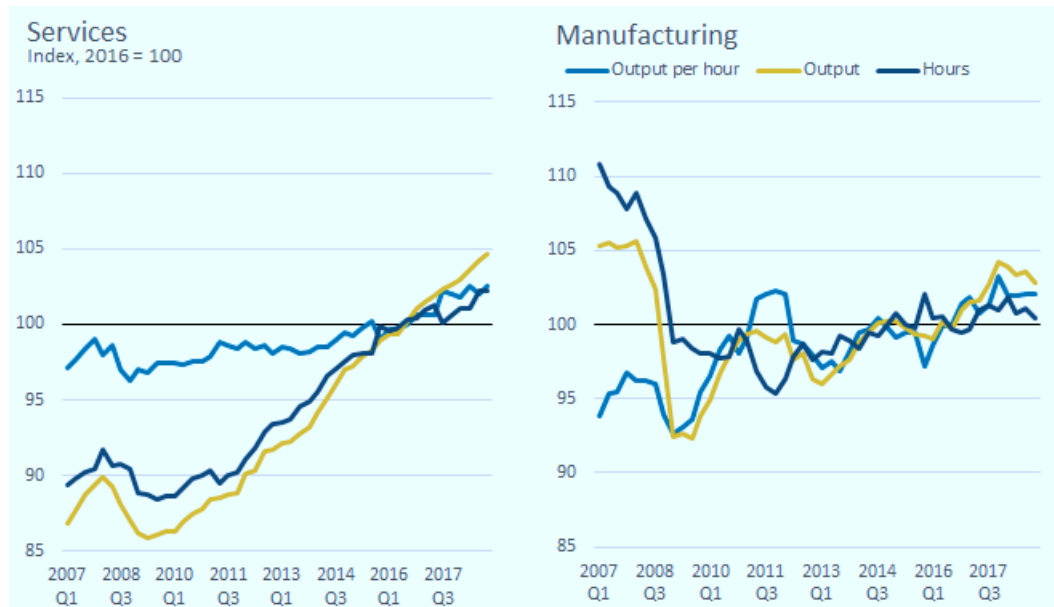
Source: Office for National Statistics

# 5 . Unit labour costs have grown for the 15th consecutive quarter

Unit labour costs (ULCs) reflect the full labour costs incurred in the production of a unit of economic output, including social security and employers' pension contributions. Changes in labour costs are a large factor in overall changes in the cost of production. If increased costs are not reflected in increased output, for instance, this can put upward pressure on the prices of goods and services – sometimes referred to as "inflationary pressure". ULCs grew by 3.1% in Quarter 4 (Oct to Dec) 2018, compared with a year ago, reflecting a larger percentage increase in labour costs per hour than output per hour.

Figure 4 shows changes in ULCs since Quarter 1 (Jan to Mar) 2008 compared with the same quarter a year earlier. Holding other factors constant, increasing output per hour reduces ULCs as total labour costs remain constant while output rises. As a result, output per hour has its sign reversed in Figure 4. In this presentation, positive output per hour growth has a negative effect on ULC growth, while negative output per hour growth has a positive effect on ULC growth.

While quarter-on-year growth in ULCs has been broadly positive since the onset of the economic downturn, averaging around 1.6% since Quarter 1 2008, there has been substantial variation during this period. During the recent economic downturn, ULCs began to grow at a relatively high rate, reaching a peak of 6.3% by the end of the downturn in Quarter 2 (Apr to June) 2009 and remaining positive until Quarter 2 2010.

Figure 4 shows that the initial increase in ULC growth during the downturn was driven by falling output per hour, but from Quarter 2 2009 onwards, increasing labour costs per hour were the driving factor. Following the downturn, growth in ULCs began to slow, eventually becoming negative in Quarter 2 2010.

Following a period of low or negative growth, ULC growth averaged 2.1% per quarter for the past two years (since Quarter 4 2016). This increase broadly reflects higher hourly labour cost growth, with relatively little offsetting output per hour growth.

Figure 4: Whole economy unit labour costs increased by 3.1% compared with the same quarter a year ago

Whole economy unit labour costs, composition and growths, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 4 (Oct to Dec) 2018

Figure 4: Whole economy unit labour costs increased by 3.1% compared with the same quarter a year ago

Whole economy unit labour costs, composition and growths, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 4 (Oct to Dec) 2018
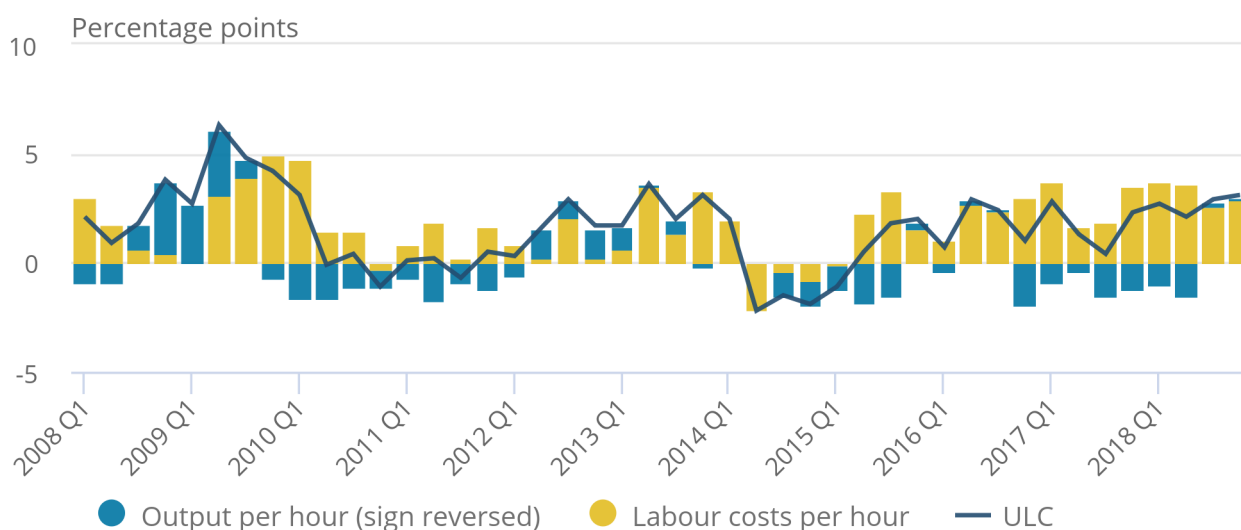
Notes:

1. Labour costs per hour estimates will differ from those in our Index of Labour Costs per Hour bulletin, due to differences in methodology.

6 . Experimental sectional unit labour costs

In November 2012, we introduced a dataset of sectional unit labour costs. These experimental statistics provide estimates of sectional unit labour costs, returns to self-employed workers, the labour share of mixed income and the total value of labour costs. Although the methodology employed differs from the National Statistics estimates presented in this release, the datasets have been welcomed by users and we plan to incorporate a more regular section in the labour productivity statistical bulletin. We are also working in co-operation with the UK Statistics Authority to badge these datasets as National Statistics. For more information on the methodology of these experimental statistics, please see Productivity measures, sectional unit labour costs.

Across the whole economy in Quarter 4 (Oct to Dec) 2018, sectional unit labour costs increased by 2.6% compared with the same quarter a year ago, with production and manufacturing recording equally the largest increases in sectional unit labour costs by 3.7%. This is the highest quarter on year growth for production industries since Quarter 3 (July to Sept) 2013. The latest growth in sectional unit labour costs in the whole economy was due to increasing labour costs, which outpaced growth in output.

Since Quarter 4 (Oct to Dec) 2015, quarter-on-year ago growth rate in sectional unit labour costs for the whole economy have averaged 1.9%, with manufacturing and services averaging 2% each, and production averaging 2.2%. The average whole economy growth is affected by the allocation effect, as well as the growths of its three components. The allocation effect represents the effect of labour and other inputs moving between different sectors of the economy with different unit labour costs.

Figure 5 shows the average sectional unit costs quarter on year growth since Quarter 4 2015, for the whole economy, manufacturing, production and total services.

Figure 5: Production has averaged the highest quarter on year growth since Quarter 4 2015

Sectional unit labour costs, average quarter on year growth, Quarter 4 (Oct to Dec) 2015 to Quarter 4 (Oct to Dec) 2018

Figure 5: Production has averaged the highest quarter on year growth since Quarter 4 2015

Sectional unit labour costs, average quarter on year growth, Quarter 4 (Oct to Dec) 2015 to Quarter 4 (Oct to Dec) 2018
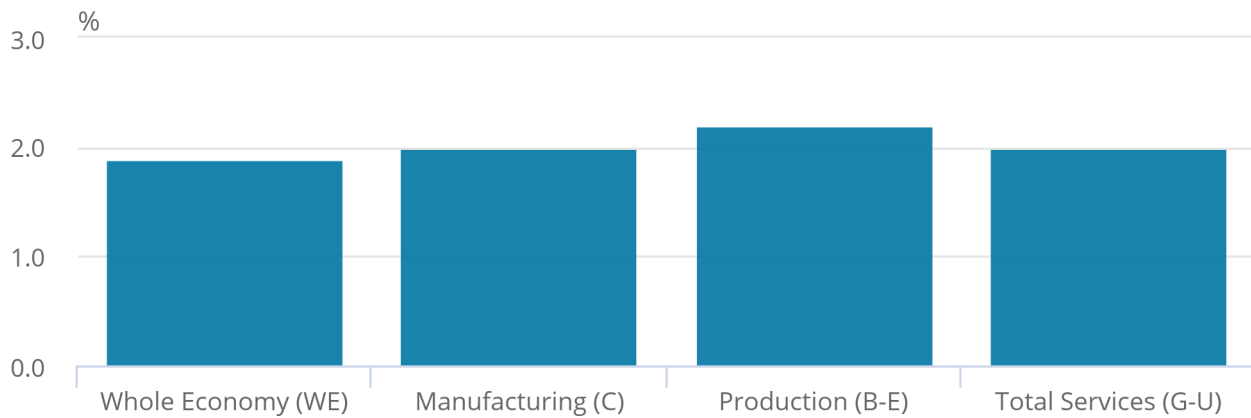
Source: Office for National Statistics

Notes:

1. Sectional unit labour costs per hour estimates will differ from the National Statistics unit labour costs, due to differences in methodology.

7 . Productivity by region

In 2017, productivity measured in output per hour varied significantly across the regions, with London and the South East being 30.4% and 7.1% respectively above the UK, while Wales and Northern Ireland were 16.3% and 16% below the UK, respectively.

Output per job also varied across the regions, with London and the South East being 39.2% and 5.1% higher than the UK respectively, while Wales and Yorkshire and The Humber were 18% and 15.7% below the UK respectively.

Figure 6 shows output per hour by region compared with the UK.

Figure 6: London and the South East were the only regions above the UK output per hour average

Nominal gross value added per unit of labour, UK regions, 2016 and 2017

Figure 6: London and the South East were the only regions above the UK output per hour average

Nominal gross value added per unit of labour, UK regions, 2016 and 2017

Index, UK = 100

● 2016   ● 2017
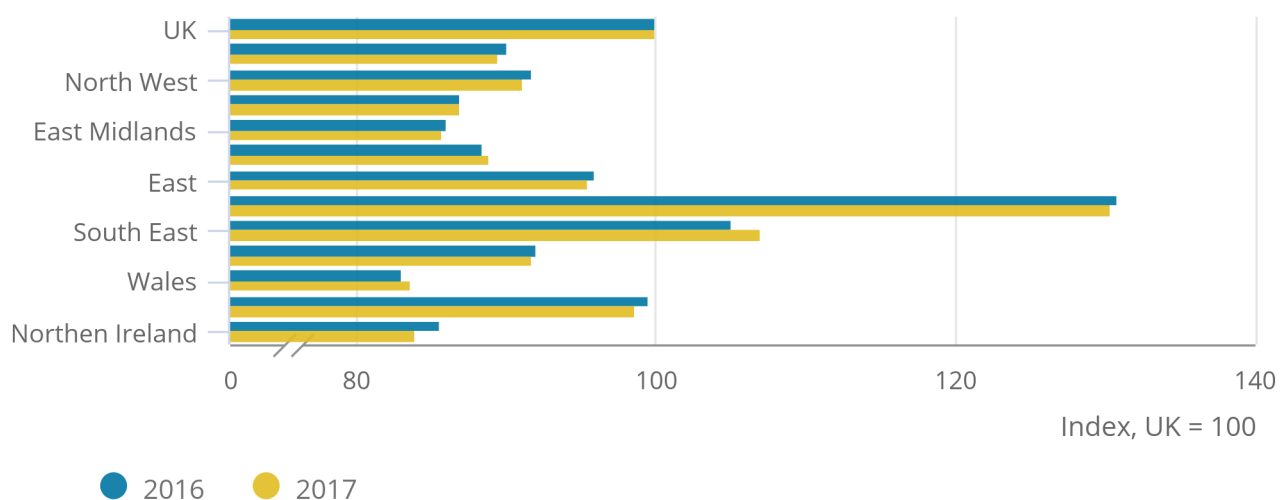
Source: Office for National Statistics

8 . Links to related statistics

- [Productivity economic commentary: October to December 2018](#) draws together the main findings from official statistics and analysis of UK productivity to present a summary of recent developments (published 5 April 2019).

- [Labour productivity, UK: October to December 2018](#) contains the latest estimates of labour productivity for the whole economy, the UK regions at NUTS1 level and a range of industries, together with estimates of unit labour costs (published 5 April 2019).

- [Region by industry labour productivity](#) presents annual productivity estimates for 16 industries in Standard Industrial Classification 2007 section groups for each of the NUTS1 regions for 1997 to 2017. It compares annual productivity growth by region, as output per hour, relative to the UK and explains how manufacturing and services have grown across the regions (published 6 February 2019).

- [Regional and sub-regional productivity in the UK](#), estimates for measures of labour productivity using a balanced gross value added (GVA) approach for NUTS1, NUTS2 and NUTS3 sub-regions of the UK, selected city regions and English local enterprise partnerships (LEPs) up to 2017. Estimates are in both real and nominal terms (published 6 February 2019).

- [Multi-factor productivity estimates: Experimental estimates to October to December 2018](#) presents quarterly estimates of multi-factor productivity (MFP), capital services and quality-adjusted labour input (QALI), including a range of industry breakdowns and analysis (published 5 April 2019).

- [A simple guide to multi-factor productivity](#) explains the concept and measurement of multi-factor productivity through simple stylised examples (published 5 October 2018).

- [Quarterly UK public service productivity (Experimental Statistics): October to December 2018](#) contains the latest experimental estimates for quarterly UK total public service productivity, inputs and output (published 5 April 2019).

- [Public service productivity: total, UK, 2016](#) presents updated measures of output, inputs and productivity for public services in the UK between 1997 and 2015, in addition to new estimates for 2016 (published 9 January 2019).

- [Public service productivity: healthcare, UK, 2016](#) presents updated estimates of output, inputs and productivity for public service healthcare in the UK between 1995 and 2015, and new estimates for 2016 (published 9 January 2019).

- [Public service productivity: healthcare, England: financial year ending 2017](#) presents estimates of output, inputs and productivity for public service healthcare in England on a financial year basis up to FYE 2017 (published 9 January 2019).

- [Improving estimates of Labour Productivity and International Comparisons](#) discusses recent OECD findings showing that the methodologies, data sources and adjustments used to estimate the number of persons, jobs and hours worked varied significantly across countries, and explores these differences and the impact on our ICP (published 9 January 2019).

- [Productivity development plan: 2018 to 2020](#) builds on recent improvements to our productivity statistics and looks at introducing new outputs, further improving our productivity statistics and consolidating our improvements to date (published 6 July 2018).

- [How productive is your business?](#) is an interactive tool which aids businesses to calculate their productivity and compare their performance to other businesses in Great Britain (published 6 July 2018).

Related content

In October 2018, the Office for National Statistics (ONS) informed users we were pausing production of estimates of international comparisons of UK productivity (ICP), due to an ongoing review of the methodology. In December 2018, the Organisation for Economic Co-operation and Development (OECD) published a working paper, International productivity gaps: Are labour input measures comparable?, which showed that the methodologies, data sources and adjustments used to estimate labour inputs varied significantly across countries. The ONS subsequently published an article exploring these differences and the impact they had on our ICP statistics. We continue to explore how best to re-commence this series.

We publish experimental estimates of multi-factor productivity (MFP), which decompose output growth into the contributions that can be accounted for by labour and capital inputs. In these estimates, the contribution of labour is further decomposed into quantity (hours worked) and quality dimensions.

The Economic Review covers recent developments in the UK economy, featuring our latest economic statistics as well as in-depth analysis of current issues.

Experimental indices of labour costs per hour differ from the concept of labour costs used in the unit labour cost estimates in the labour productivity release. The main difference is that experimental indices of labour costs per hour relate to employees only, whereas unit labour costs also include the labour remuneration of the self-employed.

Lastly, we publish a range of Public service productivity measures and related articles. These measures define productivity differently from that used in our labour productivity and MFP estimates. Further information can be found in the Economic and Labour Market Review, No. 5, May 2010 and in an information note published on 4 June 2015.

More information on the range of our productivity estimates can be found in the ONS Productivity Handbook.

9 . What's changed in this release?

Revisions

This release reflects revisions to gross value added resulting from Quarterly national accounts, affecting time periods since Quarter 1 (Jan to Mar) 2017.

Revisions to labour inputs result from the Labour market statistics affecting the time periods since Quarter 3 (July to Sept) 2011, which have taken on board the latest population estimates in the Labour Force Survey and from a review of the seasonal adjustment process. In addition, a boost to the Northern Ireland Labour Force Survey sample will have caused some minor revisions to estimates derived from that survey from the November 2017 to January 2018 period.

Unit labour costs incorporated revisions to average weekly earnings (AWE) in January 2019 due to incorporating Average Survey of Hours and Earnings (ASHE) data on small firms and a seasonal adjustment review. Further information is published in this article.

Revisions resulting from seasonal adjustment affect all periods, where seasonal adjustment is applied.

In this release we will not be presenting the experimental industry by region productivity statistics as these annual estimates were published in February 2019.

10 . Quality and methodology

The measure of output used in these statistics is the chained volume (real) measure of gross value added (GVA) at basic prices, with the exception of the regional analysis in Table 9, where the output measure is nominal GVA (NGVA), using the income approach. These measures differ because NGVA is not adjusted to account for price changes; this means that if prices were to rise more quickly in one region than the others, then the measures of productivity for that region could show relative growth in productivity compared with other regions purely as a result of the price changes.

Labour input measures used in this bulletin are known as "productivity jobs" and "productivity hours". Productivity jobs differ from the workforce jobs (WFJ) estimates, published in Table 6 of our Labour market overview, in three ways:

- to achieve consistency with the measurement of GVA, the employee component of productivity jobs is derived on a reporting unit basis, whereas the employee component of the WFJ estimates is on a local unit basis

- productivity jobs are scaled so industries sum to total Labour Force Survey (LFS) jobs – note that this constraint is applied in non-seasonally adjusted terms; the nature of the seasonal adjustment process means that the sum of seasonally adjusted productivity jobs and hours by industry can differ slightly from the seasonally adjusted LFS totals

- productivity jobs are calendar quarter average estimates, whereas WFJ estimates are provided for the last month of each quarter

Productivity hours are derived by multiplying employee and self-employed jobs at an industry level (before seasonal adjustment) by average actual hours worked from the LFS at an industry level. Results are scaled so industries sum to total unadjusted LFS hours and then seasonally adjusted. Labour productivity is then derived using growth rates for GVA and labour inputs in line with the following equation:

$$\Delta \text{Labour productivity} = \Delta \left(\frac{\text{Output in Gross Value Added (GVA) terms}}{\text{Labour Input (hours, workers or jobs)}} \right) \approx \Delta \text{GVA} - \Delta \text{Labour Input}$$

Industry estimates of average hours derived in this process differ from published estimates (found in Table HOUR03 in the Labour market overview release), as the HOUR03 estimates are calculated by allocating all hours worked to the industry of main employment, whereas the productivity hours system takes account of hours worked in first and second jobs by industry.

Whole-economy unit labour costs (ULCs) are calculated as the ratio of total labour costs (that is, the product of labour input and costs per unit of labour) to GVA. Further detail on the methodology can be found in Revised methodology for unit wage costs and unit labour costs: explanation and impact.

The equation for growth of ULCs can be calculated as:

$$\Delta \text{ULC} = \Delta \left(\frac{\text{Labour Costs}}{\text{GVA}} \right)$$
$$\approx \Delta \text{Labour Costs per unit of Labour Input} - \Delta \text{Labour Productivity}$$

Manufacturing unit wage costs are calculated as the ratio of manufacturing average weekly earnings to manufacturing output per filled job. On 28 November 2012, we published Productivity measures: sectional unit labour costs, describing new measures of ULCs below the whole-economy level and proposing to replace the currently published series for manufacturing unit wage costs with a broader and more consistent measure of ULCs.

A research note, sources of revisions to labour productivity estimates, is available and further commentary on the nature and sources of the revisions introduced in this quarter is available in the UK productivity bulletin – introduction.

The Labour productivity Quality and Methodology Information report contains important information on:

- the strengths and limitations of the data and how it compares with related data

- uses and users of the data

- how the output was created

- the quality of the output including accuracy of the data

1 Labour productivity key measures
United Kingdom

	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
Section	A-U	A-U	A-U	B-E	B-E	C	C	G-U	G-U
Indices									
	A4YM	LNNN	LZVB	DJ4M	DJK3	DJ4P	DJK6	DJE3	DJP9
2015	99.6†	99.4†	99.5	98.8	98.3	99.4	98.8	99.4	99.6
2016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2017	101.1	101.1	101.0†	100.1†	100.6†	100.8	101.7	101.5	101.4†
2018	101.3	101.4	101.5	99.0	100.3	100.1	102.0	102.1	102.2
2015 Q1	99.2†	98.9†	99.1	98.1†	97.9	99.3	99.1	99.0†	99.2†
Q2	100.0	99.8	99.9	99.2	98.7	99.6†	99.4	99.5	99.8
Q3	99.6	99.5	100.2†	98.9	99.4†	99.3	99.5†	99.5	100.2
Q4	99.5	99.4	98.7	99.1	97.0	99.4	97.2	99.7	99.0
2016 Q1	99.7	99.7	99.5	99.1	98.4	99.5	98.6	99.9	99.7
Q2	99.6	99.6	99.7	100.1	100.4	99.6	99.9	99.4	99.7
Q3	100.0	99.9	100.1	100.1	100.6	99.7	100.0	99.9	100.0
Q4	100.8	100.8	100.6	100.7	100.7	101.2	101.4	100.8	100.6
2017 Q1	100.9	100.9	100.4	100.9	100.9	101.5	101.8	101.2	100.6
Q2	100.7	100.8	100.1	100.0	99.8	100.4	100.7	101.2	100.6
Q3	101.3	101.3	101.6	99.8	100.5	100.1	101.3	101.8	102.2
Q4	101.4	101.4	101.8	99.8	101.1	101.3	103.2	101.8	102.0
2018 Q1	100.8	100.9	101.4	99.4	100.4	100.5	101.9	101.5	101.8
Q2	101.1	101.2	101.6	98.7	99.8	100.0	101.9	102.0	102.5
Q3	101.7	101.8	101.4	99.1	100.3	100.0	102.1	102.5	102.0
Q4	101.4	101.5	101.7	98.8	100.7	100.1	102.1	102.4	102.5
Per cent change on quarter a year ago									
	A4YN	LNNP	LZVD	DJ4O	DJK5	DJ4R	DJK8	DJE5	DJQ3
2015 Q1	1.2	1.1	1.1	−1.0	0.2	−1.2	−0.3	1.1	0.7
Q2	1.6†	1.7†	1.8	–	0.7†	−1.1	−0.4	1.4	1.3
Q3	0.6	0.8	1.5†	0.4	1.0	−0.9	−0.9	0.8	1.3
Q4	−0.1	0.1	−0.3	0.6	−0.8	−0.8†	−2.7†	0.2†	−0.5†
2016 Q1	0.4	0.8	0.4	1.0†	0.5	0.2	−0.5	0.9	0.5
Q2	−0.5	−0.2	−0.2	0.9	1.7	–	0.5	−0.1	−0.1
Q3	0.4	0.4	−0.1	1.2	1.1	0.4	0.6	0.4	−0.2
Q4	1.3	1.4	1.9	1.6	3.8	1.8	4.4	1.1	1.6
2017 Q1	1.2	1.3	0.9	1.8	2.5	2.0	3.2	1.3	0.9
Q2	1.2	1.3	0.4	−0.2	−0.6	0.8	0.8	1.8	0.9
Q3	1.3	1.4	1.5	−0.4	–	0.5	1.2	1.9	2.3
Q4	0.6	0.6	1.2	−0.8	0.4	0.1	1.7	1.0	1.4
2018 Q1	–	–	1.0	−1.5	−0.5	−1.0	0.1	0.3	1.2
Q2	0.4	0.4	1.5	−1.3	–	−0.4	1.2	0.8	1.9
Q3	0.4	0.4	−0.2	−0.7	−0.3	−0.1	0.8	0.7	−0.2
Q4	–	0.1	−0.1	−1.0	−0.3	−1.2	−1.1	0.6	0.4
Per cent change on previous quarter									
	A4YO	DMWR	TXBB	DJ4N	DJK4	DJ4Q	DJK7	DJE4	DJQ2
2015 Q1	−0.4	−0.4	0.1†	−0.5	0.1†	−0.9†	−0.8	−0.4†	−0.3
Q2	0.8	0.9	0.8	1.2	0.8	0.3	0.3	0.5	0.5
Q3	−0.4	−0.3†	0.3	−0.3†	0.7	−0.3	0.1†	–	0.4†
Q4	−0.2	−0.1	−1.5	0.2†	−2.4	0.1	−2.3	0.2	−1.2
2016 Q1	0.2	0.3	0.8	−0.1	1.4	0.1	1.5	0.3	0.7
Q2	−0.1	−0.1	0.2	1.0	2.0	0.1	1.3	−0.5	–
Q3	0.4†	0.4	0.4	–	0.2	–	0.2	0.5	0.3
Q4	0.8	0.9	0.5	0.6	0.1	1.5	1.4	0.9	0.7
2017 Q1	0.1	0.1	−0.2	0.2	0.2	0.3	0.4	0.4	–
Q2	−0.1	−0.1	−0.3	−0.9	−1.1	−1.0	−1.1	–	–
Q3	0.5	0.5	1.5	−0.2	0.8	−0.3	0.6	0.6	1.6
Q4	0.1	0.1	0.2	0.1	0.5	1.1	1.9	–	−0.2
2018 Q1	−0.5	−0.5	−0.4	−0.5	−0.7	−0.8	−1.2	−0.3	−0.2
Q2	0.3	0.3	0.2	−0.7	−0.5	−0.4	–	0.5	0.6
Q3	0.6	0.5	−0.2	0.4	0.5	–	0.2	0.5	−0.5
Q4	−0.3	−0.2	0.3	−0.3	0.5	–	–	−0.1	0.5

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

2 Unit labour costs and unit wage costs
United Kingdom

Seasonally adjusted (2016=100)

	Whole economy		Manufacturing
	Unit labour costs	Unit wage costs	Unit wage costs
Section	A-U	A-U	C
Indices			
	LNNL	LNNK	DIX4
2015	98.3	98.6	98.3
2016	100.0	100.0	100.0
2017	101.7	101.5	101.1†
2018	104.4	104.6	104.1
2015 Q1	97.2	97.4	97.5
Q2	97.7	97.8	97.8†
Q3	99.1	99.8	98.8
Q4	99.1	99.5	99.2
2016 Q1	97.9	98.4	99.6
Q2	100.4	100.5	100.5
Q3	101.5	101.4	100.7
Q4	100.1	99.8	99.2
2017 Q1	100.6	100.1	99.4
Q2	101.8	101.5	100.9
Q3	101.9	101.7	102.1
Q4	102.4	102.7	102.0
2018 Q1	103.3†	103.7	103.0
Q2	103.9	104.0†	104.0
Q3	104.8	104.8	104.5
Q4	105.6	105.9	105.1
Per cent change on quarter a year ago			
	DMWN	LOJE	DJ4J
2015 Q1	−1.1	−0.3	1.9
Q2	0.5	0.4	2.6
Q3	1.8	2.8	3.1†
Q4	2.0	2.2	2.8
2016 Q1	0.7	1.0	2.1
Q2	2.9	2.7	2.8
Q3	2.4	1.6	1.9
Q4	1.0	0.3	−
2017 Q1	2.8	1.8	−0.2
Q2	1.3	1.0	0.4
Q3	0.4	0.3	1.4
Q4	2.3	2.9	2.8
2018 Q1	2.7	3.6	3.6
Q2	2.1	2.4†	3.0
Q3	2.9†	3.1	2.3
Q4	3.1	3.2	3.1
Per cent change on previous quarter			
	DMWO	DMWL	DJ4I
2015 Q1	−	−	1.0
Q2	0.5	0.4	0.2†
Q3	1.5	2.1	1.1
Q4	−0.1	−0.3	0.4
2016 Q1	−1.2	−1.1	0.4
Q2	2.6	2.1	0.9
Q3	1.1	0.9	0.2
Q4	−1.4	−1.6	−1.5
2017 Q1	0.5	0.3	0.2
Q2	1.1	1.4	1.5
Q3	0.1	0.2	1.2
Q4	0.5	1.0	−0.1
2018 Q1	0.9	1.0	1.0
Q2	0.5	0.2†	1.0
Q3	0.9†	0.8	0.5
Q4	0.7	1.0	0.6

† 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 job: Manufacturing subsections
United Kingdom

<div align="right">Seasonally adjusted (2016=100)</div>

	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
Level (£k)										
2013	63.0	50.0	47.4	146.2	51.7	51.2	60.8	56.6	76.1	54.7
Indices										
	DJ54	DJ57	DJ5F	DJ5I	DJ5L	DJB2	DJB7	DJC2	DJC5	DJD3
2015	101.5†	104.7	100.2†	98.0†	95.8	99.1†	96.8†	98.1	101.9	98.4
2016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2017	98.7	105.2†	104.5	90.4	94.3†	99.0	99.6	105.0	109.3	105.7†
2018	98.5	106.1	108.3	90.0	91.0	96.6	97.9	101.3	108.6	106.1
2015 Q1	101.9	100.9†	100.3	97.8	95.3	100.8†	93.6	101.3†	102.1†	98.1
Q2	100.8†	105.8	99.3†	97.6	93.8	101.1	98.3	98.1	103.9	98.8
Q3	101.7	108.2	100.3	97.9	96.7†	96.5	98.0	96.9	101.3	98.0†
Q4	101.4	104.0	100.9	98.5	97.4	97.9	97.2†	96.2	100.5	98.8
2016 Q1	100.3	108.6	98.5	98.1	100.1	101.4	97.5	96.0	99.2	98.4
Q2	100.4	97.8	100.2	102.3	101.1	98.8	100.1	97.0	101.1	96.4
Q3	100.2	97.0	99.9	98.2†	98.4	99.9	99.1	102.5	98.3	102.2
Q4	99.0	96.6	101.4	101.3	100.3	99.9	103.4	104.5	101.4	103.0
2017 Q1	99.2	102.6	105.5	90.4	97.6	98.1	101.9	108.1	106.1	108.3
Q2	98.0	103.5	103.1	92.1	95.1	98.2	99.8	103.8	107.1	105.9
Q3	99.0	105.7	104.4	89.0	92.2	97.8	98.3	103.5	111.5	102.9
Q4	98.7	109.0	105.0	90.0	92.2	101.8	98.1	104.7	112.5	105.5
2018 Q1	98.0	98.6	106.0	89.9	89.8	100.4	99.7	104.7	111.2	104.9
Q2	98.7	105.8	108.9	90.0	90.7	95.7	97.8	100.9	108.6	105.2
Q3	98.6	105.9	107.2	87.2	91.5	97.3	96.7	99.8	109.3	108.0
Q4	98.6	113.9	111.3	92.9	92.1	93.1	97.3	100.0	105.5	106.5
Per cent change on quarter a year ago										
	DJ56	DJ5E	DJ5H	DJ5K	DJ5N	DJB6	DJB9	DJC4	DJD2	DJD7
2015 Q1	–3.4	2.4	–0.2	6.2	–4.5	–1.4	1.4	–8.2	1.1	–3.4
Q2	–4.2†	4.3	–0.3	7.3	–6.1	0.3	4.0	–15.4	1.6	–0.9
Q3	–1.8	16.9	0.6	4.2†	–1.2	–5.3	3.2	–16.2	1.1	–3.1
Q4	–1.7	9.4	0.9	2.5	2.2	–2.7	2.6†	–14.7	–1.6†	–3.4
2016 Q1	–1.6	7.6†	–1.8†	0.3	5.1	0.6†	4.2	–5.2†	–2.8	0.3†
Q2	–0.3	–7.6	0.8	4.8	7.7†	–2.3	1.8	–1.1	–2.7	–2.5
Q3	–1.4	–10.3	–0.3	0.4	1.9	3.5	1.0	5.7	–2.9	4.3
Q4	–2.4	–7.1	0.5	2.8	3.0	2.0	6.4	8.6	0.8	4.2
2017 Q1	–1.1	–5.5	7.1	–7.8	–2.5	–3.3	4.5	12.5	6.9	10.1
Q2	–2.4	5.8	2.9	–10.0	–5.9	–0.6	–0.2	7.0	6.0	9.9
Q3	–1.2	9.0	4.5	–9.4	–6.3	–2.1	–0.7	1.0	13.5	0.7
Q4	–0.3	12.8	3.5	–11.1	–8.1	1.9	–5.1	0.2	11.0	2.5
2018 Q1	–1.2	–3.9	0.5	–0.6	–8.0	2.4	–2.2	–3.1	4.8	–3.2
Q2	0.7	2.2	5.6	–2.3	–4.6	–2.6	–2.0	–2.8	1.4	–0.7
Q3	–0.5	0.2	2.7	–2.0	–0.8	–0.5	–1.7	–3.6	–2.0	4.9
Q4	–0.2	4.5	6.0	3.2	–0.2	–8.6	–0.9	–4.5	–6.3	0.9
Per cent change on previous quarter										
	DJ55	DJ58	DJ5G	DJ5J	DJ5M	DJB3	DJB8	DJC3	DJC6	DJD4
2015 Q1	–1.2	6.1	0.2†	1.8	–	0.1	–1.1	–10.2	–†	–4.1
Q2	–1.1	4.9	–0.9	–0.2	–1.6	0.3	5.0	–3.1†	1.8	0.7†
Q3	0.9	2.2	0.9	0.3	3.0	–4.6	–0.3	–1.2	–2.5	–0.9
Q4	–0.3†	–3.8	0.6	0.6	0.8	1.4†	–0.9†	–0.8	–0.7	0.9
2016 Q1	–1.1	4.4	–2.4	–0.4	2.8	3.6	0.4	–0.1	–1.3	–0.4
Q2	0.1	–9.9	1.7	4.3	0.9	–2.6	2.6	1.0	1.9	–2.1
Q3	–0.2	–0.8	–0.2	–4.0	–2.6	1.1	–1.0	5.6	–2.7	6.0
Q4	–1.2	–0.4	1.5	3.1	1.9	–	4.3	2.0	3.1	0.8
2017 Q1	0.1	6.2†	4.0	–10.7	–2.7†	–1.8	–1.4	3.4	4.7	5.2
Q2	–1.2	0.9	–2.3	1.8	–2.6	0.2	–2.1	–3.9	1.0	–2.2
Q3	1.1	2.2	1.3	–3.3	–3.0	–0.5	–1.5	–0.3	4.1	–2.8
Q4	–0.3	3.1	0.5	1.1	–	4.1	–0.2	1.1	0.9	2.6
2018 Q1	–0.7	–9.5	1.0	–0.2†	–2.7	–1.4	1.6	–	–1.2	–0.6
Q2	0.7	7.3	2.7	0.1	1.0	–4.7	–1.9	–3.6	–2.3	0.3
Q3	–0.1	0.1	–1.5	–3.1	0.9	1.7	–1.2	–1.1	0.6	2.7
Q4	–	7.5	3.8	6.5	0.7	–4.3	0.7	0.2	–3.5	–1.4

† 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 hour worked: Manufacturing subsections
United Kingdom

Seasonally adjusted (2016=100)

	Food, beverages & tobacco	Textiles, wearing apparel & leather	Wood & paper products, & printing	Chemicals, Pharmaceuticals	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
Level (£)										
2013	34.2	30.1	25.4	80.0	26.9	26.3	32.6	29.9	40.7	29.0
Indices										
	DJK9	DJL4	DJL7	DJM4	DJM7	DJN4	DJN7	DJO5	DJO8	DJP3
2015	100.5	105.2†	98.0	98.9	90.8	97.2	98.9	97.9	99.8	103.4
2016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2017	101.1†	103.1	103.8†	91.2†	91.0†	101.6†	103.3†	106.9†	108.4†	107.9†
2018	99.4	106.0	109.4	94.2	90.8	96.1	101.7	103.8	111.7	111.7
2015 Q1	102.4	98.6†	101.6†	98.9	88.6	98.3†	96.9†	101.1	99.7	104.0†
Q2	101.9†	103.0	98.6	99.6†	88.4†	100.5	98.3	98.6†	100.2†	104.9
Q3	99.3	110.9	97.5	99.4	92.6	97.3	101.5	98.7	100.7	103.6
Q4	98.4	108.5	94.5	97.5	93.6	92.7	99.0	93.2	98.7	101.0
2016 Q1	98.9	105.1	95.1	100.1	98.1	99.8	98.1	97.4	98.6	98.9
Q2	97.9	99.8	99.4	102.2	100.7	100.8	100.5	96.0	103.3	98.0
Q3	102.5	98.1	103.6	97.4	98.6	100.5	99.3	100.6	97.6	100.5
Q4	100.7	97.0	101.9	100.4	102.6	99.0	102.1	106.1	100.5	102.6
2017 Q1	100.2	100.8	103.0	89.4	96.9	102.4	101.6	108.2	104.2	109.5
Q2	101.8	103.1	101.8	89.1	91.3	98.3	103.7	105.6	105.0	106.8
Q3	102.3	102.7	102.8	93.9	87.9	100.3	102.3	106.3	109.9	105.5
Q4	100.1	105.9	107.4	92.2	87.8	105.2	105.7	107.4	114.4	109.7
2018 Q1	100.2	99.8	105.3	94.7	87.5	98.4	104.8	108.0	112.5	109.7
Q2	97.9	104.2	112.2	98.0	93.7	95.0	99.1	101.6	110.3	112.2
Q3	99.6	109.5	108.5	91.5	90.9	96.4	100.4	100.7	114.6	113.8
Q4	99.9	110.6	111.7	92.5	91.3	94.6	102.5	104.8	109.2	111.2
Per cent change on quarter a year ago										
	DJL3	DJL6	DJM3	DJM6	DJM9	DJN6	DJN9	DJO7	DJP2	DJP5
2015 Q1	–0.5	–6.7†	4.5†	6.0	–5.7	–1.1	4.1	–7.1	–1.1	–†
Q2	–2.2	–3.7	0.1	8.3†	–8.8	4.1	1.3†	–13.0	1.6	3.4
Q3	–5.7	16.2	–1.6	7.3	–7.0	–1.6	2.7	–11.1	1.4	0.1
Q4	–6.7†	18.2	–4.3	2.0	3.6	–6.7†	–0.7	–15.6†	–1.4†	–4.0
2016 Q1	–3.4	6.7	–6.3	1.2	10.6†	1.5	1.3	–3.6	–1.1	–4.9
Q2	–3.9	–3.1	0.8	2.5	13.9	0.3	2.2	–2.6	3.1	–6.6
Q3	3.2	–11.5	6.3	–2.1	6.6	3.3	–2.1	1.9	–3.0	–3.0
Q4	2.3	–10.6	7.7	3.0	9.6	6.8	3.2	13.8	1.9	1.6
2017 Q1	1.4	–4.1	8.3	–10.7	–1.2	2.7	3.6	11.1	5.7	10.7
Q2	3.9	3.3	2.4	–12.8	–9.3	–2.4	3.2	10.0	1.7	9.0
Q3	–0.2	4.7	–0.7	–3.6	–10.9	–0.1	3.0	5.7	12.6	5.0
Q4	–0.6	9.2	5.4	–8.1	–14.4	6.3	3.5	1.3	13.9	6.9
2018 Q1	–0.1	–1.0	2.2	5.9	–9.7	–4.0	3.1	–0.2	8.0	0.2
Q2	–3.8	1.0	10.2	9.9	2.6	–3.4	–4.4	–3.8	5.1	5.0
Q3	–2.6	6.6	5.5	–2.5	3.3	–3.9	–1.8	–5.2	4.2	7.8
Q4	–0.1	4.4	4.0	0.3	4.1	–10.1	–3.0	–2.4	–4.6	1.4
Per cent change on previous quarter										
	DJL2	DJL5	DJM2	DJM5	DJM8	DJN5	DJN8	DJO6	DJO9	DJP4
2015 Q1	–3.0	7.4†	2.8†	3.5	–1.9†	–1.1†	–2.8†	–8.5†	–0.3†	–1.1
Q2	–0.5†	4.5	–2.9	0.7†	–0.3	2.2	1.5	–2.5	0.4	0.8†
Q3	–2.5	7.7	–1.2	–0.2	4.8	–3.2	3.2	0.1	0.5	–1.2
Q4	–0.9	–2.2	–3.0	–2.0	1.1	–4.7	–2.4	–5.5	–2.0	–2.5
2016 Q1	0.4	–3.1	0.6	2.7	4.8	7.6	–0.9	4.5	–0.1	–2.1
Q2	–0.9	–5.0	4.5	2.1	2.7	1.0	2.5	–1.5	4.7	–1.0
Q3	4.6	–1.7	4.2	–4.7	–2.0	–0.3	–1.2	4.8	–5.5	2.5
Q4	–1.7	–1.1	–1.7	3.0	4.0	–1.4	2.8	5.5	2.9	2.1
2017 Q1	–0.5	4.0	1.2	–10.9	–5.6	3.5	–0.5	2.0	3.7	6.7
Q2	1.5	2.3	–1.2	–0.3	–5.7	–4.0	2.0	–2.4	0.7	–2.4
Q3	0.5	–0.4	1.0	5.4	–3.7	2.1	–1.4	0.7	4.7	–1.2
Q4	–2.1	3.1	4.4	–1.8	–0.2	4.9	3.4	1.0	4.1	3.9
2018 Q1	0.1	–5.8	–1.9	2.6	–0.4	–6.5	–0.9	0.6	–1.7	–
Q2	–2.3	4.4	6.6	3.5	7.1	–3.4	–5.4	–6.0	–2.0	2.3
Q3	1.8	5.0	–3.4	–6.6	–3.0	1.5	1.3	–0.8	3.9	1.4
Q4	0.3	1.0	3.0	1.1	0.5	–1.8	2.1	4.1	–4.7	–2.3

† 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 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
Level (£k)											
2013	34.5	48.7	22.2	77.1	107.8	375.2	48.2	28.5	35.3	26.4	44.9
Indices											
	DJE6	DJE9	DJF4	DJF7	DJG5	DJH4	DJH7	DJI2	DJI5	DJJ3	DJJ6
2015	95.6†	106.5†	101.9†	95.2	97.0†	99.0†	101.4†	99.3	100.2†	100.8†	101.5†
2016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2017	102.0	102.9	101.0	102.1†	100.7	98.9	105.9	102.7†	99.9	99.6	103.0
2018	104.8	104.4	102.6	102.0	97.5	96.2	111.8	104.4	98.7	98.3	102.7
2015 Q1	94.4	110.0†	101.6†	93.7†	98.4†	97.6	100.9†	98.6†	99.6†	99.8†	100.4
Q2	95.8†	107.5	102.0	95.0	96.3	97.6†	102.2	99.3	100.3	100.3	100.7†
Q3	95.7	105.2	101.6	95.7	95.8	99.9	101.1	100.3	100.5	100.7	101.5
Q4	96.3	103.2	102.2	96.5	97.3	100.9	101.2	99.1	100.4	102.3	103.2
2016 Q1	98.7	101.6	100.7	98.5	98.7	99.3	100.0	99.4	100.3	103.1	100.4
Q2	99.1	99.9	99.9	97.2	100.2	98.9	99.3	98.5	99.7	99.5	100.9
Q3	99.9	98.6	99.3	101.2	100.2	100.3	99.8	100.6	99.9	99.4	96.5
Q4	102.2	99.9	100.1	103.2	100.9	101.5	100.8	101.5	100.1	97.9	102.2
2017 Q1	101.6	102.9	100.4	101.3	102.4	97.5	103.4	102.4	100.5	98.8	102.8
Q2	101.4	101.6	100.1	101.8	100.9	100.7	104.7	102.0	99.7	101.6	104.0
Q3	102.6	102.7	101.4	102.3	100.4	99.6	106.7	103.0	100.0	98.5	103.6
Q4	102.4	104.3	102.0	103.0	99.1	97.8	108.9	103.4	99.5	99.3	101.6
2018 Q1	102.1	104.6	101.6	101.9	98.0	94.3	110.6	104.3	98.5	98.9	101.7
Q2	104.3	104.6	101.9	102.5	98.3	97.5	112.0	105.3	98.6	96.7	101.3
Q3	106.0	104.6	103.7	102.5	97.6	97.4	112.5	104.1	98.7	98.9	103.9
Q4	106.8	103.7	103.4	101.2	96.1	95.5	112.0	104.0	99.0	98.6	103.8
Per cent change on quarter a year ago											
	DJE8	DJF3	DJF6	DJF9	DJG8	DJH6	DJH9	DJI4	DJI7	DJJ5	DJJ8
2015 Q1	2.7	2.6	2.7	1.7†	−1.0	0.1	2.7	1.5	0.1	−3.7†	3.6
Q2	3.3	−0.2	2.0	3.2	−2.7	−1.8	3.5	2.6	0.8	−4.0	5.8
Q3	2.9	−5.1†	1.2	4.6	−1.7†	−0.1	0.5	3.5	0.3	−2.2	2.4
Q4	2.2†	−7.2	1.6	3.8	−1.9	2.1	−1.6	1.7†	−0.4	0.7	2.8
2016 Q1	4.6	−7.6	−0.9	5.1	0.3	1.7†	−0.9	0.9	0.7	3.3	−
Q2	3.5	−7.1	−2.1†	2.3	4.1	1.3	−2.8†	−0.8	−0.6†	−0.8	0.2†
Q3	4.4	−6.3	−2.2	5.7	4.6	0.4	−1.2	0.3	−0.6	−1.3	−5.0
Q4	6.2	−3.2	−2.1	6.9	3.7	0.7	−0.3	2.4	−0.3	−4.3	−1.0
2017 Q1	2.9	1.3	−0.2	2.9	3.7	−1.8	3.4	2.9	0.2	−4.2	2.4
Q2	2.3	1.7	0.2	4.7	0.7	1.8	5.4	3.5	−	2.1	3.1
Q3	2.7	4.2	2.1	1.2	0.2	−0.7	6.9	2.4	0.2	−1.0	7.4
Q4	0.2	4.4	1.9	−0.2	−1.8	−3.7	8.0	1.9	−0.6	1.4	−0.6
2018 Q1	0.5	1.6	1.2	0.6	−4.3	−3.3	7.0	1.9	−1.9	0.1	−1.0
Q2	2.9	3.0	1.7	0.7	−2.6	−3.1	6.9	3.3	−1.2	−4.8	−2.6
Q3	3.3	1.9	2.2	0.2	−2.8	−2.3	5.4	1.1	−1.4	0.5	0.2
Q4	4.3	−0.6	1.4	−1.7	−3.1	−2.3	2.8	0.6	−0.5	−0.7	2.2
Per cent change on previous quarter											
	DJE7	DJF2	DJF5	DJF8	DJG6	DJH5	DJH8	DJI3	DJI6	DJJ4	DJJ7
2015 Q1	0.2	−1.1	0.9	0.8	−0.8	−1.2	−1.8	1.2	−1.3	−1.7†	−
Q2	1.5	−2.2	0.4	1.4	−2.1	−	1.3†	0.8	0.7	0.5	0.3†
Q3	−†	−2.1	−0.4	0.7	−0.5	2.4	−1.1	1.0	0.2	0.4	0.8
Q4	0.6	−2.0†	0.6†	0.9	1.6	0.9†	0.1	−1.2†	−	1.6	1.7
2016 Q1	2.5	−1.5	−1.5	2.0	1.4	−1.6	−1.2	0.4	−0.2†	0.8	−2.7
Q2	0.4	−1.7	−0.7	−1.3†	1.6	−0.4	−0.6	−1.0	−0.6	−3.5	0.5
Q3	0.8	−1.3	−0.6	4.1	−0.1†	1.5	0.5	2.2	0.2	−0.1	−4.4
Q4	2.3	1.3	0.8	2.0	0.8	1.2	1.0	0.9	0.2	−1.5	5.9
2017 Q1	−0.6	3.0	0.3	−1.8	1.4	−4.0	2.5	0.9	0.3	0.9	0.6
Q2	−0.2	−1.3	−0.3	0.4	−1.4	3.3	1.3	−0.4	−0.7	2.8	1.2
Q3	1.2	1.2	1.3	0.6	−0.5	−1.0	1.9	1.0	0.3	−3.1	−0.4
Q4	−0.2	1.5	0.6	0.6	−1.3	−1.8	2.0	0.4	−0.5	0.9	−1.9
2018 Q1	−0.3	0.3	−0.4	−1.0	−1.2	−3.6	1.6	0.9	−1.0	−0.5	0.1
Q2	2.2	−	0.3	0.6	0.3	3.5	1.2	0.9	−	−2.2	−0.5
Q3	1.6	0.1	1.8	−	−0.7	−0.2	0.5	−1.1	0.1	2.3	2.5
Q4	0.7	−0.9	−0.2	−1.3	−1.5	−1.9	−0.4	−0.1	0.3	−0.3	−0.1

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

6 Output per hour worked: Services sections
United Kingdom

	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

Level (£)

2013	22.8	26.6	16.3	42.0	60.3	244.6	27.4	18.3	24.5	20.5	30.0

Indices

	DJQ4	DJQ7	DJR2	DJR5	DJS3	DJS6	DJS9	DJT7	DJU2	DJV6	DJV9
2015	95.7	105.5	101.7	97.4	99.0†	100.5†	100.2	100.7	99.7	98.9†	102.4†
2016	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2017	101.2†	103.5†	101.0†	102.0†	102.7	100.5	107.5†	103.0†	99.5†	95.1	100.8
2018	104.9	104.1	104.9	102.7	98.3	99.5	112.1	104.0	98.6	95.1	99.8
2015 Q1	94.2	109.3	101.3†	95.5	100.8†	98.7†	99.5	101.3	99.4	96.1†	100.1†
Q2	95.7	106.7†	101.3	96.7	98.6	97.9	101.4	101.3	100.0	99.0	103.1
Q3	97.0†	104.8	101.4	99.0†	98.7	100.6	100.7†	101.9†	100.2†	101.0	103.0
Q4	95.9	101.1	102.7	98.4	98.0	104.9	99.2	98.2	99.0	99.6	103.2
2016 Q1	97.9	101.5	101.1	99.4	98.6	103.0	99.0	100.7	99.6	101.3	100.3
Q2	99.5	99.6	99.4	98.5	100.4	96.6	101.2	96.7	100.6	100.8	98.9
Q3	100.0	98.7	99.5	100.2	99.7	103.0	99.8	100.6	100.0	99.5	98.8
Q4	102.5	100.2	100.0	101.8	101.4	97.4	100.0	102.1	99.9	98.4	102.0
2017 Q1	101.1	102.4	100.1	99.2	104.3	98.2	103.6	101.7	99.5	96.1	101.8
Q2	100.7	102.0	99.3	99.8	102.5	100.7	105.1	102.2	98.7	98.0	102.0
Q3	102.2	104.2	101.8	103.6	102.4	102.6	110.2	103.5	100.2	91.3	101.5
Q4	100.7	105.4	102.9	105.3	101.5	100.6	111.2	104.6	99.5	94.9	97.9
2018 Q1	102.3	102.9	104.8	103.0	99.9	100.5	110.6	104.3	98.8	95.9	98.0
Q2	104.4	104.8	107.0	103.2	99.2	101.7	113.2	104.6	98.5	92.7	99.5
Q3	105.9	104.5	103.9	102.8	98.1	95.9	111.9	104.0	97.9	95.2	100.6
Q4	107.1	104.0	104.1	101.7	95.9	100.0	112.8	103.2	99.1	96.8	100.8

Per cent change on quarter a year ago

	DJQ6	DJQ9	DJR4	DJR7	DJS5	DJS8	DJT6	DJT9	DJU7	DJV8	DJW3
2015 Q1	3.2	3.8	–	2.8	1.3	−1.3	0.4	−0.5	0.3	−7.5	4.7
Q2	4.5	0.4†	−0.6	4.1	−0.8†	−3.9†	3.7	−1.0	0.9	−1.9	6.1
Q3	6.0†	−4.8	−0.8	6.7	−0.1	−4.6	1.4†	0.1	0.8	−1.6†	4.5
Q4	2.5	−9.6	0.9†	5.9	−2.2	5.1	−2.1	−2.1†	−0.7	0.6	−†
2016 Q1	4.0	−7.2	−0.3	4.1	−2.2	4.3	−0.5	−0.6	0.2	5.4	0.2
Q2	4.0	−6.7	−1.8	1.9	1.7	−1.4	−0.2	−4.6	0.6	1.8	−4.0
Q3	3.2	−5.8	−1.9	1.2	1.0	2.4	−0.9	−1.3	−0.3	−1.5	−4.1
Q4	6.9	−1.0	−2.6	3.5†	3.4	−7.1	0.8	3.9	0.9†	−1.2	−1.2
2017 Q1	3.2	0.9	−1.0	−0.2	5.8	−4.6	4.6	1.0	–	−5.2	1.5
Q2	1.2	2.4	−0.1	1.2	2.2	4.2	3.8	5.7	−1.9	−2.8	3.1
Q3	2.1	5.5	2.3	3.4	2.7	−0.4	10.5	2.9	0.2	−8.2	2.7
Q4	−1.8	5.2	2.9	3.5	0.1	3.2	11.1	2.5	−0.3	−3.6	−4.0
2018 Q1	1.2	0.5	4.7	3.8	−4.2	2.3	6.8	2.5	−0.7	−0.2	−3.7
Q2	3.7	2.7	7.8	3.5	−3.2	1.0	7.8	2.3	−0.1	−5.4	−2.4
Q3	3.6	0.4	2.0	−0.8	−4.2	−6.5	1.5	0.6	−2.3	4.2	−0.9
Q4	6.4	−1.3	1.2	−3.5	−5.4	−0.6	1.5	−1.3	−0.4	2.0	3.0

Per cent change on previous quarter

	DJQ5	DJQ8	DJR3	DJR6	DJS4	DJS7	DJT2	DJT8	DJU6	DJV7	DJW2
2015 Q1	0.6	−2.3†	−0.4	2.7	0.6	−1.1	−1.8	1.0†	−0.4	−2.9	−3.1
Q2	1.6	−2.4	−0.1	1.2†	−2.2	−0.8†	1.9	–	0.6	3.1†	3.0
Q3	1.4†	−1.8	0.2†	2.4	0.1†	2.7	−0.7†	0.6	0.3†	2.0	−0.1
Q4	−1.1	−3.5	1.3	−0.6	−0.7	4.3	−1.5	−3.6	−1.2	−1.4	0.2†
2016 Q1	2.0	0.3	−1.6	1.0	0.5	−1.8	−0.2	2.5	0.5	1.7	−2.9
Q2	1.7	−1.8	−1.6	−0.9	1.8	−6.2	2.2	−4.0	1.0	−0.5	−1.4
Q3	0.5	−0.9	0.1	1.7	−0.7	6.7	−1.4	4.0	−0.6	−1.4	−0.1
Q4	2.5	1.5	0.5	1.6	1.7	−5.4	0.2	1.5	−0.1	−1.0	3.2
2017 Q1	−1.5	2.2	0.1	−2.6	2.9	0.8	3.6	−0.3	−0.4	−2.4	−0.1
Q2	−0.3	−0.4	−0.8	0.6	−1.7	2.5	1.4	0.5	−0.9	2.1	0.2
Q3	1.4	2.1	2.6	3.8	−0.1	2.0	4.9	1.2	1.6	−6.8	−0.4
Q4	−1.5	1.1	1.0	1.7	−0.9	−2.0	0.8	1.1	−0.7	3.9	−3.6
2018 Q1	1.6	−2.3	1.9	−2.2	−1.6	−0.1	−0.5	−0.4	−0.7	1.0	0.2
Q2	2.1	1.9	2.2	0.2	−0.6	1.1	2.4	0.3	−0.3	−3.3	1.5
Q3	1.4	−0.3	−3.0	−0.5	−1.2	−5.6	−1.2	−0.5	−0.6	2.6	1.1
Q4	1.2	−0.5	0.2	−1.1	−2.2	4.2	0.8	−0.8	1.2	1.7	0.2

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

7 Market sector productivity
United Kingdom

	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
	GYY4	GYY5	GYY6	GYY7	GYY8	GYY9
2015	99.4	..	..	99.2	..	..
2016	100.0	..	..	100.0	..	..
2017	102.2†	..	..	102.3†	..	..
2018	102.6	..	..	103.1	..	..
2015 Q1	99.2†	1.0†	−0.4	99.1	0.9	0.2
Q2	100.0	1.3	0.9	99.6	1.3	0.6
Q3	99.3	0.3	−0.7	99.8†	1.0†	0.2†
Q4	99.1	−0.5	−0.3	98.4	−0.5	−1.4
2016 Q1	99.4	0.2	0.3†	99.3	0.2	0.9
Q2	99.5	−0.5	0.1	99.6	−	0.4
Q3	100.0	0.7	0.5	100.2	0.4	0.5
Q4	101.1	2.0	1.1	100.9	2.5	0.7
2017 Q1	101.9	2.5	0.8	101.4	2.1	0.5
Q2	101.9	2.3	−	101.3	1.7	−0.1
Q3	102.4	2.4	0.5	102.9	2.8	1.6
Q4	102.6	1.5	0.2	103.4	2.4	0.4
2018 Q1	102.0	0.1	−0.6	102.8	1.4	−0.5
Q2	102.4	0.6	0.4	103.1	1.8	0.3
Q3	103.1	0.7	0.6	103.2	0.2	−
Q4	102.7	0.1	−0.3	103.1	−0.3	−0.1

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

8 Output per job and hour worked: Other industries[1]
United Kingdom

(2016=100)

Section	Agriculture, forestry and fishing		Construction	
	Output per job	Output per hour worked	Output per job	Output per hour worked
	A	A	F	F

Level (£)

2013	31 200	14.2	46 300	24.0

Indices

	DJ4K	DJJ9	DJD8	DJP6
2002	114.4†	118.0†	95.1†	94.2
2003	109.9	110.7	97.3	97.6
2004	104.9	104.1	99.9	100.6
2005	106.2	111.1	94.6	95.9
2006	101.4	104.7	94.2	95.4
2007	98.6	103.9	93.2	94.7
2008	101.7	106.8	90.4	92.9†
2009	94.5	90.1	81.6	84.5
2010	88.3	83.7	93.4	95.6
2011	97.4	95.7	95.9	100.1
2012	90.6	93.1	90.0	93.4
2013	99.3	99.4	91.3	92.5
2014	96.6	96.7	96.5	95.4
2015	106.3	109.9	98.6	98.5
2016	100.0	100.0	100.0	100.0
2017	99.8	99.7	102.8	103.0
2018	106.0	105.9	101.4	101.5

Per cent change on previous year

	DJ4L	DJK2	DJE2	DJP8
2002	15.1	16.6	3.9	4.9
2003	−4.0	−6.2	2.3	3.6
2004	−4.5	−6.0	2.7	3.0
2005	1.3	6.8	−5.3	−4.6
2006	−4.6	−5.8	−0.5	−0.5
2007	−2.7	−0.8	−1.0	−0.7
2008	3.1	2.7	−3.1	−2.0
2009	−7.1	−15.6	−9.7	−9.0
2010	−6.6	−7.1	14.4	13.2
2011	10.3	14.3†	2.7	4.7†
2012	−7.0	−2.7	−6.1	−6.7
2013	9.7	6.8	1.4	−0.9
2014	−2.8	−2.7	5.7	3.1
2015	10.1	13.7	2.2	3.2
2016	−5.9	−9.0	1.4†	1.5
2017	−0.2	−0.3	2.8	3.0
2018	6.1	6.3	−1.4	−1.4

1 Productivity figures for industry F are experimental
†indicates that estimates are new or have been revised. The period marked
 is the earliest in the table to have been revised

9 Productivity measures by region

(UK=100)

		2011	2012	2013	2014	2015	2016	2017
United Kingdom		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Nominal GVA per filled job								
North East	DJDO	86.2	86.1	85.5	87.3	86.9	87.7	87.1
North West	DJDP	90.5	91.0	90.5	89.0	90.6	90.8	90.1
Yorkshire and The Humber	DMBC	86.7	86.3	86.2	84.7	85.2	84.5	84.3
East Midlands	DMBE	85.4	85.8	87.2	87.6	86.2	85.8	85.3
West Midlands	DMDN	87.8	87.5	87.5	88.5	88.9	89.2	89.0
East of England	DMDQ	96.7	95.5	95.8	95.6	95.7	95.1	94.8
London	DMGH	143.3	140.7	138.7	140.5	138.5	139.5	139.2
South East	DMGJ	105.7	106.1	106.8	105.4	106.6	103.9	105.1
South West	DMGK	87.2	88.3	88.0	87.9	87.5	88.4	88.2
England	DMGL	101.8	101.7	101.5	101.6	101.6	101.5	101.4
Wales	DMGM	81.6	81.6	82.3	79.9	80.8	81.0	82.0
Scotland	DMGX	95.5	95.4	96.9	97.5	97.1	98.1	98.1
Northern Ireland	DMOA	86.9	90.4	88.3	87.1	88.6	88.4	88.0
Nominal GVA per hour worked								
North East	DMOB	88.8	88.8	88.2	89.1	89.3	90.1	89.5
North West	DMOH	92.1	92.1	92.1	89.1	90.4	91.7	91.2
Yorkshire and The Humber	DMOK	87.5	87.3	87.4	85.7	87.1	87.0	86.9
East Midlands	DMOL	86.2	86.7	88.2	89.1	85.4	86.1†	85.7
West Midlands	DMON	88.2	87.3	87.3	88.0	86.9	88.5	88.9
East of England	DMOO	98.1	96.9	96.6	97.6	97.3	95.9	95.5†
London	DMOR	133.5	131.7	130.3	132.3	131.0†	130.9	130.4
South East	DMOS	107.6	107.1	108.3	106.5	108.8	105.1	107.1
South West	DMOT	89.9	91.2	90.8	91.2	90.9	92.0	91.7
England	DMOV	101.7	101.4	101.5	101.5	101.4	101.3	101.4
Wales	DMOW	82.5†	84.2	84.2	82.6	82.3	83.0	83.7†
Scotland	DMOY	96.5†	97.3	97.9	99.1	99.2	99.5	98.7
Northern Ireland	DMWA	84.4	87.0	83.7	82.5	85.8	85.6	84.0†

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

10 Labour input indices: Workers, productivity jobs and productivity hours
United Kingdom

	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
Section	A-U	A-U	A-U	A-U	B-E	B-E	C	C	G-U	G-U
Indices										
	TXEL	LNNM	LZVA	TXET	DJW6	DK3S	DJW9	DK3V	DK2G	DK56
2015	98.6	98.8	98.7†	100.2	100.2†	100.8	100.2†	100.8	98.7	98.5
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	101.7	101.3	101.7	100.8	100.6	100.7†
2018	102.2	102.1	101.9	99.9	103.7	102.3	103.3	101.4	101.7	101.6
2015 Q1	98.1†	98.5†	98.3†	100.3	100.8	100.9	100.9	101.1	98.2†	98.0
Q2	98.0	98.3	98.1	100.3	100.3†	100.8	100.1†	100.4	98.3	98.1
Q3	98.7	98.8	98.2	100.1	100.3	99.8†	100.1	99.8†	98.9	98.1†
Q4	99.4	99.4	100.1	100.1	99.5	101.6	99.7	102.0	99.3	99.9
2016 Q1	99.5	99.4	99.6	100.0	99.6	100.3	99.5	100.4	99.4	99.6
Q2	100.0	100.0	99.9	100.0	100.4	100.2	100.6	100.4	100.0	99.8
Q3	100.2	100.3	100.1	100.1	100.0	99.5	100.0	99.7	100.4	100.3
Q4	100.3	100.3	100.5	100.0	100.0	100.0	99.8	99.6	100.2	100.4
2017 Q1	100.6	100.6	101.1	99.9	100.1	100.1	100.0	99.7	100.3	100.9
Q2	101.0	100.9	101.6	99.9	101.3	101.5	101.2	100.9	100.7	101.3
Q3	101.0	101.0	100.6	100.0†	102.5	101.7	102.6	101.4	100.5	100.1
Q4	101.3	101.3	100.9	100.0	103.1	101.8	102.9	101.0	100.8	100.6
2018 Q1	101.9	101.8	101.4	100.0	103.6	102.6	103.4	101.9	101.5	101.1
Q2	102.0	101.9	101.5	99.9	103.7	102.6	103.4	101.4	101.5	101.0
Q3	102.2	102.1	102.4	99.9	104.0	102.7	103.6	101.5	101.7	102.2
Q4	102.7	102.6	102.3	99.9	103.4	101.4	102.8	100.7	102.3	102.2
Per cent change on quarter a year ago										
	DIW9	LNNO	LZVC		DJW8	DK3U	DJX3	DK44	DK2I	DK58
2015 Q1	2.0†	2.1	2.2		2.5	1.3	2.7†	1.8	2.2	2.6
Q2	1.3	1.2	1.1		1.8	1.1	1.4	0.6	1.4	1.6
Q3	1.6	1.4	0.8		0.8	0.2	0.2	0.2	1.6	1.2
Q4	1.9	1.7†	2.2†		−0.2†	1.2†	−0.3	1.7†	1.8	2.5†
2016 Q1	1.3	1.0	1.4		−1.1	−0.5	−1.4	−0.7	1.2†	1.6
Q2	2.0	1.8	1.8		0.1	−0.7	0.5	–	1.7	1.7
Q3	1.5	1.4	2.0		−0.4	−0.3	–	−0.2	1.5	2.2
Q4	1.0	0.9	0.4		0.5	−1.6	0.1	−2.4	1.0	0.5
2017 Q1	1.2	1.1	1.5		0.5	−0.2	0.5	−0.7	0.9	1.3
Q2	1.0	0.9	1.8		0.9	1.3	0.6	0.6	0.6	1.5
Q3	0.8	0.7	0.6		2.5	2.2	2.5	1.8	0.2	−0.2
Q4	1.0	1.0	0.4		3.1	1.8	3.1	1.4	0.6	0.2
2018 Q1	1.2	1.3	0.3		3.5	2.5	3.3	2.2	1.1	0.2
Q2	1.0	1.0	−0.1		2.4	1.1	2.1	0.5	0.9	−0.2
Q3	1.1	1.1	1.8		1.4	1.0	1.0	–	1.2	2.1
Q4	1.4	1.3	1.5		0.3	−0.4	−0.1	−0.3	1.4	1.6
Per cent change on previous quarter										
	DIW8	TXAJ	TXBU		DJW7	DK3T	DJX2	DK3Y	DK2H	DK57
2015 Q1	0.7	0.7†	0.3		1.0	0.4†	0.8	0.8	0.7	0.5
Q2	−0.1	−0.2	−0.1		−0.4	−0.1	−0.7	−0.7	0.1	0.1
Q3	0.7	0.6	–†		–	−1.0	−0.1	−0.5†	0.5	–†
Q4	0.7	0.6	2.0		−0.8†	1.8	−0.3†	2.2	0.4	1.8
2016 Q1	0.1	–	−0.5		0.2	−1.3	−0.2	−1.6	0.1	−0.3
Q2	0.6†	0.6	0.3		0.8	−0.2	1.1	–	0.7†	0.2
Q3	0.2	0.3	0.2		−0.4	−0.6	−0.6	−0.7	0.3	0.5
Q4	0.1	–	0.4		–	0.5	−0.2	−0.1	−0.1	0.1
2017 Q1	0.3	0.3	0.6		0.1	0.1	0.2	0.1	0.1	0.5
Q2	0.4	0.4	0.5		1.2	1.4	1.2	1.2	0.4	0.4
Q3	–	–	−1.0		1.2	0.2	1.4	0.5	−0.1	−1.2
Q4	0.3	0.3	0.2		0.6	0.1	0.3	−0.4	0.3	0.5
2018 Q1	0.6	0.6	0.5		0.6	0.8	0.5	0.9	0.6	0.5
Q2	0.1	0.1	0.2		0.1	–	–	−0.5	0.1	–
Q3	0.1	0.2	0.9		0.2	0.2	0.2	0.1	0.1	1.1
Q4	0.5	0.5	−0.1		−0.5	−1.3	−0.8	−0.7	0.6	–

†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		Unit labour costs	
	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	Per cent change on quarter a year ago	Per cent change on previous quarter
	A4YN	A4YO	LNNP	DMWR	LZVD	TXBB	DMWN	DMWO
2014 Q3	–	–	–	–	–	0.1	–	–
Q4	–	–	–	–	–0.1	–0.2	–	–
2015 Q1	–	–	–	–	–	0.1	–	–
Q2	0.1	–	0.1	–	–	–	–	–
Q3	–	–	–	–0.1	0.1	0.2	–	–
Q4	–	–	–0.1	–	–0.1	–0.3	–	–
2016 Q1	–0.1	–	–0.1	–	–	0.1	–	–
Q2	–0.1	–	–0.1	–	–	–	–	–
Q3	–	–0.1	–0.1	–	–	0.1	–	–
Q4	–0.1	–	–0.1	0.1	–	–0.2	–	–
2017 Q1	–	0.1	0.1	–	0.1	0.2	–	–
Q2	0.1	–	0.1	–	–	–0.1	–	–
Q3	0.1	–0.1	0.1	–	0.3	0.5	–	–
Q4	–	–	0.1	–	–	–0.5	–	–
2018 Q1	–	0.1	–	–	–	0.2	–	–
Q2	–	–	–0.1	–0.1	–0.1	–0.3	–	–
Q3	–	0.1	–	–	–0.4	0.2	0.1	0.1

Manufacturing

	Output per job		Output per hour worked		Unit wage costs	
	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
	DJ4R	DJ4Q	DJK8	DJK7	DJ4J	DJ4I
2014 Q3	–	–	–	0.1	–0.1	–0.2
Q4	–	–	–0.1	–0.1	–	0.2
2015 Q1	–	–0.1	–	–	–	–
Q2	–	–	–	–	–	–0.1
Q3	–	–	–	0.1	0.2	–
Q4	–0.1	–0.1	–0.1	–0.2	–0.1	–0.1
2016 Q1	–0.1	–	–	0.2	–	0.2
Q2	–0.1	–	–	–	–0.1	–0.2
Q3	–	–	–	0.1	–0.1	–
Q4	–	–0.1	0.1	–0.1	–	–
2017 Q1	0.1	–	–	0.2	–	0.1
Q2	0.1	0.1	–0.1	–0.2	–0.1	–0.3
Q3	0.1	–	0.3	0.5	–0.3	–0.2
Q4	0.1	–0.1	–	–0.5	–0.1	0.3
2018 Q1	–0.1	–0.2	–0.1	0.1	–0.1	0.2
Q2	–0.2	–	–0.3	–0.3	0.2	0.1
Q3	–0.5	–0.2	–0.9	–0.1	0.6	0.2

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
2014 Q3	–	–	–	0.1
Q4	–	–	–	–0.1
2015 Q1	–	0.1	–	–
Q2	–	–	–	–
Q3	–	–	–	0.1
Q4	–0.1	–	–0.1	–0.2
2016 Q1	–0.1	–	–	0.1
Q2	–0.1	–	–	0.1
Q3	–0.1	–	–	0.1
Q4	–0.1	–	–	–0.1
2017 Q1	–	–	–	0.1
Q2	–	–	–0.1	–0.1
Q3	0.1	0.1	0.4	0.5
Q4	0.1	–	–	–0.5
2018 Q1	0.1	–	–	0.1
Q2	–	–	–0.1	–0.3
Q3	–	0.1	–0.3	0.2