

Statistical bulletin

# Labour productivity: April to June 2017

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.



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5 January 2018

## Notice

### 6 October 2017

An error has been found in Labour Productivity. This affects unit labour cost data. This was due to labour income data from the second estimate of GDP being using instead of data from quarterly national accounts. Please be aware of this if using this data. We will correct this error on Monday 9 October 2017. We apologise for any inconvenience. Please contact [Ciaren Taylor](#) for more information.

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# 1 . Main points

- UK labour productivity, as measured by output per hour, is estimated to have fallen by 0.1% from Quarter 1 (Jan to Mar) 2017 to Quarter 2 (Apr to June) 2017; over a longer time-period, labour productivity growth has been lower on average than prior to the economic downturn.
- Labour productivity grew in services but fell in the manufacturing industries; services productivity grew by 0.2% on the previous quarter, while manufacturing productivity fell by 1.3%.
- Earnings and other labour costs growth outpaced productivity growth, resulting in unit labour cost (ULC) growth of 1.6% in the year to Quarter 2 2017.

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

This release reports labour productivity estimates for Quarter 2 (Apr to June) 2017 for the whole economy 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 articles on productivity-related topics and data.

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”).

Alongside this release, we have published experimental estimates of current price labour productivity at a more detailed level for the first time.

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 upwards pressure on the prices of goods and services – sometimes referred to as “inflationary pressure”. ULCs are therefore a closely watched indicator of inflationary pressure in the economy.

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 September 2017. 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.

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. Data in this release reflect revisions to GVA and income data incorporated in the latest [Quarterly National Accounts](#).

Unless otherwise stated all figures are seasonally adjusted.

The next labour productivity bulletin (released 5 January 2018) will include a number of small methodological changes previously consulted upon and agreed at a user group held earlier this year. More information on these will be included alongside the next bulletin.

### 3 . Labour productivity down for second consecutive quarter

Labour productivity on an output per hour basis – our headline measure – fell by 0.1% in Quarter 2 (Apr to June) 2017. This fall left productivity for Quarter 2 2017 slightly below the peak achieved in Quarter 4 (Oct to Dec) 2007 immediately prior to the economic downturn. Productivity for Quarter 2 2017 was 0.6% below the post-downturn peak that occurred in Quarter 4 2016.

A fall of 0.1% contrasts with a long period of average productivity growth prior to the economic downturn, and represents a continuation of the UK's "productivity puzzle". This term refers to the relative stagnation of labour productivity since the recent economic downturn. This is in contrast with patterns following previous UK economic downturns where productivity initially fell, but subsequently bounced back 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](#), and [The productivity conundrum, interpreting the recent behaviour of the economy](#).

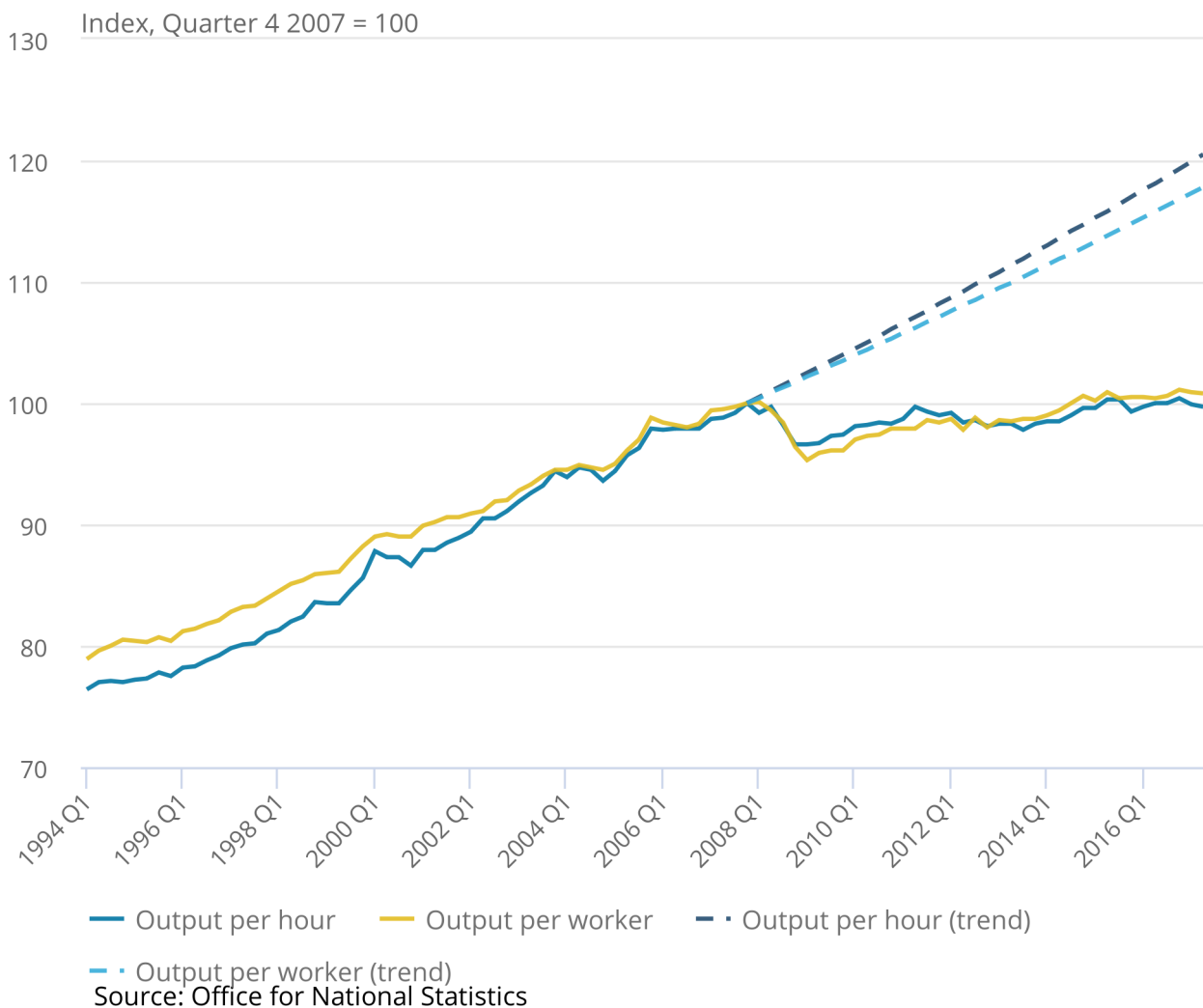
This puzzle is shown in Figure 1, which presents two alternative measures of productivity – output per hour and output per worker – alongside their projected 1994 to 2007 trends. Following years of steady growth, each measure peaked in Quarter 4 2007 and fell during the economic downturn. However, due 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 2 2017, as measured by output per hour, was 17.2% below its pre-downturn trend – or, equivalently, productivity would have been 20.8% higher had it followed this pre-downturn trend<sup>1</sup>.

## Figure 1: Output per hour and output per worker, UK

Seasonally adjusted, Quarter 1 (Jan to Mar) 1994 to Quarter 2 (Apr to June) 2017

### Figure 1: Output per hour and output per worker, UK

Seasonally adjusted, Quarter 1 (Jan to Mar) 1994 to Quarter 2 (Apr to June) 2017



Source: Office for National Statistics

Figure 2 breaks down the growth in productivity between Quarter 1 (Jan to Mar) 2008 and Quarter 2 2017 into contributions from different industry groupings and an “allocation effect” due to changes in the share of output and labour in each grouping. All else being equal, stronger (weaker) productivity growth in any given industry, or a movement of output and labour towards (away from) higher productivity industries will tend to raise (reduce) aggregate productivity growth.

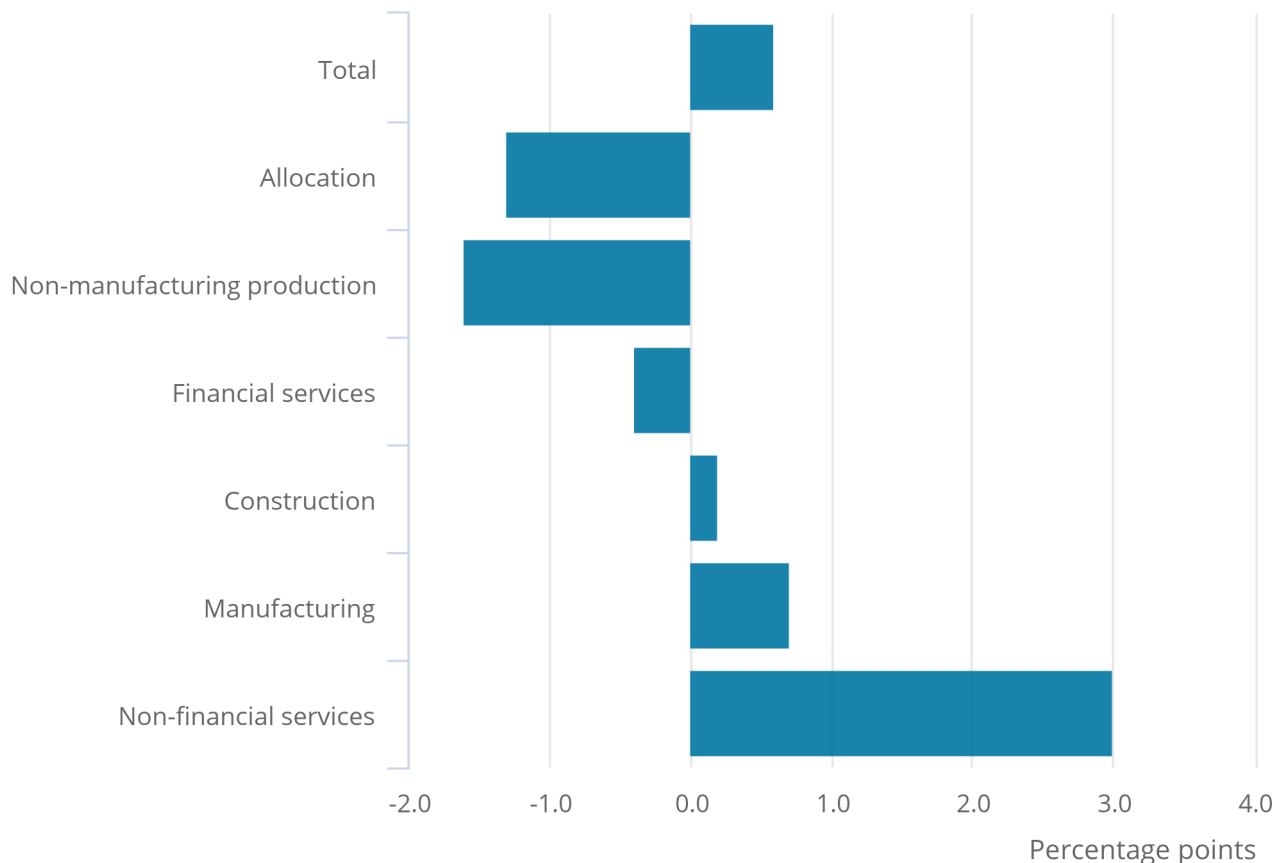
Non-financial services are the main positive contributor to productivity growth over this period, partly offset by negative contributions from non-manufacturing production and finance. The negative allocation effect – suggesting that output and labour have been moving away from higher to lower productivity industries in recent years – partly captures the falling share of output in mining and quarrying, which has among the highest levels of productivity of UK industry; 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: Contributions to growth of whole economy output per hour

Seasonally adjusted, cumulative quarterly changes, Quarter 1 (Jan to Mar) 2008 to Quarter 2 2017, UK

### Figure 2: Contributions to growth of whole economy output per hour

Seasonally adjusted, cumulative quarterly changes, Quarter 1 (Jan to Mar) 2008 to Quarter 2 2017, UK



Source: Office for National Statistics

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.

Notes for: Labour productivity down for second consecutive quarter

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.

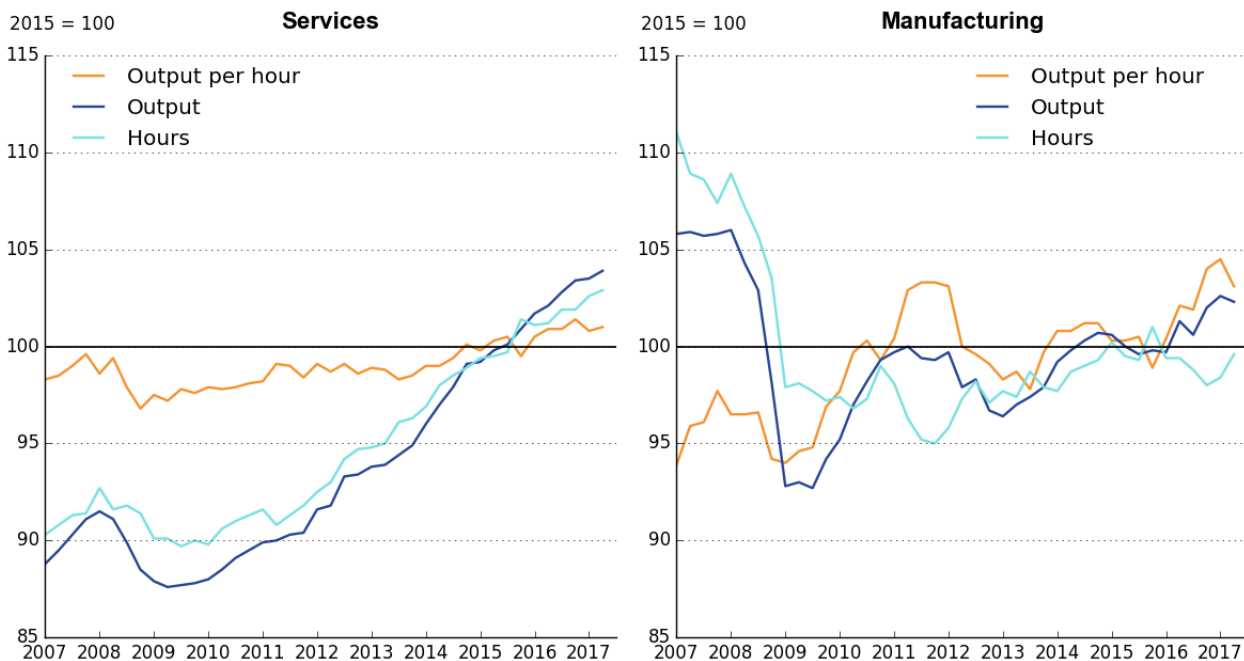
## 4 . Output per hour up in services but down in manufacturing

Services output per hour grew by 0.2% in Quarter 2 (Apr to June) 2017, with output growth outpacing growth in hours worked. In contrast, manufacturing output fell while hours grew so labour productivity in manufacturing declined by 1.3% during the quarter.

Figure 3 examines longer-term trends, showing output per hour and its components since Quarter 1 (Jan to Mar) 2008. Services are represented in the left-hand side panel, while manufacturing is represented in the right-hand side 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 2011 to 2012, whereas in services GVA and hours follow fairly similar trends.

**Figure 3: Components of services and manufacturing productivity measures**

Seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2007 to Quarter 2 2017



## 5 . Unit labour costs grow for the ninth consecutive quarter

Unit labour costs (ULCs) reflect the full labour costs, including social security and employers' pension contributions, incurred in the production of a unit of economic output. 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 1.6% in the year to Quarter 2 (Apr to June) 2017, 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 on a quarter on same quarter a year earlier basis. The bars represent the contribution to changes in ULCs from changes in labour costs per hour and changes in output per hour. 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 (negative) output per hour growth has a negative (positive) effect on ULC growth.

While growth in ULCs has been broadly positive since the onset of the economic downturn, averaging around 1.5% since Quarter 1 2008, there has been substantial variation during this period. During the recent economic downturn, ULCs began to grow at a relative high rate, reaching a peak of 6.1% by the end of the downturn in Quarter 2 2009 and remaining elevated until Quarter 1 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 4 (Oct to Dec) 2010.

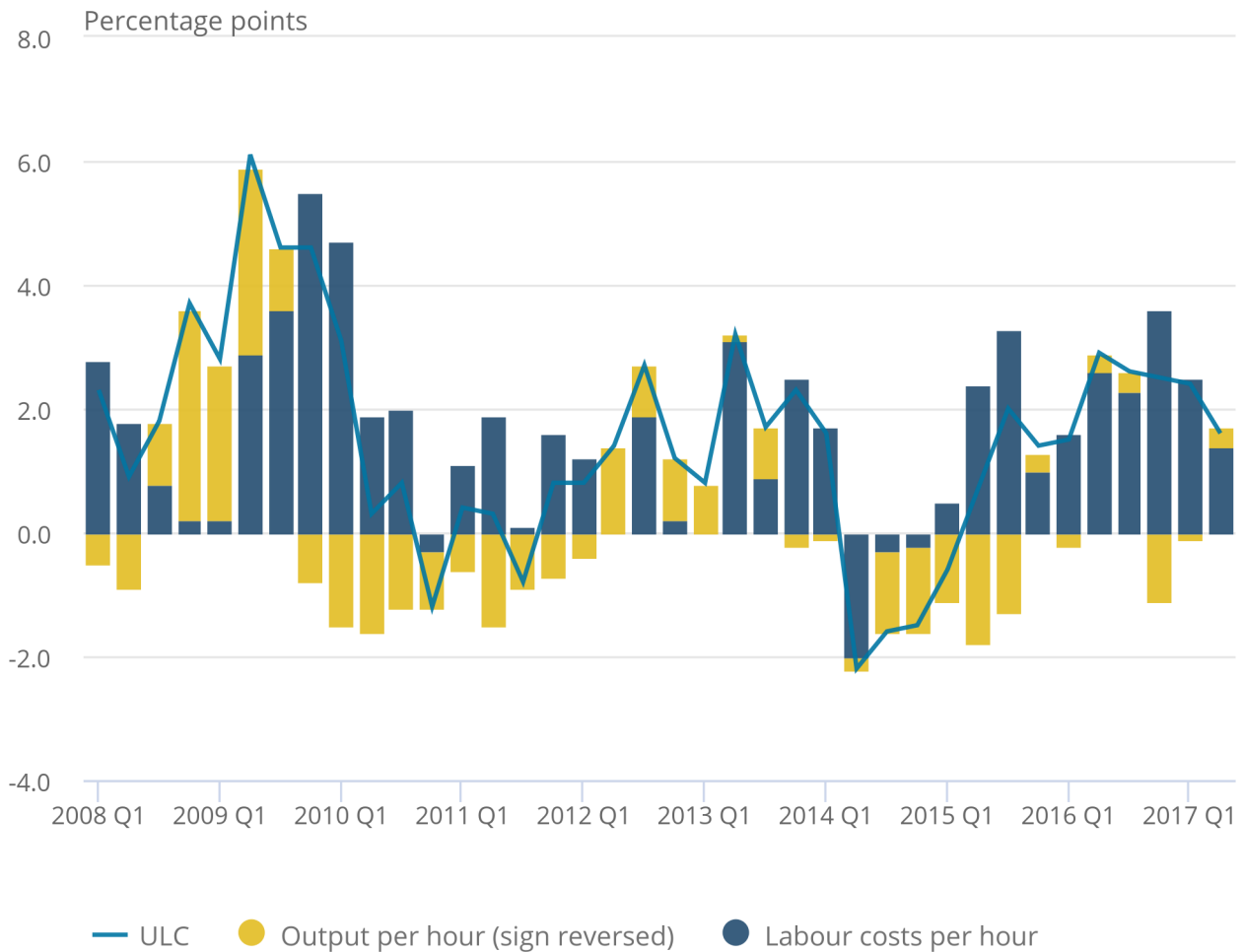
Following a period of low or negative growth, ULC growth has grown at around 2% for the past two years. This increase broadly reflects higher hourly labour cost growth, with little offsetting output per hour growth.

**Figure 4: Whole economy unit labour costs and their compositions, growth on quarter a year ago**

Seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 2 2017

Figure 4: Whole economy unit labour costs and their compositions, growth on quarter a year ago

Seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 2 2017



Source: Office for National Statistics

Source: Office for National Statistics

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 . Links to related statistics

The following publications on the topic of productivity are also available:

- [UK productivity introduction: Apr to June 2017](#) draws together the headlines of the productivity releases into a single release, providing additional analysis of our productivity statistics (published 6 Oct 2017).
- [Labour productivity: April to June 2017](#) contains the latest estimates of labour productivity for the whole economy and a range of industries, together with estimates of unit labour costs (published 6 Oct 2017).
- [Quarterly UK public service productivity \(experimental statistics\): April to June 2017](#) contains the latest experimental estimates for quarterly UK total public service productivity, inputs and output (published 6 Oct 2017).
- [International comparisons of UK productivity \(ICP\), first estimates: 2016](#) presents an international comparison of labour productivity across the G7 nations, in terms of growth in GDP per hour and GDP per worker (published 6 Oct 2017).
- [International comparisons of labour productivity by industry: 2014](#) uses new production-side PPPs to present estimates of labour productivity for 29 European countries across 10 industries on a GVA per hour worked basis (published 6 Oct 2017).
- [Quality adjusted labour input: UK estimates to 2016](#) presents updated estimates of quality adjusted labour input (QALI) for the whole economy and for the market sector (published 6 Oct 2017).
- [Foreign direct investment and labour productivity: a micro-data perspective: 2012 to 2015](#) examines the composition of firms with foreign direct investment (FDI) in Great Britain between 2012 and 2015, and their productivity outcomes compared with firms with no FDI relationships (published 6 Oct 2017).
- [Quality adjustment of public service criminal justice system output: experimental method: 1997 to 2014](#) presents new methodologies to capture changes in quality of outputs of the criminal justice system, expanding ONS's coverage of quality adjustment for public service output (published 6 Oct 2017).
- [Introducing industry-by-region labour metrics and productivity](#) presents new, experimental industry-by-region productivity metrics; this includes measures of hours worked, jobs, and accompanying productivity measures for the SIC letter industries in the NUTS1 regions (published 5 July 2017).
- [Introducing division level labour productivity estimates](#) provides an overview of new and experimental estimates of labour productivity at the two-digit SIC industry level for the UK and provides some initial analysis demonstrating trends in the data (published 5 July 2017).
- [Regional and sub-regional productivity in the UK: Jan 2017](#) provides statistics for several measures of labour productivity; statistics are provided for the NUTS1, NUTS2 and NUTS3 sub-regions of the UK and for selected UK city regions (published 6 January 2017).
- [Understanding firms in the bottom 10% of the labour productivity distribution in Great Britain: "the laggards", 2003 to 2015](#) examines the characteristics of businesses in the bottom 10% of the labour productivity distribution in terms of their size, age, industry and location, between 2003 and 2015 (published 5 July 2017).
- [Multi-factor productivity estimates: Experimental estimates to 2015](#) decomposes output growth into the contributions that can be accounted for by labour and capital inputs; the contribution of labour is further decomposed into quantity (hours worked) and quality dimensions (published 5 April 2017).
- [Developing new measures of infrastructure investment: July 2017](#) is the first in a series of papers on infrastructure statistics, focusing on definitional and data challenges in measuring infrastructure investment (published 5 July 2017).
- [Volume index of UK capital services \(experimental\): estimates to 2015](#) provides estimates of the contribution of capital inputs to production in the market sector, split by asset and industry (published 6 January 2017).
- [Public service productivity estimates: total public service, UK: 2014](#) presents updated measures of output, inputs and productivity for public services in the UK between 1997 and 2013, in addition to new estimates for 2014; includes service area breakdown, as well as impact of quality adjustment and latest revisions (published 6 January 2017).

- [Public service productivity estimates: healthcare, 2014](#) presents updated estimates of output, inputs and productivity for public service healthcare in the UK between 1995 and 2013, and new estimates for 2014 (published 6 January 2017).

## Related content

[International comparisons of productivity](#) is published in levels and growth rates for the G7 countries. More international data on productivity are available from the [Organisation for Economic Co-operation and Development \(OECD\)](#), [Eurostat](#) and the [Conference Board](#).

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 sector 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](#).

## 7 . What's changed in this release?

This release reflects revisions to gross value added and income data resulting from quarterly national accounts, affecting all time periods. Revisions to the Short-Term Employment Survey affect hours and jobs in Quarter 1 (Jan to Mar) 2017. Revisions to seasonal adjustment affect all periods.

## 8 . Quality and methodology

The measure of output used in these statistics is the chain 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). 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 to 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 statistical bulletin, in three ways:

- to achieve consistency with the measurement of GVA, the employee component of productivity jobs is derived on a reporting unit (RU) basis, whereas the employee component of the WFJ estimates is on a local unit (LU) 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 statistics](#) 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 follows:

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

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.

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

Seasonally adjusted (2015=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
2013	98.1 <sup>†</sup>	98.1 <sup>†</sup>	98.3 <sup>†</sup>	98.8 <sup>†</sup>	98.4 <sup>†</sup>	98.8 <sup>†</sup>	98.6 <sup>†</sup>	98.3 <sup>†</sup>	98.6 <sup>†</sup>
2014	99.2	99.1	99.1	99.9	99.8	100.9	101.0	99.2	99.4
2015	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2016	100.1	100.3	100.2	101.6	102.3	101.4	102.1	101.2	100.9
2013 Q3	98.2 <sup>†</sup>	98.1 <sup>†</sup>	97.9 <sup>†</sup>	98.8 <sup>†</sup>	97.7 <sup>†</sup>	98.5 <sup>†</sup>	97.8 <sup>†</sup>	98.2 <sup>†</sup>	98.3 <sup>†</sup>
Q4	98.2	98.1	98.4	99.1	99.5	99.0	99.7	98.1	98.5
2014 Q1	98.5	98.4	98.6	100.1	99.7	101.0	100.8	98.5	99.0
Q2	98.9	98.8	98.7	100.1	99.8	101.1	100.8	98.7	99.0
Q3	99.5	99.4	99.2	99.6	99.9	100.6	101.2	99.4	99.4
Q4	100.1	100.0	99.7	99.7	99.8	100.7	101.2	100.2	100.1
2015 Q1	99.7	99.6	99.7	99.1	99.5	99.8	100.3	99.6	99.8
Q2	100.4	100.3	100.4	100.2	100.2	100.1	100.3	100.1	100.3
Q3	99.9	100.0	100.4	100.2	101.0	99.8	100.5	100.0	100.5
Q4	100.0	100.1	99.4	100.6	99.3	100.3	98.9	100.3	99.5
2016 Q1	99.9	100.2	99.9	100.3	100.4	100.5	100.4	100.9	100.5
Q2	99.9	100.1	100.1	101.8	102.7	101.2	102.1	100.7	100.9
Q3	100.1	100.3	100.2	101.7	102.6	101.0	101.9	101.2	100.9
Q4	100.5	100.8	100.5	102.6	103.6	102.8	104.0	101.8	101.4
2017 Q1	100.4	100.7	100.0	103.3	103.9	103.5	104.5	101.7	100.8
Q2	100.3	100.6	99.9	102.0	102.6	102.3	103.1	101.7	101.0
<b>Per cent change on quarter a year ago</b>	A4YN	LNNP	LZVD	DJ4O	DJK5	DJ4R	DJK8	DJE5	DJQ3
2013 Q3	-0.1 <sup>†</sup>	-0.2 <sup>†</sup>	-0.8 <sup>†</sup>	0.7	-1.4	0.1	-1.8 <sup>†</sup>	-0.7 <sup>†</sup>	-0.8 <sup>†</sup>
Q4	0.6	0.6	0.2	2.0	0.7	1.6 <sup>†</sup>	0.6	-	-0.1
2014 Q1	0.4	0.2	0.1	2.0	2.0	2.7	2.6	-0.2	0.1
Q2	0.9	0.7	0.2	0.8	1.1	1.9	2.1	0.5	0.2
Q3	1.3	1.3	1.3	0.8	2.2	2.1	3.4	1.2	1.2
Q4	2.0	2.0	1.4	0.7 <sup>†</sup>	0.3	1.7	1.6	2.1	1.6
2015 Q1	1.3	1.2	1.1	-1.1	-0.2 <sup>†</sup>	-1.2	-0.6	1.1	0.8
Q2	1.5	1.6	1.8	0.1	0.5	-1.0	-0.5	1.4	1.3
Q3	0.5	0.6	1.3	0.6	1.2	-0.7	-0.7	0.6	1.1
Q4	-0.2	0.1	-0.3	0.8	-0.5	-0.5	-2.2	0.1	-0.6
2016 Q1	0.3	0.6	0.2	1.3	0.9	0.7	0.1	1.3	0.8
Q2	-0.5	-0.2	-0.3	1.6	2.5	1.1	1.7	0.6	0.6
Q3	0.2	0.3	-0.3	1.5	1.6	1.2	1.4	1.2	0.5
Q4	0.6	0.7	1.1	2.0	4.4	2.5	5.1	1.5	1.9
2017 Q1	0.5	0.5	0.1	2.9	3.5	3.0	4.1	0.7	0.3
Q2	0.4	0.5	-0.3	0.2	-0.1	1.1	1.0	1.0	0.2
<b>Per cent change on previous quarter</b>	A4YO	DMWR	TXBB	DJ4N	DJK4	DJ4Q	DJK7	DJE4	DJQ2
2013 Q3	0.1 <sup>†</sup>	0.1 <sup>†</sup>	-0.5 <sup>†</sup>	-0.5 <sup>†</sup>	-1.0 <sup>†</sup>	-0.7 <sup>†</sup>	-0.9 <sup>†</sup>	-0.1 <sup>†</sup>	-0.6
Q4	-	-0.1	0.5	0.3	1.8	0.5	1.9	-	0.2
2014 Q1	0.3	0.3	0.2	1.1	0.2	2.0	1.2	0.4	0.5 <sup>†</sup>
Q2	0.5	0.4	0.1	-	0.1	0.1	-	0.2	-
Q3	0.6	0.6	0.5	-0.5	0.1	-0.5	0.3	0.6	0.4
Q4	0.7	0.7	0.6	0.1	-0.1	0.1	0.1	0.9	0.7
2015 Q1	-0.4	-0.5	-	-0.7	-0.3	-0.9	-0.9	-0.6	-0.4
Q2	0.7	0.8	0.7	1.1	0.8	0.3	0.1	0.5	0.5
Q3	-0.5	-0.3	-	-	0.8	-0.3	0.1	-0.1	0.2
Q4	-	0.1	-1.0	0.4	-1.7	0.4	-1.5	0.3	-1.0
2016 Q1	-	0.1	0.5	-0.2	1.1	0.3	1.4	0.6	1.0
Q2	-	-	0.2	1.5	2.3	0.7	1.7	-0.2	0.3
Q3	0.2	0.2	-	-0.1	-0.1	-0.2	-0.2	0.4	0.1
Q4	0.4	0.5	0.3	0.9	1.0	1.8	2.1	0.6	0.5
2017 Q1	-0.1	-0.1	-0.5	0.6	0.3	0.7	0.4	-0.1	-0.6
Q2	-0.1	-0.1	-0.1	-1.2	-1.2	-1.2	-1.3	-	0.2

<sup>†</sup>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 (2015=100)

Section	Whole economy		Manufacturing
	Unit labour costs	Unit wage costs	Unit wage costs
	A-U	A-U	C
<b>Indices</b>			
	LNNL	LNNK	DIX4
2013	100.1 <sup>†</sup>	98.7 <sup>†</sup>	97.8 <sup>†</sup>
2014	99.2	98.6	97.6
2015	100.0	100.0	100.0
2016	102.3	102.5	101.0
2013 Q3	100.3 <sup>†</sup>	99.2 <sup>†</sup>	98.0 <sup>†</sup>
Q4	100.6	99.7	98.4
2014 Q1	99.9	99.2	97.4
Q2	99.0	98.8	97.1
Q3	98.7	97.8	97.8
Q4	99.1	98.7	98.2
2015 Q1	99.3	99.1	99.2
Q2	99.6	99.5	99.5
Q3	100.6	100.7	100.5
Q4	100.4	100.7	100.8
2016 Q1	100.8	101.2	100.8
Q2	102.5	102.5	101.4
Q3	103.2	103.3	101.7
Q4	102.9	103.1	100.0
2017 Q1	103.2	103.3	99.6
Q2	104.1	104.1	101.6
<b>Per cent change on quarter a year ago</b>			
	DMWN	LOJE	DJ4J
2013 Q3	1.7	2.8 <sup>†</sup>	1.7 <sup>†</sup>
Q4	2.3	2.5	0.8
2014 Q1	1.6 <sup>†</sup>	3.0	0.5
Q2	-2.2	-1.0	-0.6
Q3	-1.6	-1.4	-0.3
Q4	-1.5	-1.0	-0.3
2015 Q1	-0.6	-	1.9
Q2	0.7	0.7	2.5
Q3	2.0	3.0	2.8
Q4	1.4	2.0	2.6
2016 Q1	1.5	2.0	1.6
Q2	2.9	3.0	1.9
Q3	2.6	2.5	1.3
Q4	2.5	2.4	-0.8
2017 Q1	2.4	2.1	-1.2
Q2	1.6	1.6	0.2
<b>Per cent change on previous quarter</b>			
	DMWO	DMWL	DJ4I
2013 Q3	-0.9 <sup>†</sup>	-0.6 <sup>†</sup>	0.3 <sup>†</sup>
Q4	0.3	0.5	0.4
2014 Q1	-0.7	-0.6	-1.1
Q2	-1.0	-0.4	-0.3
Q3	-0.3	-1.0	0.7
Q4	0.4	0.9	0.4
2015 Q1	0.3	0.4	1.1
Q2	0.3	0.3	0.3
Q3	1.0	1.3	1.0
Q4	-0.2	-	0.3
2016 Q1	0.3	0.5	0.1
Q2	1.7	1.3	0.6
Q3	0.7	0.8	0.3
Q4	-0.3	-0.1	-1.7
2017 Q1	0.3	0.2	-0.4
Q2	0.9	0.8	2.0

<sup>†</sup> 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

Seasonally adjusted (2015=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
<b>Level (£k)</b>										
2013	63.0	50.0	47.4	146.2	51.7	51.2	60.8	56.6	76.1	54.7
<b>Indices</b>										
	DJ54	DJ57	DJ5F	DJ5I	DJ5L	DJB2	DJB7	DJC2	DJC5	DJD3
2013	99.8 <sup>†</sup>	96.7 <sup>†</sup>	101.5 <sup>†</sup>	91.4 <sup>†</sup>	98.0 <sup>†</sup>	100.8 <sup>†</sup>	96.6 <sup>†</sup>	104.4 <sup>†</sup>	98.3 <sup>†</sup>	98.5 <sup>†</sup>
2014	102.5	92.4	99.7	95.1	102.8	102.2	97.3	116.1	99.0	102.4
2015	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2016	99.8	96.8	102.1	103.3	101.9	99.7	102.0	104.7	99.7	104.1
2013 Q3	98.7 <sup>†</sup>	95.1 <sup>†</sup>	103.2 <sup>†</sup>	90.0 <sup>†</sup>	96.7 <sup>†</sup>	100.4 <sup>†</sup>	94.2 <sup>†</sup>	105.1 <sup>†</sup>	98.8 <sup>†</sup>	100.9 <sup>†</sup>
Q4	99.5	91.7	101.5	91.9	99.8	102.9	93.3	107.6	97.7	100.5
2014 Q1	103.5	94.4	100.5	93.7	104.6	103.3	95.2	113.0	98.9	102.8
Q2	102.9	97.1	99.3	92.6	104.1	101.7	97.6	118.0	99.8	101.4
Q3	102.1	88.2	99.5	95.8	102.3	102.1	98.1	117.9	97.7	102.3
Q4	101.7	89.8	99.6	98.2	100.2	101.8	98.4	115.6	99.6	103.1
2015 Q1	100.4	96.4	100.5	99.5	99.8	101.8	96.5	103.1	99.7	99.4
Q2	99.0	101.3	98.9	99.7	97.7	101.8	101.5	99.5	101.8	100.8
Q3	100.5	103.1	100.0	100.1	101.1	97.0	101.0	98.5	99.1	99.6
Q4	100.2	99.2	100.6	100.7	101.3	99.4	100.9	98.9	99.4	100.3
2016 Q1	99.6	101.0	100.5	100.6	102.5	102.3	100.0	99.3	97.9	102.0
Q2	100.1	92.2	103.5	105.4	103.7	99.0	101.9	102.2	100.8	100.7
Q3	100.2	97.1	102.4	101.5	99.2	98.5	100.2	106.3	98.4	107.1
Q4	99.5	96.9	102.0	105.8	102.1	98.9	105.7	110.8	101.8	106.3
2017 Q1	98.6	104.9	107.2	96.9	102.3	96.3	107.9	116.3	105.4	108.9
Q2	97.4	107.9	103.4	99.6	100.4	94.8	107.1	115.1	103.9	105.2
<b>Per cent change on quarter a year ago</b>										
	DJ56	DJ5E	DJ5H	DJ5K	DJ5N	DJB6	DJB9	DJC4	DJD2	DJD7
2013 Q3	-3.1	-6.0 <sup>†</sup>	8.6	1.2 <sup>†</sup>	-0.1 <sup>†</sup>	-5.6 <sup>†</sup>	-6.8 <sup>†</sup>	-9.2 <sup>†</sup>	6.0 <sup>†</sup>	12.6
Q4	-1.3 <sup>†</sup>	-11.9	4.7 <sup>†</sup>	4.9	2.9	1.7	-7.3	-7.0	5.6	14.8 <sup>†</sup>
2014 Q1	3.5	-8.4	1.7	6.5	5.2	3.2	-4.4	10.0	0.1	7.9
Q2	1.9	0.1	-3.0	-3.3	8.5	2.1	-1.5	15.7	2.1	4.0
Q3	3.5	-7.3	-3.6	6.5	5.8	1.7	4.1	12.2	-1.1	1.4
Q4	2.2	-2.2	-1.9	6.9	0.4	-1.1	5.4	7.5	2.0	2.7
2015 Q1	-3.0	2.1	-	6.2	-4.6	-1.5	1.4	-8.8	0.8	-3.3
Q2	-3.8	4.3	-0.3	7.6	-6.1	0.1	4.0	-15.7	1.9	-0.6
Q3	-1.6	16.9	0.6	4.5	-1.2	-5.0	3.0	-16.4	1.5	-2.6
Q4	-1.5	10.5	1.0	2.6	1.2	-2.4	2.6	-14.5	-0.3	-2.8
2016 Q1	-0.8	4.8	-	1.1	2.7	0.5	3.6	-3.6	-1.9	2.7
Q2	1.2	-8.9	4.6	5.7	6.1	-2.8	0.3	2.7	-0.9	-0.1
Q3	-0.3	-5.9	2.4	1.4	-1.9	1.6	-0.8	7.9	-0.7	7.6
Q4	-0.7	-2.3	1.4	5.1	0.7	-0.5	4.8	12.0	2.4	6.1
2017 Q1	-1.0	3.8	6.7	-3.7	-0.2	-5.8	7.9	17.1	7.7	6.7
Q2	-2.7	17.0	-0.1	-5.5	-3.1	-4.2	5.1	12.6	3.0	4.5
<b>Per cent change on previous quarter</b>										
	DJ55	DJ58	DJ5G	DJ5J	DJ5M	DJB3	DJB8	DJC3	DJC6	DJD4
2013 Q3	-2.2 <sup>†</sup>	-2.0 <sup>†</sup>	0.8 <sup>†</sup>	-6.1 <sup>†</sup>	0.7 <sup>†</sup>	0.8 <sup>†</sup>	-5.0	3.0 <sup>†</sup>	1.0 <sup>†</sup>	3.5 <sup>†</sup>
Q4	0.8	-3.6	-1.7	2.1	3.2	2.5	-1.0 <sup>†</sup>	2.4	-1.1	-0.4
2014 Q1	4.0	2.9	-1.0	2.0	4.9	0.4	2.0	5.0	1.3	2.3
Q2	-0.6	2.9	-1.2	-1.2	-0.5	-1.6	2.6	4.5	0.9	-1.3
Q3	-0.7	-9.2	0.2	3.4	-1.8	0.4	0.4	-0.1	-2.2	0.9
Q4	-0.5	1.8	0.1	2.5	-2.1	-0.3	0.3	-1.9	2.0	0.8
2015 Q1	-1.2	7.4	0.9	1.4	-0.3	-	-1.9	-10.9	0.1	-3.6
Q2	-1.5	5.1	-1.6	0.1	-2.1	-0.1	5.2	-3.4	2.0	1.4
Q3	1.5	1.8	1.1	0.4	3.4	-4.7	-0.5	-1.0	-2.6	-1.2
Q4	-0.3	-3.8	0.5	0.6	0.2	2.5	-0.2	0.4	0.2	0.7
2016 Q1	-0.6	1.9	-0.1	-0.1	1.2	2.9	-0.9	0.4	-1.5	1.8
Q2	0.5	-8.7	3.0	4.7	1.1	-3.3	1.9	2.9	3.0	-1.3
Q3	-	5.3	-1.0	-3.6	-4.3	-0.4	-1.6	4.0	-2.4	6.4
Q4	-0.7	-0.2	-0.5	4.2	2.9	0.4	5.5	4.2	3.4	-0.8
2017 Q1	-0.8	8.3	5.2	-8.4	0.2	-2.6	2.1	5.0	3.6	2.4
Q2	-1.2	2.8	-3.5	2.8	-1.8	-1.5	-0.7	-1.0	-1.5	-3.4

<sup>†</sup> 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 (2015=100)

Divisions	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
	10-12	13-15	16-18	20-21	22-23	24-25	26-27	28	29-30	19,31-33
<b>Level (£)</b>										
2013	34.2	30.1	25.4	80.0	26.9	26.3	32.6	29.9	40.7	29.0
<b>Indices</b>										
	DJK9	DJL4	DJL7	DJM4	DJM7	DJN4	DJN7	DJO5	DJO8	DJP3
2013	99.9 <sup>†</sup>	100.1 <sup>†</sup>	101.4 <sup>†</sup>	90.2 <sup>†</sup>	98.6 <sup>†</sup>	99.0 <sup>†</sup>	94.7 <sup>†</sup>	103.9 <sup>†</sup>	100.3 <sup>†</sup>	97.2 <sup>†</sup>
2014	103.8	94.7	100.4	94.4	105.4	101.3	98.2	113.5	99.6	99.7
2015	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2016	100.8	96.4	105.0	102.3	107.4	101.5	99.5	104.8	101.9	99.5
2013 Q3	99.5	99.5 <sup>†</sup>	100.1 <sup>†</sup>	89.6 <sup>†</sup>	98.9 <sup>†</sup>	96.0 <sup>†</sup>	89.6 <sup>†</sup>	105.8 <sup>†</sup>	101.6 <sup>†</sup>	98.5 <sup>†</sup>
Q4	98.5 <sup>†</sup>	99.5	100.6	92.3	100.3	101.8	95.6	107.8	100.6	100.0
2014 Q1	102.6	101.6	99.8	94.2	104.7	101.9	93.9	111.9	100.9	100.7
Q2	103.0	101.7	100.3	93.0	107.7	99.3	98.1	115.2	98.1	98.6
Q3	104.6	89.6	100.5	93.7	108.9	100.8	99.5	113.2	99.2	99.2
Q4	105.0	86.1	101.0	96.7	100.4	103.1	101.3	113.7	100.0	100.3
2015 Q1	102.1	93.0	104.4	99.8	98.4	100.3	98.0	103.5	99.6	100.6
Q2	100.5	98.0	99.9	101.1	97.8	103.2	99.2	99.8	100.0	101.4
Q3	99.4	105.2	98.6	100.6	101.3	99.6	101.9	100.3	100.4	100.2
Q4	97.9	103.8	97.1	98.5	102.6	97.0	100.9	96.5	100.0	97.7
2016 Q1	99.7	97.4	98.4	101.7	106.2	101.7	98.5	101.4	99.4	98.8
Q2	97.7	93.7	106.4	104.6	110.1	102.4	99.7	100.4	104.8	98.4
Q3	103.9	96.8	108.6	99.4	103.3	101.2	97.9	104.3	99.8	99.9
Q4	101.8	97.9	106.5	103.5	110.0	100.6	102.0	113.1	103.6	100.8
2017 Q1	101.3	101.9	107.2	94.9	107.0	100.6	105.1	117.1	105.6	105.8
Q2	101.3	106.8	104.9	96.0	103.2	96.2	108.5	116.5	103.5	102.3
<b>Per cent change on quarter a year ago</b>										
	DJL3	DJL6	DJM3	DJM6	DJM9	DJN6	DJN9	DJO7	DJP2	DJP5
2013 Q3	-2.9	-4.2 <sup>†</sup>	1.1 <sup>†</sup>	6.4 <sup>†</sup>	-2.8	-14.8 <sup>†</sup>	-10.0	-8.8 <sup>†</sup>	8.6 <sup>†</sup>	12.9 <sup>†</sup>
Q4	-1.4	-8.7	-	7.4	-0.1 <sup>†</sup>	-4.1	-4.4	-5.9	6.7	13.2
2014 Q1	2.1 <sup>†</sup>	-0.6	-2.0	8.7	7.1	1.3	-4.6 <sup>†</sup>	11.1	1.8	6.7
Q2	1.8	2.6	-2.8	1.1	10.4	1.6	3.1	13.8	-1.7	2.9
Q3	5.2	-10.0	0.4	4.6	10.1	5.1	11.1	7.1	-2.4	0.6
Q4	6.6	-13.5	0.4	4.7	-	1.2	6.0	5.5	-0.5	0.3
2015 Q1	-0.4	-8.4	4.6	5.9	-6.0	-1.6	4.4	-7.5	-1.3	-0.1
Q2	-2.4	-3.6	-0.3	8.7	-9.2	3.9	1.1	-13.4	1.9	2.8
Q3	-5.0	17.3	-1.9	7.4	-7.0	-1.2	2.4	-11.4	1.2	1.1
Q4	-6.8	20.6	-3.9	1.8	2.2	-5.9	-0.4	-15.2	-	-2.5
2016 Q1	-2.4	4.8	-5.7	1.9	7.9	1.4	0.6	-2.0	-0.2	-1.8
Q2	-2.8	-4.5	6.5	3.5	12.6	-0.7	0.5	0.7	4.7	-3.0
Q3	4.5	-8.0	10.1	-1.2	2.0	1.6	-3.9	4.0	-0.5	-0.3
Q4	3.9	-5.7	9.8	5.1	7.2	3.8	1.1	17.2	3.6	3.1
2017 Q1	1.6	4.6	8.9	-6.7	0.8	-1.1	6.7	15.4	6.3	7.2
Q2	3.6	14.0	-1.4	-8.3	-6.3	-6.1	8.8	16.0	-1.2	4.0
<b>Per cent change on previous quarter</b>										
	DJL2	DJL5	DJM2	DJM5	DJM8	DJN5	DJN8	DJO6	DJO9	DJP4
2013 Q3	-1.7 <sup>†</sup>	0.4 <sup>†</sup>	-2.9 <sup>†</sup>	-2.6 <sup>†</sup>	1.3	-1.8 <sup>†</sup>	-5.8	4.5 <sup>†</sup>	1.8	2.8
Q4	-1.0	-	0.5	3.1	1.5 <sup>†</sup>	6.1	6.7 <sup>†</sup>	1.9	-1.1 <sup>†</sup>	1.5 <sup>†</sup>
2014 Q1	4.1	2.0	-0.8	2.0	4.3	0.1	-1.8	3.8	0.4	0.7
Q2	0.4	0.1	0.5	-1.3	2.9	-2.6	4.5	2.9	-2.8	-2.1
Q3	1.6	-11.9	0.3	0.7	1.1	1.6	1.4	-1.7	1.0	0.5
Q4	0.4	-4.0	0.4	3.2	-7.8	2.2	1.9	0.4	0.9	1.1
2015 Q1	-2.7	8.0	3.4	3.2	-2.0	-2.7	-3.3	-9.0	-0.5	0.3
Q2	-1.6	5.4	-4.3	1.3	-0.6	2.9	1.2	-3.6	0.5	0.8
Q3	-1.0	7.3	-1.3	-0.5	3.6	-3.5	2.7	0.5	0.4	-1.2
Q4	-1.5	-1.3	-1.6	-2.1	1.3	-2.6	-1.0	-3.8	-0.4	-2.5
2016 Q1	1.8	-6.1	1.4	3.3	3.5	4.9	-2.4	5.2	-0.6	1.0
Q2	-2.0	-3.9	8.1	2.9	3.7	0.7	1.2	-1.0	5.5	-0.4
Q3	6.4	3.3	2.0	-5.0	-6.2	-1.2	-1.8	3.8	-4.7	1.6
Q4	-2.1	1.2	-1.9	4.1	6.5	-0.6	4.2	8.5	3.7	0.8
2017 Q1	-0.4	4.1	0.6	-8.3	-2.7	-	3.0	3.5	2.0	5.0
Q2	-0.1	4.8	-2.1	1.2	-3.6	-4.4	3.3	-0.5	-2.0	-3.4

<sup>†</sup> 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 (2015=100)

Section	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
	G	H	I	J	K	L	M	N	O-Q	R	S-U
<b>Level (£k)</b>											
2013	34.5	48.7	22.2	77.1	107.8	375.2	48.2	28.5	35.3	26.4	44.9
<b>Indices</b>											
2013	DJE6 93.2 <sup>†</sup>	DJE9 98.1 <sup>†</sup>	DJF4 99.8 <sup>†</sup>	DJF7 100.7 <sup>†</sup>	DJG5 103.1 <sup>†</sup>	DJH4 99.6 <sup>†</sup>	DJH7 97.8 <sup>†</sup>	DJI2 94.9 <sup>†</sup>	DJI5 98.9 <sup>†</sup>	DJJ3 105.2 <sup>†</sup>	DJJ6 92.8 <sup>†</sup>
2014	97.3	102.6	97.9	96.6	102.0	100.4	98.5	97.9	99.9	103.0	95.4
2015	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2016	104.1	96.1	103.3	106.3	102.1	101.7	101.5	101.5	99.9	95.5	107.0
2013 Q3	94.0 <sup>†</sup>	96.6 <sup>†</sup>	98.8 <sup>†</sup>	100.5 <sup>†</sup>	103.5 <sup>†</sup>	98.1 <sup>†</sup>	98.3 <sup>†</sup>	95.6 <sup>†</sup>	98.3 <sup>†</sup>	104.3 <sup>†</sup>	91.3 <sup>†</sup>
Q4	94.4	98.2	96.6	99.0	102.0	98.2	97.0	97.4	99.0	105.3	90.4
2014 Q1	95.9	100.7	96.7	96.4	102.3	99.1	96.7	97.8	99.3	104.3	94.1
Q2	96.9	101.1	97.7	96.2	102.4	100.9	97.3	97.5	99.3	104.5	93.0
Q3	97.4	104.0	98.3	96.0	100.6	101.5	98.9	97.9	100.1	102.0	96.2
Q4	98.9	104.7	98.8	97.6	102.5	100.1	101.3	98.5	100.7	101.3	98.4
2015 Q1	98.9	103.1	99.5	97.9	101.8	98.7	99.2	99.2	99.6	100.2	98.1
Q2	100.1	100.8	99.8	99.6	99.8	98.6	100.6	99.9	100.2	100.0	98.4
Q3	100.3	98.9	99.5	100.7	98.7	100.7	99.7	101.0	100.3	98.6	98.7
Q4	100.7	97.3	101.1	101.7	99.7	101.9	100.5	99.9	99.9	101.2	104.8
2016 Q1	103.1	97.1	101.9	104.6	100.3	100.7	100.7	100.5	100.1	97.2	106.1
Q2	103.1	96.3	102.5	103.9	102.1	100.5	101.3	100.9	99.5	95.2	108.3
Q3	103.9	95.5	103.1	107.8	102.5	102.3	101.7	102.6	99.7	95.8	105.3
Q4	106.1	95.4	105.8	108.9	103.4	103.3	102.4	102.0	100.2	93.6	108.6
2017 Q1	104.7	96.3	104.8	105.5	105.1	99.2	103.4	102.6	100.9	93.7	106.1
Q2	105.2	95.0	105.2	106.3	104.8	102.6	103.9	101.5	100.5	97.4	104.2
<b>Per cent change on quarter a year ago</b>											
2013 Q3	DJE8 4.2 <sup>†</sup>	DJF3 0.8 <sup>†</sup>	DJF6 -6.7 <sup>†</sup>	DJF9 -1.0 <sup>†</sup>	DJG8 -0.4 <sup>†</sup>	DJH6 -5.5 <sup>†</sup>	DJH9 1.3 <sup>†</sup>	DJI4 4.6 <sup>†</sup>	DJI7 -2.4 <sup>†</sup>	DJJ5 -10.5	DJJ8 -7.6 <sup>†</sup>
Q4	4.8	1.9	-7.3	-1.9	-	-4.3	0.4	3.7	-0.9	-0.9	-3.6
2014 Q1	4.9	1.8	-6.2	-5.5	-0.9	-3.8	-1.6	6.2	-0.3	-1.3 <sup>†</sup>	-2.3
Q2	4.3	2.6	-3.1	-4.9	-1.3	1.7	-0.3	3.3	0.9	-0.8	-0.4
Q3	3.6	7.6	-0.6	-4.5	-2.8	3.4	0.6	2.5	1.8	-2.2	5.4
Q4	4.8	6.6	2.3	-1.4	0.5	1.9	4.5	1.1	1.7	-3.8	8.8
2015 Q1	3.1	2.4	3.0	1.5	-0.5	-0.4	2.6	1.4	0.3	-4.0	4.3
Q2	3.3	-0.3	2.2	3.5	-2.5	-2.3	3.4	2.5	0.9	-4.3	5.8
Q3	3.0	-4.9	1.3	4.9	-1.9	-0.7	0.8	3.1	0.2	-3.3	2.6
Q4	1.9	-7.1	2.3	4.2	-2.7	1.8	-0.8	1.4	-0.8	-0.1	6.6
2016 Q1	4.3	-5.8	2.3	6.9	-1.4	2.0	1.5	1.3	0.6	-2.9	8.1
Q2	3.0	-4.5	2.7	4.3	2.3	1.9	0.7	0.9	-0.7	-4.8	10.1
Q3	3.5	-3.4	3.5	7.0	3.8	1.6	2.0	1.6	-0.5	-2.9	6.7
Q4	5.3	-1.9	4.6	7.0	3.6	1.4	1.9	2.1	0.2	-7.5	3.6
2017 Q1	1.5	-0.8	2.9	0.9	4.8	-1.5	2.7	2.1	0.7	-3.6	-
Q2	2.1	-1.4	2.6	2.3	2.7	2.1	2.5	0.6	1.0	2.3	-3.8
<b>Per cent change on previous quarter</b>											
2013 Q3	DJE7 1.2	DJF2 -2.0 <sup>†</sup>	DJF5 -1.9	DJF8 -0.6	DJG6 -0.1 <sup>†</sup>	DJH5 -1.1 <sup>†</sup>	DJH8 0.7	DJI3 1.2 <sup>†</sup>	DJI6 -0.1 <sup>†</sup>	DJJ4 -1.0 <sup>†</sup>	DJJ7 -2.2 <sup>†</sup>
Q4	0.4 <sup>†</sup>	1.6	-2.3 <sup>†</sup>	-1.5 <sup>†</sup>	-1.5	0.1	-1.3 <sup>†</sup>	1.9	0.7	1.0	-1.0
2014 Q1	1.6	2.5	0.1	-2.6	0.3	0.9	-0.3	0.4	0.3	-1.0	4.1
Q2	1.0	0.4	1.0	-0.2	0.1	1.8	0.6	-0.3	-	0.2	-1.1
Q3	0.5	2.9	0.6	-0.3	-1.7	0.6	1.7	0.4	0.8	-2.4	3.4
Q4	1.5	0.7	0.6	1.7	1.8	-1.4	2.5	0.5	0.6	-0.6	2.2
2015 Q1	-	-1.6	0.7	0.3	-0.7	-1.4	-2.0	0.8	-1.1	-1.1	-0.2
Q2	1.2	-2.2	0.3	1.8	-2.0	-0.1	1.3	0.7	0.7	-0.2	0.3
Q3	0.2	-1.9	-0.3	1.1	-1.1	2.2	-0.9	1.0	-	-1.3	0.3
Q4	0.4	-1.6	1.6	1.0	1.1	1.2	0.9	-1.1	-0.3	2.6	6.2
2016 Q1	2.3	-0.1	0.8	2.8	0.6	-1.2	0.2	0.6	0.2	-3.9	1.2
Q2	-	-0.9	0.6	-0.6	1.7	-0.2	0.6	0.4	-0.6	-2.1	2.1
Q3	0.7	-0.8	0.5	3.7	0.4	1.8	0.3	1.7	0.2	0.6	-2.8
Q4	2.2	-0.1	2.6	1.1	0.9	1.0	0.8	-0.6	0.4	-2.3	3.1
2017 Q1	-1.4	1.0	-1.0	-3.1	1.7	-4.0	1.0	0.7	0.7	0.1	-2.2
Q2	0.5	-1.4	0.4	0.8	-0.3	3.4	0.5	-1.1	-0.3	4.0	-1.8

<sup>†</sup> 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

Seasonally adjusted (2015=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>											
2013	22.8	26.6	16.3	42.0	60.3	244.6	27.4	18.3	24.5	20.5	30.0
<b>Indices</b>											
	DJQ4	DJQ7	DJR2	DJR5	DJS3	DJS6	DJS9	DJT7	DJU2	DJV6	DJV9
2013	93.1 <sup>†</sup>	97.9 <sup>†</sup>	100.8 <sup>†</sup>	100.1 <sup>†</sup>	102.4 <sup>†</sup>	102.1 <sup>†</sup>	99.1 <sup>†</sup>	93.9 <sup>†</sup>	99.2 <sup>†</sup>	107.4 <sup>†</sup>	92.7 <sup>†</sup>
2014	96.3	102.6	99.8	95.7	100.7	101.7	99.0	100.3	99.7	103.5	94.8
2015	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2016	104.0	97.0	103.5	104.2	99.7	99.9	102.8	98.8	100.4	96.9	105.5
2013 Q3	93.8 <sup>†</sup>	97.0 <sup>†</sup>	99.3 <sup>†</sup>	98.8 <sup>†</sup>	101.6 <sup>†</sup>	99.1 <sup>†</sup>	99.2 <sup>†</sup>	95.2 <sup>†</sup>	98.2 <sup>†</sup>	107.7 <sup>†</sup>	92.7 <sup>†</sup>
Q4	94.5	98.4	98.1	98.2	101.7	99.8	98.5	97.8	99.1	107.1	87.6
2014 Q1	95.6	99.5	99.5	95.6	100.4	100.1	98.9	99.7	99.4	106.6	91.8
Q2	96.1	100.4	100.0	95.2	101.0	101.9	97.4	100.8	99.4	103.1	93.8
Q3	95.6	104.3	100.1	95.8	100.1	105.4	98.9	100.7	99.8	103.5	94.2
Q4	98.0	106.2	99.8	96.3	101.5	99.2	101.0	99.9	100.2	100.7	99.7
2015 Q1	98.6	103.4	99.8	98.1	102.1	98.4	98.7	100.3	100.0	98.1	97.3
Q2	99.9	101.0	99.6	99.0	99.9	97.5	100.6	100.9	100.5	100.7	100.1
Q3	101.3	99.1	99.1	101.3	99.7	99.7	100.9	101.1	100.5	100.7	99.2
Q4	100.2	96.5	101.5	101.6	98.4	104.5	99.8	97.7	99.1	100.5	103.4
2016 Q1	102.2	97.9	103.1	103.4	98.0	102.4	100.3	99.4	100.0	97.3	105.0
Q2	103.5	97.0	102.5	103.4	99.8	96.4	104.5	96.4	100.9	98.1	105.0
Q3	103.8	96.5	103.3	104.8	99.5	103.3	103.4	99.2	100.1	96.8	105.8
Q4	106.6	96.4	105.1	105.5	101.3	97.6	103.0	100.2	100.6	95.5	106.1
2017 Q1	104.2	96.1	104.7	101.5	104.4	97.9	104.7	100.2	100.3	92.6	103.2
Q2	104.9	96.7	104.9	101.9	103.9	101.2	104.9	99.5	100.2	96.0	101.0
<b>Per cent change on quarter a year ago</b>	DJQ6	DJQ9	DJR4	DJR7	DJS5	DJS8	DJT6	DJT9	DJU7	DJV8	DJW3
2013 Q3	3.0 <sup>†</sup>	1.0 <sup>†</sup>	-8.5 <sup>†</sup>	-2.9 <sup>†</sup>	-0.8 <sup>†</sup>	-4.7 <sup>†</sup>	1.5 <sup>†</sup>	6.4 <sup>†</sup>	-2.4 <sup>†</sup>	-6.0 <sup>†</sup>	-8.5 <sup>†</sup>
Q4	4.9	1.9	-8.1	-5.5	-0.5	-3.1	-0.4	4.9	-0.4	-0.5	-5.0
2014 Q1	4.5	1.9	-3.9	-6.3	-3.0	-5.0	-0.8	10.9	-0.7	-	-4.8
Q2	3.6	2.0	-2.4	-6.0	-1.8	-2.1	-1.5	8.8	0.2	-4.5	-0.5
Q3	2.0	7.5	0.8	-3.0	-1.4	6.4	-0.3	5.8	1.7	-4.0	1.6
Q4	3.7	7.9	1.8	-1.9	-0.2	-0.6	2.5	2.1	1.1	-5.9	13.7
2015 Q1	3.2	3.9	0.4	2.6	1.7	-1.8	-0.2	0.6	0.5	-8.0	6.0
Q2	4.0	0.6	-0.3	4.1	-1.1	-4.3	3.2	0.1	1.1	-2.4	6.7
Q3	5.9	-5.0	-1.0	5.7	-0.4	-5.4	2.0	0.4	0.6	-2.7	5.3
Q4	2.3	-9.1	1.7	5.5	-3.1	5.3	-1.2	-2.3	-1.1	-0.2	3.8
2016 Q1	3.6	-5.3	3.3	5.4	-3.9	4.2	1.6	-0.9	0.1	-0.9	8.0
Q2	3.6	-3.9	2.9	4.4	-	-1.1	3.9	-4.5	0.4	-2.5	4.8
Q3	2.5	-2.7	4.2	3.4	-0.2	3.6	2.5	-1.9	-0.3	-3.9	6.6
Q4	6.4	-0.1	3.6	3.9	3.0	-6.6	3.1	2.5	1.5	-5.0	2.5
2017 Q1	2.0	-1.9	1.5	-1.8	6.5	-4.4	4.4	0.9	0.3	-4.8	-1.7
Q2	1.3	-0.4	2.4	-1.4	4.1	5.1	0.4	3.2	-0.7	-2.2	-3.7
<b>Per cent change on previous quarter</b>	DJQ5	DJQ8	DJR3	DJR6	DJS4	DJS7	DJT2	DJT8	DJU6	DJV7	DJW2
2013 Q3	1.1 <sup>†</sup>	-1.4 <sup>†</sup>	-3.1 <sup>†</sup>	-2.4	-1.2 <sup>†</sup>	-4.8 <sup>†</sup>	0.3	2.8 <sup>†</sup>	-1.1	-0.2 <sup>†</sup>	-1.6 <sup>†</sup>
Q4	0.7	1.4	-1.3	-0.7 <sup>†</sup>	0.2	0.8	-0.7 <sup>†</sup>	2.8	1.0 <sup>†</sup>	-0.6	-5.5
2014 Q1	1.2	1.0	1.4	-2.6	-1.4	0.3	0.3	1.9	0.3	-0.5	4.7
Q2	0.6	0.9	0.5	-0.4	0.6	1.8	-1.5	1.1	-	-3.3	2.2
Q3	-0.5	4.0	0.1	0.7	-0.8	3.4	1.5	-0.1	0.4	0.3	0.4
Q4	2.4	1.8	-0.3	0.5	1.4	-5.8	2.2	-0.8	0.4	-2.6	5.8
2015 Q1	0.7	-2.7	-	1.8	0.5	-0.9	-2.3	0.3	-0.2	-2.6	-2.4
Q2	1.3	-2.3	-0.2	1.0	-2.2	-0.9	1.9	0.7	0.5	2.6	2.9
Q3	1.3	-1.8	-0.6	2.3	-0.2	2.2	0.3	0.2	-	-0.1	-0.9
Q4	-1.1	-2.7	2.4	0.2	-1.3	4.9	-1.0	-3.4	-1.4	-0.1	4.3
2016 Q1	2.0	1.4	1.6	1.8	-0.4	-2.0	0.4	1.7	1.0	-3.2	1.5
Q2	1.3	-0.9	-0.6	-	1.8	-5.9	4.2	-3.0	0.9	0.9	-0.1
Q3	0.3	-0.6	0.7	1.3	-0.4	7.2	-1.0	2.9	-0.8	-1.4	0.8
Q4	2.6	-0.1	1.8	0.7	1.8	-5.5	-0.4	0.9	0.5	-1.3	0.3
2017 Q1	-2.2	-0.4	-0.4	-3.8	3.1	0.3	1.6	-	-0.3	-3.1	-2.7
Q2	0.7	0.6	0.3	0.4	-0.4	3.4	0.3	-0.7	-0.1	3.7	-2.1

<sup>†</sup> 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

Seasonally adjusted (2015=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
2013	98.3 <sup>†</sup>	..	..	98.4 <sup>†</sup>	..	..
2014	99.2	..	..	99.0	..	..
2015	100.0	..	..	100.0	..	..
2016	101.1	..	..	101.3	..	..
2013 Q3	98.3 <sup>†</sup>	-0.5	-0.2	98.1 <sup>†</sup>	-1.1	-0.6
Q4	98.2	0.5	-0.1	98.3	-0.2	0.2
2014 Q1	98.3	-	0.1	98.4	-0.1 <sup>†</sup>	0.1
Q2	98.9	0.4	0.6	98.7	-	0.3
Q3	99.4	1.1	0.5	99.3	1.2	0.5
Q4	100.1	1.9	0.7	99.6	1.3	0.3
2015 Q1	99.7	1.4	-0.4	99.8	1.4	0.3 <sup>†</sup>
Q2	100.4	1.5	0.7	100.2	1.5	0.3
Q3	99.9	0.6	-0.4	100.4	1.1	0.2
Q4	100.0	-0.1	-	99.6	-	-0.8
2016 Q1	100.3	0.6	0.4	100.4	0.6	0.9
Q2	100.7	0.3	0.4	101.0	0.8	0.5
Q3	101.3	1.4	0.6	101.4	1.0	0.5
Q4	102.1	2.2	0.8	102.2	2.6	0.8
2017 Q1	101.7	1.4	-0.4	101.4	1.0	-0.8
Q2	101.6	0.9	-0.1	101.3	0.4	-0.1

<sup>†</sup>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<sup>1</sup>

United Kingdom

(2015=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
<b>Level (£)</b>				
2013	31 200	14.2	46 300	24.0
<b>Indices</b>				
	DJ4K	DJJ9	DJD8	DJP6
2000	85.7 <sup>†</sup>	81.0 <sup>†</sup>	92.8 <sup>†</sup>	90.3 <sup>†</sup>
2001	88.0	85.9	92.7	90.4
2002	101.4	100.3	96.3	94.7
2003	97.3	94.6	98.5	98.2
2004	92.9	90.2	101.2	101.0
2005	94.1	94.1	95.8	96.2
2006	89.9	87.7	95.4	95.6
2007	87.4	87.1	94.4	94.8
2008	90.3	89.5	91.6	93.2
2009	83.8	77.6	82.7	86.0
2010	78.5	72.1	94.7	97.1
2011	86.6	82.4	97.1	101.3
2012	80.4	80.2	91.2	94.6
2013	90.6	87.9	92.4	93.7
2014	89.5	86.1	97.8	96.7
2015	100.0	100.0	100.0	100.0
2016	93.4	90.3	101.4	101.3
<b>Per cent change on previous year</b>				
	DJ4L	DJK2	DJE2	DJP8
2000	9.8	8.6	0.2	-0.4
2001	2.7 <sup>†</sup>	6.0 <sup>†</sup>	-0.2	0.1
2002	15.2	16.8	3.9	4.8
2003	-4.0	-5.7	2.3	3.7
2004	-4.5	-4.6	2.7	2.8
2005	1.3	4.2	-5.3	-4.8 <sup>†</sup>
2006	-4.5	-6.7	-0.5	-0.6
2007	-2.7	-0.7	-1.0	-0.8
2008	3.2	2.8	-3.1	-1.7
2009	-7.1	-13.3	-9.7	-7.7
2010	-6.4	-7.1	14.6	12.9
2011	10.3	14.3	2.5	4.3
2012	-7.1	-2.7	-6.1	-6.7
2013	12.7	9.6	1.4	-0.9
2014	-1.3	-2.0	5.8 <sup>†</sup>	3.2
2015	11.8	16.1	2.3	3.4
2016	-6.6	-9.7	1.4	1.3

<sup>1</sup> Productivity figures for industry F are experimental

<sup>†</sup> 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)

		2009	2010	2011	2012	2013	2014	2015
United Kingdom		100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Nominal GVA per filled job</b>								
North East	DJDO	83.1	83.7	84.9	85.7	84.9	86.1	85.3
North West	DJDP	91.8	90.9	88.9	89.5	89.9	88.7	90.1
Yorkshire and The Humber	DMBC	88.8	87.1	86.7	86.8	86.7	85.0	84.3
East Midlands	DMBE	86.7	87.6	86.6	87.1	88.3	88.9	87.6
West Midlands	DMDN	86.5	88.1	88.4	88.0	87.6	88.4	87.3
East of England	DMDQ	98.7	99.0	98.2	97.1	98.4	98.0	97.5
London	DMGH	138.7	140.1	142.9	139.9	137.1	138.8	139.0
South East	DMGJ	106.8	106.9	106.0	106.7	107.6	107.2	107.1
South West	DMGK	91.0	91.2	88.9	89.9	89.3	89.0	89.4
England	DMGL	101.8	102.1	102.0	101.9	101.8	102.0	101.9
Wales	DMGM	80.0	78.6	81.1	81.4	81.5	78.4	79.0
Scotland	DMGX	96.7	95.0	94.3	93.8	95.2	95.4	96.2
Northern Ireland	DMOA	85.6	83.5	84.6	86.8	85.5	83.8	83.5
<b>Nominal GVA per hour worked</b>								
North East	DMOB	85.1	85.4	87.4	88.4	87.7	88.0	87.6
North West	DMOH	93.2	91.4	90.5	90.5	91.6	88.8	90.1
Yorkshire and The Humber	DMOK	90.2	88.4	87.5	87.7	87.9	86.0	86.1
East Midlands	DMOL	87.0	87.1	87.4	88.0	89.3	90.3	86.9
West Midlands	DMON	86.4	87.3	88.7	87.9	87.4	87.9	85.3
East of England	DMOO	100.2	100.3	99.6	98.4	99.2	100.1	99.2
London	DMOR	130.2	131.1	133.1	130.9	128.9	130.9	131.6
South East	DMOS	108.6	109.9	107.9	107.7	109.0	108.2	109.3
South West	DMOT	93.9	94.3	91.6	92.9	92.1	92.2	92.8
England	DMOV	101.8	102.0	101.9	101.7	101.8	101.8	101.7
Wales	DMOW	81.9	80.8	82.0	84.0	83.4	81.2	80.6
Scotland	DMOY	96.8	96.1	95.3	95.7	96.1	97.0	98.3
Northern Ireland	DMWA	81.5	80.9	82.2	83.5	81.1	79.3	80.9

†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

Seasonally adjusted (2015=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	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
2013	96.0 <sup>†</sup>	96.1 <sup>†</sup>	95.9 <sup>†</sup>	100.0	98.5 <sup>†</sup>	98.9 <sup>†</sup>	98.4 <sup>†</sup>	98.5 <sup>†</sup>	95.9 <sup>†</sup>	95.6 <sup>†</sup>
2014	98.3	98.4	98.5	100.1	98.9	99.0	99.2	99.0	98.3	98.1
2015	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2016	101.4	101.2	101.4	99.8	99.6	99.0	99.5	98.9	101.3	101.5
2013 Q3	96.2 <sup>†</sup>	96.3 <sup>†</sup>	96.5 <sup>†</sup>	100.1 <sup>†</sup>	98.8 <sup>†</sup>	99.9 <sup>†</sup>	98.9 <sup>†</sup>	99.6 <sup>†</sup>	96.2 <sup>†</sup>	96.1 <sup>†</sup>
Q4	96.8	96.9	96.6	100.1	99.0	98.6	98.9	98.2	96.7	96.3
2014 Q1	97.6	97.7	97.5	100.1	98.2	98.6	98.2	98.4	97.4	96.9
Q2	98.2	98.3	98.4	100.2	98.4	98.8	98.7	99.0	98.3	98.0
Q3	98.6	98.7	98.8	100.1	99.4	99.2	99.7	99.2	98.5	98.5
Q4	98.9	99.0	99.3	100.1	99.6	99.5	100.0	99.5	98.8	98.9
2015 Q1	99.6	99.8	99.6	100.1	100.6	100.2	100.8	100.3	99.6	99.4
Q2	99.5	99.5	99.5	100.1	100.1	100.0	99.9	99.7	99.7	99.5
Q3	100.1	100.1	99.6	99.9	100.0	99.2	99.8	99.2	100.2	99.7
Q4	100.8	100.6	101.3	99.9	99.2	100.5	99.5	100.8	100.6	101.4
2016 Q1	100.9	100.7	101.0	99.8	99.4	99.3	99.2	99.4	100.7	101.1
Q2	101.4	101.2	101.2	99.8	100.1	99.2	100.1	99.3	101.3	101.2
Q3	101.6	101.4	101.6	99.9	99.7	98.8	99.6	98.8	101.6	101.9
Q4	101.7	101.5	101.8	99.8	99.5	98.5	99.2	98.0	101.6	101.9
2017 Q1	102.1	101.8	102.5	99.7	99.1	98.5	99.0	98.2	101.8	102.6
Q2	102.5	102.2	103.0	99.7	100.1	99.5	100.0	99.2	102.2	102.9
<b>Per cent change on quarter a year ago</b>	DIW9	LNNO	LZVC		DJW8	DK3U	DJX3	DK44	DK2I	DK58
2013 Q3	1.2	1.3	1.9		-1.5 <sup>†</sup>	0.7	-1.0	0.9	1.8	2.0
Q4	1.3	1.3	1.7		-0.1	1.2	-0.3	0.6	1.6	1.7
2014 Q1	2.3	2.5	2.5		-0.1	-0.1	0.2	0.3 <sup>†</sup>	2.5	2.2
Q2	2.6	2.8	3.2		0.7	0.4 <sup>†</sup>	1.0	0.8	2.8	3.1
Q3	2.4	2.5	2.4		0.6	-0.8	0.9	-0.4	2.5	2.5
Q4	2.2	2.2	2.8		0.6	1.0	1.1	1.3	2.2	2.7
2015 Q1	2.1	2.1	2.2		2.5	1.6	2.6	2.0	2.2	2.6
Q2	1.3	1.2	1.1		1.7	1.3	1.3	0.7	1.5	1.6
Q3	1.6	1.4	0.8		0.6	0.1	0.1 <sup>†</sup>	-	1.6	1.2
Q4	1.9	1.6	2.1		-0.4	1.0	-0.5	1.3	1.8	2.5
2016 Q1	1.3	0.9	1.4		-1.2	-0.9	-1.5	-1.0	1.2	1.7
Q2	2.0	1.7	1.8		-	-0.8	0.2	-0.4	1.6	1.7
Q3	1.5	1.4	1.9		-0.3	-0.4	-0.2	-0.4	1.5	2.2
Q4	0.9	0.8	0.4		0.2	-2.0	-0.3	-2.8	1.0	0.5
2017 Q1	1.2	1.1	1.6		-0.3	-0.9	-0.2	-1.2	1.1	1.5
Q2	1.1	1.0	1.8		-	0.3	-0.1	-0.1	0.9	1.7
<b>Per cent change on previous quarter</b>	DIW8	TXAJ	TXBU		DJW7	DK3T	DJX2	DK3Y	DK2H	DK57
2013 Q3	0.6 <sup>†</sup>	0.6	1.2		1.1	1.6	1.2	1.4 <sup>†</sup>	0.6	1.1
Q4	0.6	0.6	0.1		0.1	-1.3 <sup>†</sup>	- <sup>†</sup>	-1.4	0.6	0.3
2014 Q1	0.8	0.8	0.9		-0.8	-	-0.7	0.2	0.7	0.6
Q2	0.6	0.6	1.0		0.2 <sup>†</sup>	0.1	0.5	0.6	0.9	1.1 <sup>†</sup>
Q3	0.4	0.4	0.4		1.0	0.4	1.1	0.2	0.3	0.5
Q4	0.4	0.3	0.5		0.2	0.4	0.2	0.3	0.3	0.5
2015 Q1	0.7	0.8	0.3		1.0	0.7	0.8	0.8	0.7	0.5
Q2	-0.1	-0.2	-0.1		-0.5	-0.2	-0.8	-0.6	0.1	0.1
Q3	0.7	0.5	0.2		-0.1	-0.8	-0.1	-0.5	0.5	0.2
Q4	0.7	0.6	1.7		-0.8	1.3	-0.3	1.7	0.4 <sup>†</sup>	1.7
2016 Q1	0.1	-	-0.4		0.1	-1.2	-0.3	-1.4	0.1	-0.2
Q2	0.5	0.5	0.3		0.7	-0.2	0.9	-0.1	0.6	0.1
Q3	0.1	0.2	0.3		-0.4	-0.4	-0.5	-0.5	0.3	0.6
Q4	0.1	0.1	0.2		-0.2	-0.3	-0.4	-0.7	-0.1	0.1
2017 Q1	0.4	0.3	0.8		-0.3	-	-0.1	0.1	0.2	0.7
Q2	0.4	0.4	0.4		1.0	1.0	1.0	1.0	0.4	0.2

<sup>†</sup>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
2013 Q1	-0.1	-	-0.2	-	-0.1	-	0.2	-0.1
Q2	0.1	-	0.2	-	0.1	-	0.1	0.3
Q3	0.2	0.1	0.2	0.2	0.2	0.2	-	-0.1
Q4	0.2	0.1	0.2	-	0.2	0.1	-	-0.1
2014 Q1	0.3	0.1	0.3	0.1	0.2	0.1	-0.1	-0.3
Q2	0.2	-0.1	0.2	-0.1	0.2	-0.1	-0.3	0.1
Q3	-	-	-	-	-	-0.1	-0.3	-0.1
Q4	0.1	0.2	0.1	0.2	0.1	0.2	-0.3	-0.1
2015 Q1	0.1	0.1	-	-	-	0.1	-	0.1
Q2	0.2	0.1	0.2	0.1	0.3	0.1	-0.2	-
Q3	0.1	-0.2	0.1	-0.1	0.1	-0.2	0.3	0.4
Q4	-0.1	-0.1	-	-	-	-	0.2	-0.2
2016 Q1	-0.1	-	-0.1	-	-0.1	-	0.2	-
Q2	-0.3	-	-0.2	-	-0.3	-0.1	0.4	0.2
Q3	-0.2	-0.1	-0.2	-0.1	-0.2	-0.2	0.1	-
Q4	-0.3	-0.1	-0.3	-0.1	-0.3	-0.1	0.4	0.1
2017 Q1	-0.2	0.1	-0.3	-	-0.2	-	0.3	-
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	Per cent change on quarter a year ago	Per cent change on previous quarter
	DJ4R	DJ4Q	DJK8	DJK7	DJ4J	DJ4I		
2013 Q1	-	-0.1	-	-	-	0.1		
Q2	-0.1	-0.2	-0.1	-0.2	0.1	0.1		
Q3	-	0.2	0.1	0.3	-0.1	-0.3		
Q4	0.1	-	-	-	-0.1	-		
2014 Q1	-0.1	-0.2	-0.1	-0.2	0.1	0.2		
Q2	-	-	0.1	-	-	-0.1		
Q3	-	0.2	-	0.2	-0.1	-0.2		
Q4	0.1	-	0.1	0.1	-0.1	-		
2015 Q1	0.3	-	0.3	0.1	-0.3	-		
Q2	0.3	0.1	0.3	0.1	-0.3	-		
Q3	0.1	-0.1	-	-0.1	-	0.1		
Q4	-0.1	-0.1	-	-	-	0.1		
2016 Q1	0.2	0.3	0.3	0.4	-0.2	-0.2		
Q2	0.1	-	-	-0.2	-0.1	0.1		
Q3	0.1	-0.1	0.1	-0.1	-0.1	-		
Q4	0.2	0.1	0.2	0.1	-0.3	-		
2017 Q1	0.2	0.2	0.1	0.2	-0.2	-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	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				
2013 Q1	-0.2	-	-0.2	-				
Q2	0.1	-	0.2	-				
Q3	0.2	0.1	0.2	-				
Q4	0.2	0.1	0.1	-				
2014 Q1	0.3	0.1	0.3	0.1				
Q2	0.1	-0.2	0.1	-0.2				
Q3	-0.1	-0.1	-	-				
Q4	-	0.2	-	0.2				
2015 Q1	-0.1	-	-	-				
Q2	0.2	0.1	0.2	0.1				
Q3	0.1	-0.1	0.2	-0.1				
Q4	-0.2	-0.2	-0.2	-0.2				
2016 Q1	-0.2	-	-0.1	-				
Q2	-0.5	-0.2	-0.4	-0.4				
Q3	-0.4	-0.2	-0.4	-0.4				
Q4	-0.4	-0.2	-0.5	-0.5				
2017 Q1	-0.6	-	-0.5	-				