Statistical bulletin

Labour productivity, UK: July to September 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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1 . Main points

- UK labour productivity, as measured by output per hour, is estimated to have grown by 0.9% from Quarter 2 (Apr to June) 2017 to Quarter 3 (July to Sept) 2017; this is the largest increase in productivity since Quarter 2 2011.

- Labour productivity grew in both the services and manufacturing industries; services productivity grew by 1.0% on the previous quarter, and manufacturing productivity also grew by 1.0%.

- Earnings and other labour costs growth outpaced productivity growth, resulting in unit labour cost (ULC) growth of 1.3% in the year to Quarter 3 2017, the lowest ULC growth since Quarter 2 2015.

2 . Things you need to know about this release

This release reports labour productivity estimates for Quarter 3 (July to Sept) 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").

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, therefore this is 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 22 December 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. Regional productivity figures presented in this release use the unbalanced income measure of current price gross value added.

Unless otherwise stated all figures are seasonally adjusted.

The next labour productivity bulletin (released 6 April 2018) will include a number of small methodological changes, previously consulted upon and agreed at a user group held in March 2017. More information on these will be included alongside the next bulletin. In addition, a user group will be held before the next bulletin to consult on additional methodological changes, including a proposed move to the balanced current price measure of GVA in the calculation of regional productivity. If you would like to attend this meeting, please email productivity@ons.gov.uk.

3 . Labour productivity up for the first time since Quarter 4 (Oct to Nov) 2016

Labour productivity on an output per hour basis – our headline measure – grew by 0.9% in Quarter 3 (July to Sept) 2017. This was the largest increase since Quarter 2 (Apr to Jun) 2011, and lifted productivity to 1.0% above its peak in Quarter 4 (Oct to Dec) 2007 prior to the economic downturn. Productivity for Quarter 3 2017 was 0.3% above the previous post-downturn peak that occurred in Quarter 4 2016.

An increase of 0.9% compares favourably with a long period of average productivity growth prior to the economic downturn. However, trend productivity growth remains lower since the economic downturn - commonly referred to as the "productivity puzzle". 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 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 3 2017, as measured by output per hour, was 16.6% below its pre-downturn trend – or, equivalently, productivity would have been 19.8% higher had it followed this pre-downturn trend[1].

Figure 1: Output per hour and output per worker

Seasonally adjusted, Quarter 1 (Jan to Mar) 1994 to Quarter 3 2017, UK

Figure 1: Output per hour and output per worker

Seasonally adjusted, Quarter 1 (Jan to Mar) 1994 to Quarter 3 2017, UK

Index, quarter 4 2007 =100

Legend: Output per hour — Output per worker — Output per hour (trend) — Output per worker (trend)
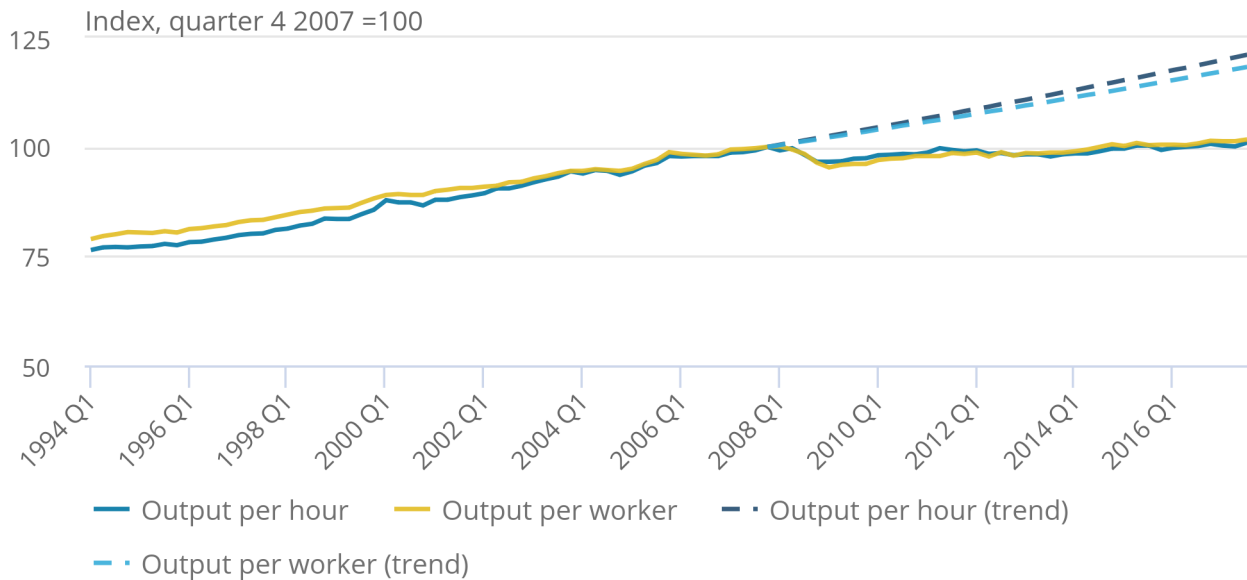
Source: Office for National Statistics

Figure 2 breaks down the growth in productivity between Quarter 1 (Jan to Mar) 2008 and Quarter 3 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 increase (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 3 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 3 2017, UK
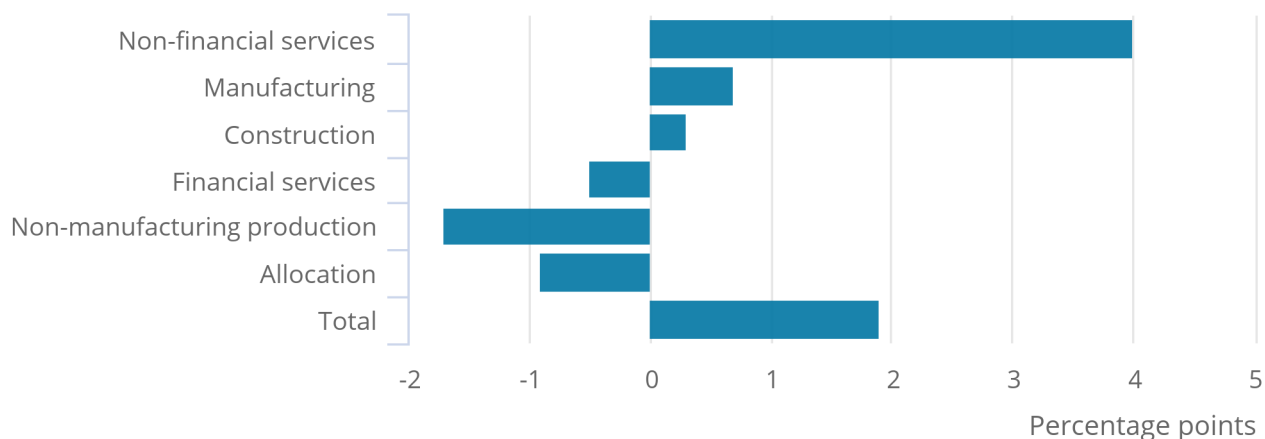
Source: Office for National Statistics

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 up for the first time since Quarter 4 (Oct to Nov) 2016

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 and also in manufacturing

Services output per hour grew by 1.0% in Quarter 3 (Jul to Sept) 2017, with output growing and hours worked falling over the period. Labour productivity also grew by 1.0% in manufacturing, with output growth outpacing growth in hours worked over 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 first panel, while manufacturing is represented in the second. 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 3 2017
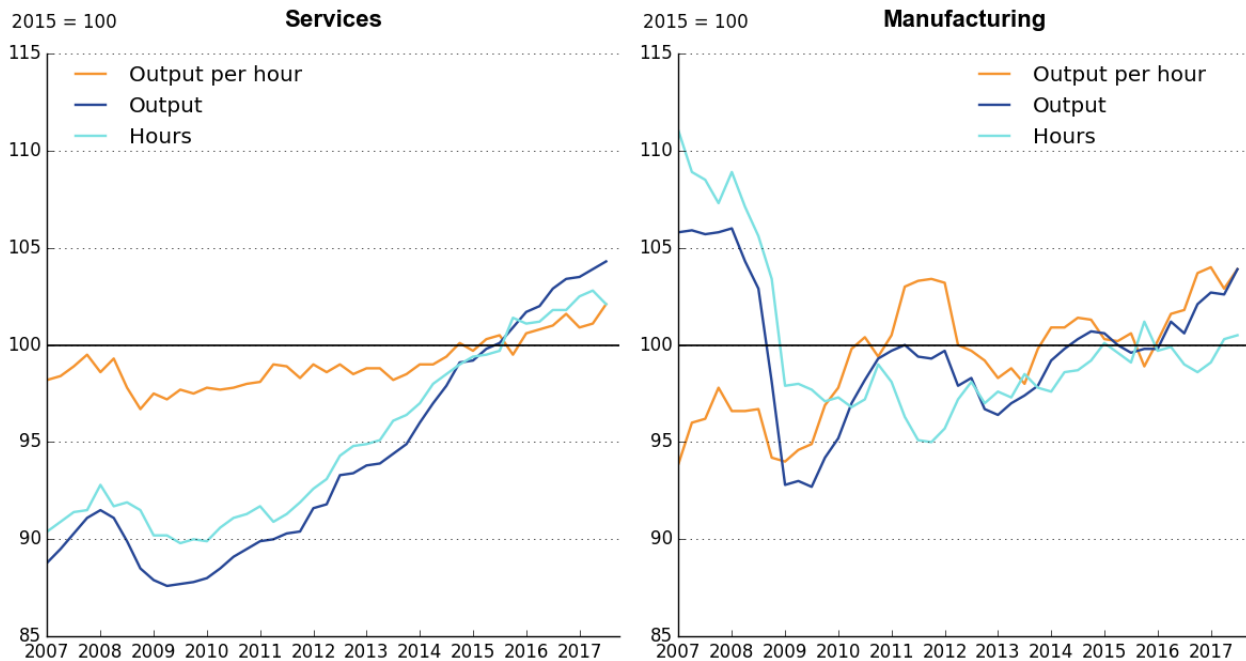
5 . Unit labour costs grow for the tenth consecutive quarter

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 1.3% in the year to Quarter 3 (July to Sept) 2017, reflecting a larger percentage increase in labour costs per hour than output per hour. This was the smallest increase in ULCs since Quarter 2 (Apr to June) 2015.

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 6.0% 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, ULCs have 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 3 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 3 2017
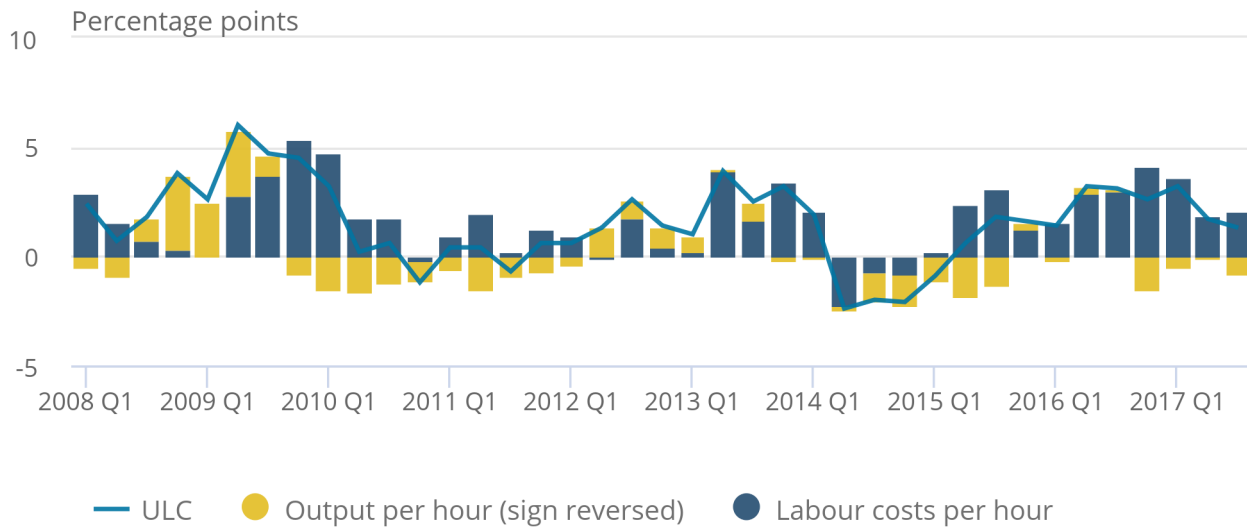
Source: Office for National Statistics

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: July to September 2017 draws together the headlines of the productivity releases into a single release, providing additional analysis of our productivity statistics (published 5 January 2018).

- Labour productivity: July to September 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 5 January 2018).

- [Quarterly UK public service productivity (experimental statistics): July to September 2017](#) contains the latest experimental estimates for quarterly UK total public service productivity, inputs and output (published 5 January 2018).

- [Public service productivity estimates: total public service, UK: 2015](#) 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 5 January 2018).

- [Public service productivity estimates: healthcare, 2015](#) 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 5 January 2018).

- [Quality adjustment of public service public order and safety output: current method](#) Presents new methodology used to quality adjust elements of public order and safety (POS) output, as part of estimates of UK total public service productivity.(published 5 January 2018).

- [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 October 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 October 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 October 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 October 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 October 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).

- [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).

Related content

International comparisons of productivity are 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 US 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 time periods since 2016. Revisions to jobs data resulting from an annual benchmarking to the Business Register and Employment Survey, as well as revisions to public sector employment revisions, affect hours and jobs in all time periods. Revisions resulting from seasonal adjust affect all periods, where seasonal adjustment is applied.

Most changes which had originally been scheduled for introduction in the current release have been postponed until the next release, to allow more time for quality assurance. The removal of rounding in the processing of market sector data has been implemented in this release.

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 unbalanced 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 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 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:

$$\Delta\text{ULC} = \Delta \left(\frac{\text{Labour Cost}}{\text{GVA}} \right)$$
$$\approx \Delta\text{Labour Cost per unit of Labour input} - \Delta\text{Labour productivty}$$

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

<div align="right">Seasonally adjusted (2015=100)</div>

	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
2013	98.1	98.1	98.3	98.9†	98.5†	98.9†	98.7†	98.3	98.6
2014	99.2	99.1	99.1	100.0	99.9	101.0	101.1	99.2	99.4
2015	100.0†	100.0†	100.0†	100.0	100.0	100.0	100.0	100.0	100.0†
2016	100.3†	100.5†	100.3†	101.5	102.3	101.0	101.8	101.2	101.0†
2013 Q4	98.2	98.1	98.4	99.2†	99.6†	99.2†	99.8†	98.1	98.5
2014 Q1	98.5	98.4	98.6	100.2	99.8	101.1	100.9	98.5	99.0
Q2	98.9	98.8	98.7	100.2	99.8	101.2	100.9	98.7†	99.0
Q3	99.5	99.4	99.2	99.7	100.1	100.7	101.4	99.3†	99.4
Q4	100.1	100.0	99.7	99.8	99.9	100.9	101.3	100.2	100.1
2015 Q1	99.7	99.6	99.7	99.1	99.5	99.9	100.3	99.6	99.7†
Q2	100.4	100.3	100.4	100.2	100.1	100.1	100.2	100.1	100.3
Q3	99.9	100.0	100.4	100.2	101.2	99.8	100.6	100.0	100.5
Q4	100.0	100.1	99.4	100.5	99.2	100.2	98.9	100.3	99.5
2016 Q1	100.0†	100.2	100.0†	100.3	100.3	100.4	100.2	101.0	100.6
Q2	99.9	100.1†	100.1	101.7	102.6	100.7	101.6	100.8	100.8
Q3	100.3	100.5†	100.3	101.6	102.8	100.6	101.8	101.3	101.0
Q4	100.9	101.2	100.9	102.5	103.6	102.4	103.7	101.9	101.6
2017 Q1	100.8	101.1	100.4	103.2	103.9	103.1	104.0	101.8	100.9
Q2	100.7	101.0	100.3	102.2	102.8	102.1	102.9	101.8	101.1
Q3	101.2	101.4	101.2	102.7	104.0	102.2	103.9	102.3	102.1
Per cent change on quarter a year ago									
	A4YN	LNNP	LZVD	DJ4O	DJK5†	DJ4R	DJK8	DJE5†	DJQ3†
2013 Q4	0.6	0.6	0.2	2.0	0.8†	1.6	0.6	0.1†	–†
2014 Q1	0.4	0.2	0.1	2.1†	2.1	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	0.9	2.3	2.1	3.5†	1.2	1.2
Q4	2.0	2.0	1.4	0.7	0.3	1.7	1.6	2.2	1.6
2015 Q1	1.3	1.2	1.1	–1.1	–0.3	–1.2	–0.6	1.1	0.8
Q2	1.5	1.6	1.8	–	0.3	–1.1†	–0.7	1.4	1.3
Q3	0.5	0.6	1.3	0.5	1.1	–0.9	–0.7	0.7	1.1
Q4	–0.2	0.1	–0.3	0.7	–0.7	–0.6	–2.4	0.1	–0.6
2016 Q1	0.3	0.7†	0.2	1.2	0.8	0.5	–0.1	1.4	0.9
Q2	–0.5	–0.2	–0.3	1.5	2.4	0.7	1.4	0.7	0.6
Q3	0.4†	0.5	–0.1†	1.4	1.6	0.8	1.1	1.3	0.5
Q4	0.9	1.0	1.5	1.9	4.4	2.2	4.9	1.6	2.0
2017 Q1	0.8	0.9	0.5	2.8	3.6	2.7	3.9	0.8	0.3
Q2	0.8	0.9	0.1	0.5	0.2	1.3	1.3	1.0	0.3
Q3	0.9	1.0	0.8	1.1	1.2	1.6	2.1	1.0	1.1
Per cent change on previous quarter									
	A4YO	DMWR	TXBB	DJ4N	DJK4	DJ4Q	DJK7	DJE4	DJQ2†
2013 Q4	–	–0.1	0.5	0.3	1.8	0.6†	1.8†	–	0.3†
2014 Q1	0.3	0.3	0.2	1.1	0.2	2.0	1.1	0.4	0.5
Q2	0.5	0.4	0.1	–	0.1	0.1	–	0.2	–
Q3	0.6	0.6	0.5	–0.5	0.3†	–0.5	0.5	0.6	0.4
Q4	0.7	0.7	0.6	0.1	–0.1	0.2	–	0.9	0.7
2015 Q1	–0.4	–0.5	–	–0.7	–0.4	–1.0	–1.0	–0.6	–0.3
Q2	0.7	0.8	0.7	1.0†	0.6	0.2	–0.1	0.5	0.5
Q3	–0.5	–0.3	–	–	1.0	–0.2	0.4	–0.1	0.2
Q4	–	0.1	–1.0	0.3	–1.9	0.4	–1.7	0.3	–0.9
2016 Q1	–†	0.1†	0.5	–0.2	1.1	0.2	1.3	0.7†	1.1
Q2	–0.1†	–0.1†	0.2	1.4	2.2	0.4	1.4	–0.2	0.2
Q3	0.4	0.3	0.2†	–0.1	0.3	–0.1	0.1	0.5	0.1
Q4	0.6	0.7	0.5	0.9	0.7	1.8	1.9	0.7	0.6
2017 Q1	–0.1	–	–0.5	0.7	0.3	0.7	0.3	–0.2	–0.6
Q2	–0.1	–0.1	–0.1	–0.9	–1.1	–1.0	–1.1	–	0.2
Q3	0.4	0.4	0.9	0.4	1.2	0.1	1.0	0.5	1.0

†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
Indices			
	LNNL	LNNK	DIX4
2013	100.4	98.8	97.7[†]
2014	99.2	98.6	97.5
2015	100.0	100.0	100.0
2016	102.6	102.3[†]	101.4
2013 Q4	101.1	99.7	98.3[†]
2014 Q1	100.2	99.1	97.3
Q2	99.0	98.7	97.0
Q3	98.7	97.8	97.7
Q4	99.0	98.7	98.1
2015 Q1	99.3	99.1	99.2
Q2	99.6	99.5	99.5
Q3	100.5	100.7	100.5
Q4	100.6	100.7	100.8
2016 Q1	100.7[†]	101.0[†]	101.0
Q2	102.8	102.4	101.9
Q3	103.6	102.9	102.2
Q4	103.3	102.6	100.4
2017 Q1	103.9	102.9	100.1
Q2	104.6	103.7	101.8
Q3	104.9	104.2	102.5
Per cent change on quarter a year ago			
	DMWN	LOJE	DJ4J
2013 Q4	3.2	2.5	0.8
2014 Q1	1.9	3.0	0.4[†]
Q2	−2.4	−1.1	−0.6
Q3	−2.0	−1.5	−0.3
Q4	−2.1	−1.0	−0.3
2015 Q1	−0.9	−	2.0
Q2	0.6	0.8	2.6
Q3	1.8	3.0	2.9
Q4	1.6	2.0	2.8
2016 Q1	1.4[†]	1.9[†]	1.8
Q2	3.2	3.0	2.3
Q3	3.1	2.2	1.7
Q4	2.6	2.0	−0.4
2017 Q1	3.2	1.9	−0.9
Q2	1.7	1.3	−0.1
Q3	1.3	1.2	0.3
Per cent change on previous quarter			
	DMWO	DMWL	DJ4I
2013 Q4	0.5	0.5	0.4
2014 Q1	−0.9	−0.6	−1.1
Q2	−1.2	−0.4	−0.3
Q3	−0.4	−1.0	0.7
Q4	0.4	0.9	0.4
2015 Q1	0.3	0.5	1.1
Q2	0.3	0.3	0.4[†]
Q3	0.9	1.2	0.9
Q4	0.1	−	0.3
2016 Q1	0.1[†]	0.3[†]	0.2
Q2	2.1	1.4	0.9
Q3	0.8	0.5	0.3
Q4	−0.3	−0.3	−1.7
2017 Q1	0.6	0.3	−0.3
Q2	0.7	0.8	1.7
Q3	0.4	0.5	0.7

[†] 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

	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 (£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
2013	99.9†	96.8†	101.5	91.4	97.7†	100.9†	96.5†	104.2†	98.7†	98.8†
2014	102.7	92.5	99.8†	95.1	102.6	102.4	97.3	115.9	99.4	102.7
2015	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2016	99.0	95.5	99.8	102.9†	105.2	101.5	105.4	103.7	97.5	101.5
2013 Q4	99.6†	91.8†	101.5	91.9	99.6†	103.1†	93.3	107.4†	98.1†	101.0†
2014 Q1	103.7	94.5	100.6†	93.8†	104.4	103.5	95.1†	112.8	99.4	103.0
Q2	103.1	97.3	99.4	92.7	103.9	101.9	97.6	117.6	100.3	101.5
Q3	102.2	88.3	99.5	95.8	102.1	102.3	98.0	117.8	98.1	102.7
Q4	101.8	89.9	99.6	98.2	99.9	102.0	98.3	115.6	100.0	103.7
2015 Q1	100.5	96.6	100.6	99.5	99.6	101.9	96.5	103.1	100.0	99.5
Q2	99.1	101.5	99.1	99.6	97.5	101.7	101.4	99.2	101.9	100.6
Q3	100.3	103.4	100.1	100.0	100.8	96.9	101.0	98.8	99.2	100.0
Q4	100.1	98.5	100.3	100.9	102.2	99.5	101.1	98.9	98.9	99.9
2016 Q1	99.2	103.4	98.6	100.3	104.6	102.8	102.1	99.0	97.0	100.1
Q2	99.4	93.6	100.6	104.8	105.5	100.4	105.6	100.8	98.8	98.3
Q3	98.9	92.7	100.1	101.1	103.1	101.1	103.9	105.7	96.0	103.9
Q4	98.4	92.1	99.9	105.4	107.7	101.7	109.9	109.2	98.0	103.6
2017 Q1	98.9	95.3	104.8	96.1	108.5	99.0	111.5	114.4	101.6	105.9
Q2	98.2	97.0	101.2	98.8	107.9	98.0	110.8	112.6	100.2	102.6
Q3	99.1	99.2	102.8	97.0	107.0	97.4	110.9	113.0	103.6	99.9
Per cent change on quarter a year ago										
	DJ56	DJ5E	DJ5H	DJ5K	DJ5N	DJB6	DJB9	DJC4	DJD2	DJD7
2013 Q4	−1.3	−11.8†	4.7	4.9	3.0†	1.7	−7.3	−7.0	5.6	14.9†
2014 Q1	3.6†	−8.3	1.7	6.5	5.3	3.2	−4.4	10.1†	0.2†	7.9
Q2	2.0	0.1	−3.0	−3.3	8.5	2.1	−1.5	15.6	2.1	3.9
Q3	3.5	−7.3	−3.6	6.5	5.8	1.7	4.1	12.2	−1.1	1.5
Q4	2.2	−2.1	−1.9	6.9	0.4	−1.1	5.4	7.6	1.9	2.7
2015 Q1	−3.0	2.2	−	6.2	−4.6	−1.6†	1.4	−8.6	0.6	−3.4
Q2	−3.9	4.4	−0.4†	7.5†	−6.2	−0.1	3.9†	−15.6	1.7	−0.9
Q3	−1.9	17.1	0.5	4.3	−1.2	−5.3	3.0	−16.1	1.1	−2.6
Q4	−1.6	9.6	0.7	2.7	2.2	−2.5	2.9	−14.5	−1.1	−3.6
2016 Q1	−1.3	7.1	−2.0	0.7	5.1	0.9	5.8	−4.0	−3.0	0.6
Q2	0.3	−7.7	1.6	5.2	8.3	−1.3	4.1	1.6	−3.0	−2.2
Q3	−1.4	−10.4	−	1.1	2.3	4.4	2.9	7.0	−3.2	3.9
Q4	−1.7	−6.6	−0.4	4.6	5.4	2.2	8.6	10.5	−0.9	3.7
2017 Q1	−0.4	−7.8	6.3	−4.2	3.7	−3.7	9.2	15.6	4.8	5.8
Q2	−1.1	3.6	0.6	−5.8	2.3	−2.4	5.0	11.7	1.4	4.3
Q3	0.2	7.0	2.7	−4.0	3.8	−3.7	6.7	6.8	7.9	−3.9
Per cent change on previous quarter										
	DJ55	DJ58	DJ5G	DJ5J	DJ5M	DJB3	DJB8	DJC3	DJC6	DJD4
2013 Q4	0.8	−3.5†	−1.7	2.1	3.2	2.5	−1.0	2.3†	−1.1	−0.2†
2014 Q1	4.1†	2.9	−0.9†	2.0	4.9	0.4	2.0	5.0	1.3	2.0
Q2	−0.6	2.9	−1.2	−1.2	−0.5	−1.6	2.6	4.2	0.9	−1.5
Q3	−0.8	−9.2	0.1	3.4	−1.7†	0.4	0.4	0.2	−2.2	1.2
Q4	−0.4	1.8	0.1	2.5	−2.1	−0.3	0.3	−1.9	1.9†	1.0
2015 Q1	−1.2	7.4	1.0	1.4	−0.3	−0.1†	−1.9	−10.8	−	−4.0
Q2	−1.5	5.1	−1.5	0.1	−2.1	−0.1	5.1†	−3.7	1.9	1.1
Q3	1.3	1.9	1.0	0.4	3.4	−4.8	−0.5	−0.4	−2.7	−0.6
Q4	−0.2	−4.7	0.2	0.9†	1.4	2.7	0.2	−	−0.4	−0.1
2016 Q1	−0.8	4.9	−1.7	−0.6	2.4	3.3	1.0	0.1	−1.9	0.2
Q2	0.1	−9.5	2.1	4.5	0.9	−2.3	3.4	1.8	1.9	−1.7
Q3	−0.5	−1.0	−0.5	−3.6	−2.3	0.8	−1.5	4.9	−2.9	5.7
Q4	−0.5	−0.7	−0.2	4.3	4.5	0.5	5.7	3.3	2.1	−0.4
2017 Q1	0.5	3.5	4.9	−8.9	0.7	−2.7	1.5	4.8	3.7	2.3
Q2	−0.6	1.8	−3.4	2.8	−0.5	−1.0	−0.6	−1.6	−1.4	−3.2
Q3	0.9	2.2	1.5	−1.8	−0.9	−0.6	0.1	0.3	3.4	−2.6

† 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

	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 (£)										
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
2013	100.0†	100.2†	101.5†	90.2	98.4†	99.2†	94.6†	103.7†	100.7†	97.5†
2014	104.0	94.9	100.5	94.4	105.2	101.5	98.1	113.3	100.0	100.0
2015	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2016	100.0	95.2	102.7	102.0†	111.0	103.5	103.0	103.9	99.6	97.1
2013 Q4	98.6†	99.8†	100.7†	92.4†	100.0†	102.1†	95.6	107.7†	101.0†	100.4†
2014 Q1	102.7	101.7	99.9	94.2	104.4	102.1	93.8†	111.8	101.3	100.9
Q2	103.3	101.6	100.3	93.2	107.2	99.5	97.8	114.7	98.7	98.6
Q3	104.7	89.9	100.7	93.7	109.1	101.0	99.6	113.2	99.5	99.8
Q4	105.1	86.4	101.1	96.7	100.0	103.3	101.4	113.6	100.4	100.7
2015 Q1	102.2	93.1	104.5	99.8	98.0	100.4	97.9	103.5	99.8	100.6
Q2	100.7	97.9	99.8	101.2	97.1	103.1	98.8	99.5	100.4	101.1
Q3	99.2	105.8	98.8	100.5	101.6	99.5	102.1	100.6	100.3	101.0
Q4	97.8	103.2	96.8	98.6	103.2	97.1	101.2	96.4	99.5	97.2
2016 Q1	99.3	99.8	96.5	101.5	108.0	102.3	100.7	101.1	98.4	96.7
Q2	97.2	94.7	103.3	104.4	111.9	103.9	102.9	99.2	102.9	96.0
Q3	102.6	92.9	106.5	98.9	108.5	104.0	101.8	103.8	97.4	97.7
Q4	100.8	93.2	104.5	103.2	115.7	103.6	106.7	111.5	99.8	98.2
2017 Q1	101.6	92.5	104.8	94.2	113.5	103.5	109.2	115.3	102.0	102.9
Q2	102.4	95.7	102.3	95.8	110.4	99.4	111.9	114.3	100.3	99.7
Q3	104.0	96.0	102.7	100.9	107.8	101.7	112.1	115.6	104.6	97.6
Per cent change on quarter a year ago										
	DJL3	DJL6	DJM3	DJM6	DJM9	DJN6	DJN9	DJO7	DJP2	DJP5
2013 Q4	−1.4	−8.7	–	7.4	−0.1	−4.0†	−4.4	−5.9	6.7	13.3†
2014 Q1	2.2†	−0.5†	−1.9†	8.7	7.2†	1.4	−4.5†	11.2†	1.8	6.7
Q2	1.8	2.5	−2.8	1.2†	10.3	1.6	3.0	13.7	−1.6†	2.7
Q3	5.1	−9.9	0.5	4.6	10.3	5.1	11.2	7.1	−2.5	0.9
Q4	6.6	−13.5	0.4	4.6	–	1.2	6.0	5.5	−0.6	0.3
2015 Q1	−0.5	−8.4	4.6	5.9	−6.1	−1.7	4.4	−7.4	−1.5	−0.2
Q2	−2.5	−3.6	−0.4	8.7	−9.4	3.7	1.0	−13.3	1.7	2.5
Q3	−5.2	17.6	−1.9	7.2	−6.9	−1.5	2.5	−11.1	0.9	1.2
Q4	−6.9	19.4	−4.2	1.9	3.2	−6.0	−0.2	−15.2	−0.9	−3.5
2016 Q1	−2.8	7.2	−7.6	1.8	10.3	1.9	2.8	−2.3	−1.5	−4.0
Q2	−3.5	−3.3	3.4	3.1	15.2	0.8	4.1	−0.3	2.6	−5.1
Q3	3.4	−12.2	7.7	−1.5	6.8	4.6	−0.3	3.2	−2.9	−3.3
Q4	3.1	−9.6	7.9	4.7	12.1	6.8	5.4	15.7	0.3	1.0
2017 Q1	2.3	−7.4	8.6	−7.3	5.1	1.2	8.5	14.1	3.6	6.4
Q2	5.3	1.0	−0.9	−8.3	−1.3	−4.4	8.8	15.2	−2.6	3.9
Q3	1.4	3.4	−3.5	2.0	−0.6	−2.2	10.2	11.4	7.4	–
Per cent change on previous quarter										
	DJL2	DJL5	DJM2	DJM5	DJM8	DJN5	DJN8	DJO6	DJO9	DJP4
2013 Q4	−1.0	–	0.5	3.1	1.1†	6.2†	6.7	1.9	−1.0†	1.5
2014 Q1	4.1	1.9†	−0.8	2.0	4.4	–	−1.9†	3.8	0.4	0.5†
Q2	0.6†	−0.1	0.4†	−1.1†	2.7	−2.6	4.3	2.7†	−2.6	−2.3
Q3	1.4	−11.5	0.4	0.6	1.8	1.6	1.8	−1.3	0.8	1.2
Q4	0.4	−4.0	0.4	3.2	−8.3	2.3	1.8	0.4	0.9	1.0
2015 Q1	−2.8	7.8	3.4	3.2	−2.0	−2.8	−3.4	−8.9	−0.5	−0.1
Q2	−1.4	5.2	−4.4	1.5	−0.9	2.7	1.0	−3.9	0.5	0.4
Q3	−1.5	8.0	−1.0	−0.8	4.6	−3.5	3.3	1.1	–	−0.1
Q4	−1.4	−2.5	−2.0	−1.9	1.6	−2.4	−0.9	−4.2	−0.9	−3.7
2016 Q1	1.5	−3.2	−0.3	3.0	4.7	5.3	−0.5	4.9	−1.1	−0.6
Q2	−2.1	−5.1	7.0	2.9	3.6	1.6	2.2	−1.8	4.6	−0.7
Q3	5.6	−1.9	3.1	−5.3	−3.0	–	−1.1	4.6	−5.4	1.8
Q4	−1.7	0.4	−1.9	4.3	6.7	−0.3	4.8	7.4	2.5	0.5
2017 Q1	0.7	−0.8	0.3	−8.7	−1.9	−0.1	2.4	3.4	2.2	4.8
Q2	0.8	3.5	−2.4	1.7	−2.7	−3.9	2.5	−0.8	−1.7	−3.1
Q3	1.6	0.4	0.4	5.3	−2.3	2.3	0.2	1.1	4.3	−2.1

† 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)

	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
2013	93.1†	98.1	99.8	100.8†	103.3†	99.9†	97.8	94.4†	98.8†	105.1†	93.4†
2014	97.2	102.7†	97.9	96.7	102.2	100.7	98.5	97.5	99.8	103.0	96.0
2015	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2016	105.4	94.4	100.5†	106.9	100.0	101.2	101.2†	101.6	100.4	98.1	100.8
2013 Q4	94.3†	98.2	96.6	99.2†	102.2†	98.4†	97.0	96.9†	99.0	105.3	91.0†
2014 Q1	95.8	100.7	96.8†	96.6	102.5	99.4	96.7	97.3	99.3	104.2†	94.6
Q2	96.8	101.1	97.8	96.4	102.6	101.2	97.3	97.1	99.3	104.4	93.6
Q3	97.3	104.1†	98.2	96.1	100.8	101.8	98.8†	97.5	100.1	102.0	96.9
Q4	98.8	104.8	98.9	97.8	102.7	100.3	101.3	98.1	100.7	101.4	98.9
2015 Q1	98.8	103.1	99.7	98.0	101.9	98.9	99.2	99.0	99.5†	100.1	98.3
Q2	100.0	100.9	100.0	99.7	99.9	98.7	100.7	100.0	100.2	99.9	98.4
Q3	100.2	98.9	99.5	100.7	98.7	100.8	99.8	101.1	100.2	98.8	98.6
Q4	101.1	97.1	100.8	101.6	99.5	101.6	100.3	99.9	100.1	101.3	104.7
2016 Q1	103.8	96.0	99.9	104.8	99.4	100.3	100.5	100.6	100.5	100.9	102.9
Q2	104.4	94.7	100.4	104.2	100.6	100.0	101.1	100.4	100.1	97.4	102.6
Q3	105.5	93.3	100.7	108.0	99.8	101.5	101.4	102.7	100.3	97.6	98.9
Q4	108.0	93.6	101.2	110.5	100.2	102.9	102.0	102.7	100.7	96.3	98.8
2017 Q1	106.9	94.3	100.9	106.7	101.8	98.0	102.5	103.4	101.4	96.6	97.3
Q2	107.6	93.2	100.1	107.8	101.3	101.1	103.2	102.2	100.9	100.9	95.9
Q3	109.1	93.1	101.0	108.2	101.6	99.9	104.4	101.4	102.0	96.1	94.2

Per cent change on quarter a year ago

	DJE8	DJF3	DJF6	DJF9	DJG8	DJH6	DJH9	DJI4	DJI7	DJJ5	DJJ8
2013 Q4	4.9†	1.9	−7.2†	−1.9	0.1†	−4.3	0.4	3.7	−0.9	−0.9	−3.5†
2014 Q1	4.9	1.8	−6.1	−5.4†	−0.8	−3.8	−1.6	6.2	−0.3	−1.3	−2.3
Q2	4.4	2.6	−3.0	−4.8	−1.2	1.7	−0.3	3.3	0.9	−0.8	−0.3
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	1.2†	1.7	−3.8	8.6
2015 Q1	3.1	2.4	3.0	1.5	−0.6	−0.5†	2.7†	1.7	0.3	−4.0	3.9
Q2	3.3	−0.3	2.3	3.5	−2.6	−2.4	3.5	2.9	0.9	−4.3	5.1
Q3	3.0	−4.9	1.3	4.8	−2.1	−0.9	0.9	3.7	0.1†	−3.2†	1.8
Q4	2.3	−7.3†	1.9	3.8	−3.2	1.2	−1.0	1.9	−0.6	−0.1	5.9
2016 Q1	5.1	−6.9	0.2	7.0	−2.5	1.5	1.3	1.6	1.0	0.9	4.6
Q2	4.4	−6.1	0.4	4.4	0.7	1.3	0.4	0.4	−0.1	−2.5	4.3
Q3	5.3	−5.6	1.1	7.3	1.0	0.7	1.7	1.5	0.1	−1.2	0.3
Q4	6.9	−3.6	0.5	8.9	0.7	1.3	1.6	2.7	0.6	−4.9	−5.6
2017 Q1	3.1	−1.8	1.1	1.8	2.4	−2.3	1.9	2.8	0.9	−4.3	−5.4
Q2	3.0	−1.6	−0.3	3.5	0.7	1.0	2.1	1.9	0.8	3.6	−6.5
Q3	3.4	−0.3	0.3	0.2	1.8	−1.7	3.0	−1.3	1.6	−1.5	−4.8

Per cent change on previous quarter

	DJE7	DJF2	DJF5	DJF8	DJG6	DJH5	DJH8	DJI3	DJI6	DJJ4	DJJ7
2013 Q4	0.4	1.6	−2.2†	−1.4†	−1.5	0.1	−1.3	1.9	0.7	1.0	−1.0
2014 Q1	1.6	2.5	0.2	−2.6	0.3	0.9	−0.3	0.4	0.3	−1.1†	4.0†
Q2	1.0	0.4	1.0	−0.2	0.1	1.8	0.6	−0.2†	–	0.2	−1.2
Q3	0.5	2.9	0.5	−0.3	−1.7	0.6	1.6†	0.4	0.8	−2.3	3.6
Q4	1.6†	0.7	0.6	1.8	1.8	−1.4	2.5	0.6	0.6	−0.6	2.0
2015 Q1	−0.1	−1.6	0.8	0.2	−0.8†	−1.4	−2.0	0.9	−1.1	−1.3	−0.6
Q2	1.3	−2.2	0.3	1.8	−2.0	−0.2†	1.4	1.0	0.7	−0.2	–
Q3	0.1	−1.9	−0.5	1.0	−1.2	2.1	−0.9	1.2	–	−1.1	0.3
Q4	0.9	−1.9†	1.2	0.8	0.7	0.7	0.5	−1.2	−0.1†	2.6	6.1
2016 Q1	2.7	−1.1	−0.9	3.2	−0.1	−1.2	0.2	0.6	0.4	−0.4	−1.7
Q2	0.6	−1.4	0.5	−0.6	1.2	−0.3	0.5	−0.2	−0.4	−3.5	−0.3
Q3	1.1	−1.4	0.3	3.7	−0.8	1.5	0.4	2.3	0.2	0.2	−3.6
Q4	2.4	0.2	0.6	2.3	0.4	1.3	0.5	–	0.4	−1.3	−0.1
2017 Q1	−1.0	0.8	−0.3	−3.5	1.6	−4.7	0.5	0.7	0.7	0.3	−1.5
Q2	0.6	−1.2	−0.8	1.0	−0.5	3.1	0.7	−1.1	−0.5	4.4	−1.4
Q3	1.5	−0.1	0.8	0.4	0.3	−1.2	1.2	−0.9	1.1	−4.8	−1.8

† 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	Accommo-dation & food services	Information & commu-nication	Finance & insurance	Real estate activities	Profes-sional, scientific & technical activities	Admin & support services	Government services	Arts, enter-tainment & recreation	Other services
Section	G	H	I	J	K	L	M	N	O-Q	R	S-U

Level (£)

	G	H	I	J	K	L	M	N	O-Q	R	S-U
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
2013	93.0†	97.9	100.9†	100.2†	102.6†	102.3†	99.0†	93.4†	99.1†	107.3†	93.3†
2014	96.2	102.6	99.9	95.8	100.9	101.9	99.0	99.8	99.7	103.5	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	105.5	95.4†	100.9	104.9	97.8	99.5	102.6	99.0	100.9	99.7	99.2
2013 Q4	94.4†	98.4	98.1	98.3†	101.9†	100.2†	98.5	97.4†	99.0†	107.1	88.4†
2014 Q1	95.5	99.5	99.5	95.8	100.5	100.4	98.9	99.2	99.4	106.7†	92.1
Q2	96.0	100.4	100.1†	95.3	101.2	102.2	97.5†	100.3	99.4	102.9	94.3
Q3	95.5	104.5†	100.1	95.9	100.3	105.5	98.7	100.3	99.8	103.5	94.9
Q4	97.9	106.2	99.9	96.4	101.7	99.6	101.1	99.6	100.1	100.8	100.4
2015 Q1	98.5	103.4	99.9	98.2	102.2	98.6	98.8	100.1	99.9	98.2	97.3
Q2	99.8	101.0	99.9	99.2	100.1	97.7	100.8	100.8	100.5	100.5	100.0
Q3	101.2	99.3	99.1	101.3	99.7	99.5	100.7	101.4	100.4	100.8	99.2
Q4	100.5	96.3	101.2	101.3	98.1	104.2	99.7	97.8	99.2	100.6	103.5
2016 Q1	102.9	96.8	101.0	104.0	97.2	102.1	100.4	99.5	100.4	101.1	101.6
Q2	104.8	95.5	100.5	103.5	98.6	96.3	104.4	95.8	101.5	100.3	99.3
Q3	105.6	94.5	101.0	105.1	97.0	102.1	102.9	99.6	100.7	98.7	99.4
Q4	108.6	94.6	100.8	107.2	98.4	97.3	102.8	101.0	101.1	98.5	96.6
2017 Q1	106.6	94.2	100.9	102.9	101.2	96.8	104.0	101.0	100.9	95.7	94.5
Q2	107.1	94.9	100.1	103.4	100.8	100.0	104.7	100.1	100.7	99.3	92.9
Q3	108.0	95.4	101.4	107.2	101.6	100.3	109.0	99.0	102.3	90.1	91.1

Per cent change on quarter a year ago

	DJQ6	DJQ9	DJR4	DJR7	DJS5	DJS8	DJT6	DJT9	DJU7	DJV8	DJW3
2013 Q4	4.9	2.0†	–8.0†	–5.5	–0.4†	–3.0†	–0.4	5.0†	–0.4	–0.4†	–4.9†
2014 Q1	4.5	1.9	–3.9	–6.3	–3.0	–4.9	–0.8	11.0	–0.7	–	–4.8
Q2	3.6	2.0	–2.4	–5.9†	–1.8	–2.0	–1.3†	8.8	0.2	–4.5	–0.5
Q3	2.0	7.6	0.7	–3.0	–1.5	6.3	–0.4	5.9	1.7	–3.9	1.7
Q4	3.7	7.9	1.8	–1.9	–0.2	–0.6	2.6	2.2	1.1	–5.9	13.5
2015 Q1	3.2	4.0	0.4	2.6	1.6	–1.9	–0.1	0.9	0.5	–8.0	5.6
Q2	4.0	0.6	–0.2	4.0	–1.1	–4.4	3.4	0.5	1.1	–2.4	6.1
Q3	5.9	–4.9	–1.0	5.6	–0.6	–5.7	2.0	1.1	0.6	–2.6	4.6
Q4	2.6†	–9.3	1.3	5.1	–3.6	4.7	–1.3	–1.8	–0.9†	–0.2	3.1
2016 Q1	4.4	–6.4	1.2	5.9	–4.8	3.6	1.6	–0.6	0.5	3.0	4.4
Q2	5.0	–5.4	0.7	4.3	–1.5	–1.5	3.6	–4.9	1.1	–0.2	–0.7
Q3	4.4	–4.8	1.9	3.8	–2.7	2.6	2.2	–1.8	0.3	–2.0	0.1
Q4	8.0	–1.7	–0.3	5.8	0.3	–6.6	3.1	3.3	1.9	–2.1	–6.7
2017 Q1	3.6	–2.8	–0.1	–1.1	4.1	–5.3	3.6	1.6	0.5	–5.4	–7.0
Q2	2.2	–0.6	–0.5	–	2.2	3.8	0.2	4.4	–0.9	–1.0	–6.5
Q3	2.3	0.9	0.4	2.0	4.7	–1.8	5.9	–0.6	1.6	–8.7	–8.4

Per cent change on previous quarter

	DJQ5	DJQ8	DJR3	DJR6	DJS4	DJS7	DJT2	DJT8	DJU6	DJV7	DJW2
2013 Q4	0.8†	1.3†	–1.3	–0.6†	0.2	1.0†	–0.6†	2.8	0.9†	–0.6	–5.2†
2014 Q1	1.1	1.1	1.4	–2.6	–1.4	0.3	0.4	1.9	0.4	–0.4†	4.1
Q2	0.5	0.9	0.6†	–0.5	0.7†	1.8	–1.5	1.0†	–	–3.5	2.4
Q3	–0.5	4.0	–	0.6	–0.9	3.2	1.2	0.1	0.4	0.5	0.6
Q4	2.5	1.7	–0.3	0.5	1.4	–5.6	2.4	–0.7	0.3	–2.6	5.8
2015 Q1	0.6	–2.6	–	1.9	0.4	–1.0	–2.2	0.5	–0.2	–2.6	–3.1
Q2	1.3	–2.4	–	1.0	–2.1	–0.9	2.0	0.7	0.6	2.3	2.8
Q3	1.4	–1.7	–0.8	2.1	–0.4	1.9	–0.1	0.6	–	0.3	–0.8
Q4	–0.6	–3.1	2.1	0.1	–1.6	4.7	–1.0	–3.6	–1.2	–0.2	4.3
2016 Q1	2.3	0.6	–0.1	2.6	–0.9	–2.0	0.7	1.8	1.2	0.6	–1.8
Q2	1.9	–1.4	–0.5	–0.5	1.4	–5.7	4.0	–3.7	1.1	–0.8	–2.2
Q3	0.8	–1.0	0.5	1.6	–1.6	6.0	–1.4	4.0	–0.8	–1.5	0.1
Q4	2.8	0.1	–0.2	2.0	1.5	–4.7	–0.1	1.4	0.3	–0.3	–2.8
2017 Q1	–1.9	–0.5	0.1	–4.1	2.8	–0.6	1.1	–	–0.2	–2.8	–2.1
Q2	0.5	0.8	–0.8	0.5	–0.5	3.3	0.7	–1.0	–0.3	3.7	–1.7
Q3	0.8	0.5	1.4	3.7	0.8	0.3	4.1	–1.0	1.7	–9.2	–1.9

† 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
2013	98.7†	..	..	98.8†	..	..
2014	99.5	..	..	99.4	..	..
2015	100.0	..	..	100.0	..	..
2016	101.1	..	..	101.2	..	..
2013 Q4	98.6†	0.6†	−0.1	98.7†	−0.1†	0.2
2014 Q1	98.8	0.2	0.2†	98.9	−	0.2†
Q2	99.3	0.5	0.5	99.1	0.1	0.2
Q3	99.7	1.0	0.4	99.6	1.0	0.5
Q4	100.4	1.8	0.7	99.9	1.2	0.3
2015 Q1	99.8	1.0	−0.6	99.9	1.0	−
Q2	100.6	1.3	0.8	100.4	1.3	0.5
Q3	99.9	0.2	−0.7	100.4	0.8	−
Q4	99.7	−0.6	−0.1	99.4	−0.5	−1.0
2016 Q1	100.3	0.5	0.5	100.4	0.5	1.0
Q2	100.7	0.1	0.4	100.9	0.5	0.6
Q3	101.2	1.3	0.5	101.3	1.0	0.4
Q4	102.0	2.3	0.8	102.1	2.8	0.8
2017 Q1	101.8	1.6	−0.2	101.5	1.2	−0.6
Q2	101.8	1.1	−	101.5	0.6	−
Q3	102.4	1.2	0.5	102.6	1.2	1.1

†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

(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

Level (£)
2013

	31 200	14.2	46 300	24.0

Indices

	DJ4K	DJJ9	DJD8	DJP6
2000	90.2[†]	84.8[†]	92.8	90.3
2001	92.6	89.9	92.6[†]	90.3[†]
2002	106.7	105.0	96.2	94.6
2003	102.4	99.0	98.5	98.2
2004	97.8	94.5	101.1	100.9
2005	99.1	98.4	95.8	96.1
2006	94.6	91.8	95.3	95.5
2007	92.0	91.2	94.4	94.8
2008	95.0	93.7	91.5	93.2
2009	88.2	81.3	82.6	86.0
2010	82.6	75.5	94.7	97.1
2011	91.1	86.3	97.1	101.3
2012	84.4	83.8	91.1	94.5
2013	92.7	89.8	92.4	93.7
2014	90.5	87.2	97.8	96.7
2015	100.0	100.0	100.0	100.0
2016	92.4	89.2	101.4	101.4

Per cent change on previous year

	DJ4L	DJK2	DJE2	DJP8
2000	9.8	8.6	0.2	−0.4
2001	2.7	6.0	−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
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	−1.6[†]
2009	−7.1	−13.3	−9.7	−7.8
2010	−6.4	−7.1	14.6	12.9
2011	10.3	14.3	2.5	4.3
2012	−7.3[†]	−2.8[†]	−6.1	−6.7
2013	9.8	7.1	1.4	−0.9
2014	−2.3	−2.9	5.8	3.3
2015	10.5	14.7	2.3	3.4
2016	−7.6	−10.8	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)

		2010	2011	2012	2013	2014	2015	2016
United Kingdom		100.0	100.0	100.0	100.0	100.0	100.0	100.0
Nominal GVA per filled job								
North East	DJDO	84.8[†]	86.2	86.3	85.6	87.1	86.6	88.1
North West	DJDP	91.9[†]	90.9	91.3	90.7	89.4	90.6	91.0
Yorkshire and The Humber	DMBC	86.6[†]	86.9	86.6	86.5	85.2	85.4	84.8
East Midlands	DMBE	86.9[†]	85.8	86.4	87.5	87.9	86.7	86.6
West Midlands	DMDN	87.4[†]	88.0	87.7	87.7	88.9	88.9	89.4
East of England	DMDQ	97.7[†]	97.1	95.9	96.1	95.9	96.2	95.7
London	DMGH	140.9[†]	141.9	139.5	138.2	139.4	137.8	137.7
South East	DMGJ	106.8[†]	105.7	106.2	106.7	105.6	106.6	104.4
South West	DMGK	89.0[†]	87.4	88.5	88.0	88.1	87.6	88.9
England	DMGL	101.9[†]	101.7	101.6	101.6	101.7	101.6	101.4
Wales	DMGM	79.2[†]	81.6	81.5	82.3	79.7	80.6	81.3
Scotland	DMGX	96.6[†]	96.4	95.8	96.9	97.3	97.4	98.3
Northern Ireland	DMOA	84.2[†]	86.5	89.7	87.5	87.0	88.0	87.8
Nominal GVA per hour worked								
North East	DMOB	86.4[†]	88.9	89.1	88.3	88.9	89.0	90.5
North West	DMOH	92.4[†]	92.5	92.3	92.4	89.5	90.5	92.0
Yorkshire and The Humber	DMOK	87.9[†]	87.7	87.6	87.7	86.2	87.3	87.4
East Midlands	DMOL	86.4[†]	86.6	87.3	88.5	89.3	86.0	87.0
West Midlands	DMON	86.6[†]	88.3	87.5	87.5	88.4	86.9	88.6
East of England	DMOO	98.9[†]	98.4	97.2	96.9	97.9	97.8	96.5
London	DMOR	131.9[†]	132.2	130.6	129.9	131.4	130.5	129.3
South East	DMOS	109.8[†]	107.6	107.2	108.2	106.6	108.8	105.5
South West	DMOT	92.1[†]	90.0	91.4	90.8	91.3	90.9	92.5
England	DMOV	101.7[†]	101.6	101.4	101.5	101.5	101.4	101.3
Wales	DMOW	81.5[†]	82.4	84.1	84.2	82.5	82.1	83.4
Scotland	DMOY	97.7[†]	97.4	97.7	97.9	98.9	99.5	99.8
Northern Ireland	DMWA	81.5[†]	84.0	86.4	83.0	82.3	85.3	85.1

[†]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

<div align="right">Seasonally adjusted (2015=100)</div>

	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
2013	96.0	96.1	95.9	100.0	98.4†	98.8†	98.3†	98.4†	95.9	95.6
2014	98.3	98.4	98.5	100.1	98.8	98.9	99.0	98.9	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	99.8	99.0	99.9	99.1	101.3	101.5
2013 Q4	96.8	96.9	96.6	100.1	98.9†	98.5†	98.7†	98.1†	96.7	96.4†
2014 Q1	97.6	97.7	97.5	100.1	98.1	98.6	98.1	98.3	97.4	97.0
Q2	98.2	98.3	98.4	100.2	98.3	98.7	98.6	98.9	98.3	98.0
Q3	98.6	98.7	98.8	100.1	99.3	98.9	99.6	99.0	98.6†	98.5
Q4	98.9	99.0	99.3	100.1	99.5	99.4	99.8	99.4	98.8	99.0
2015 Q1	99.6	99.8	99.6	100.1	100.6	100.2	100.7	100.3	99.6	99.4
Q2	99.5	99.5	99.5	100.1	100.1	100.1	100.0	99.8	99.7	99.5
Q3	100.1	100.1	99.6	99.9	100.0	99.1	99.8	99.0	100.2	99.7
Q4	100.8	100.6	101.3	99.9	99.3	100.6	99.5	100.9	100.6	101.4
2016 Q1	100.9	100.7	101.0	99.8	99.5	99.5	99.4	99.6	100.7	101.1
Q2	101.4	101.2	101.2	99.8	100.3	99.4	100.5	99.6	101.3	101.2
Q3	101.6	101.4	101.6	99.9	99.8	98.6	100.0	98.8	101.6	101.8
Q4	101.7	101.5	101.8	99.8	99.7	98.7	99.7	98.4	101.5	101.8
2017 Q1	102.1	101.8	102.5	99.7	99.4	98.7	99.6	98.7	101.7	102.5
Q2	102.5	102.2	103.0	99.7	100.3	99.8	100.5	99.7	102.1	102.8
Q3	102.5	102.2	102.5	99.7	101.2	99.9	101.7	100.0	102.0	102.1
Per cent change on quarter a year ago										
	DIW9	LNNO	LZVC		DJW8	DK3U	DJX3	DK44	DK2I	DK58
2013 Q4	1.3	1.3	1.7		−0.1	1.1†	−0.4†	0.6	1.6	1.6†
2014 Q1	2.3	2.5	2.5		−0.1	−0.1	0.2	0.2†	2.5	2.2
Q2	2.6	2.8	3.2		0.6†	0.4	1.0	0.8	2.8	3.0
Q3	2.4	2.5	2.4		0.6	−0.8	0.8	−0.5	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	2.7	2.0	2.2	2.5
Q2	1.3	1.2	1.1		1.8	1.4	1.4	0.9	1.4†	1.5
Q3	1.6	1.4	0.8		0.7	0.1	0.2	0.1	1.6	1.2
Q4	1.9	1.6	2.1		−0.2	1.2	−0.3	1.6	1.7	2.4
2016 Q1	1.3	0.9	1.4		−1.1	−0.7	−1.3	−0.7	1.1	1.7
Q2	2.0	1.7	1.8		0.2	−0.7	0.5	−0.2	1.6	1.7
Q3	1.5	1.4	1.9		−0.2	−0.5	0.2	−0.2	1.4	2.2
Q4	0.9	0.8	0.4		0.4	−1.9	0.1	−2.5	0.9	0.5
2017 Q1	1.2	1.1	1.6		−0.1	−0.7	0.2	−0.9	1.0	1.4
Q2	1.1	1.0	1.8		−	0.4	0.1	0.1	0.8	1.6
Q3	0.9	0.8	0.9		1.3	1.2	1.7	1.2	0.4	0.3
Per cent change on previous quarter										
	DIW8	TXAJ	TXBU		DJW7	DK3T	DJX2	DK3Y	DK2H	DK57
2013 Q4	0.6	0.6	0.1		0.1	−1.3	−0.1†	−1.3†	0.6	0.3
2014 Q1	0.8	0.8	0.9		−0.8	0.1†	−0.6	0.2	0.7	0.6
Q2	0.6	0.6	1.0		0.2	0.2	0.5	0.6	0.9	1.1
Q3	0.4	0.4	0.4		1.0	0.2	1.0	0.1	0.3	0.5
Q4	0.4	0.3	0.5		0.2	0.5	0.2	0.4	0.3	0.5
2015 Q1	0.7	0.8	0.3		1.1†	0.8	0.9	0.9	0.8†	0.5
Q2	−0.1	−0.2	−0.1		−0.5	−0.1	−0.7	−0.5	0.1	0.1
Q3	0.7	0.5	0.2		−0.1	−1.0	−0.2	−0.8	0.5	0.2
Q4	0.7	0.6	1.7		−0.7	1.5	−0.2	1.9	0.4	1.7
2016 Q1	0.1	−	−0.4		0.2	−1.1	−0.2	−1.3	0.1	−0.3†
Q2	0.5	0.5	0.3		0.8	−0.1	1.1	−	0.6	0.1
Q3	0.1	0.2	0.3		−0.4	−0.8	−0.5	−0.8	0.3	0.6
Q4	0.1	0.1	0.2		−0.1	−	−0.3	−0.4	−0.1	−
2017 Q1	0.4	0.3	0.8		−0.3	0.1	−0.1	0.2	0.2	0.7
Q2	0.4	0.4	0.4		0.9	1.0	0.9	1.0	0.4	0.2
Q3	−	−	−0.5		0.9	0.1	1.2	0.3	−0.1	−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
2013 Q2	–	–	–	–	–	–	–	–
Q3	–	–	–	–	–	–	–	–
Q4	–	–	–	–	–	–	–	–
2014 Q1	–	–	–	–	–	–	–	–
Q2	–	–	–	–	–	–	–	–
Q3	–	–	–	–	–	–	–	–
Q4	–	–	–	–	–	–	–	–
2015 Q1	–	–	–	–	–	–	–	–
Q2	–	–	–	–	–	–	–	–
Q3	–	–	–	–	–	–	–	–
Q4	–	–	–	–	–	–	–	–
2016 Q1	–	–	0.1	–	–	–	0.1	0.1
Q2	–	–0.1	–	–0.1	–	–	0.3	0.2
Q3	0.2	0.2	0.2	0.1	0.2	0.2	–0.2	–0.5
Q4	0.3	0.2	0.3	0.2	0.4	0.2	–0.4	–0.1
2017 Q1	0.3	–	0.4	0.1	0.4	–	–0.3	–
Q2	0.4	–	0.4	–	0.4	–	–0.7	–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
2013 Q2	–	–	–	–	–	–
Q3	0.1	–	0.1	–	–	–
Q4	–	0.1	–	–0.1	–	–
2014 Q1	–	–	–	–0.1	–0.1	–
Q2	–	–	–	–	–	–
Q3	–	–	0.1	0.2	–	–
Q4	–	0.1	–	–0.1	–	–
2015 Q1	–	–0.1	–	–0.1	0.1	–
Q2	–0.1	–0.1	–0.2	–0.2	0.1	0.1
Q3	–0.2	0.1	–	0.3	0.1	–0.1
Q4	–0.1	–	–0.2	–0.2	0.2	–
2016 Q1	–0.2	–0.1	–0.2	–0.1	0.2	0.1
Q2	–0.4	–0.3	–0.3	–0.3	0.4	0.3
Q3	–0.4	0.1	–0.3	0.3	0.4	–
Q4	–0.3	–	–0.2	–0.2	0.4	–
2017 Q1	–0.3	–	–0.2	–0.1	0.3	0.1
Q2	0.2	0.2	0.3	0.2	–0.3	–0.3

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
2013 Q2	0.1	0.1	–	–
Q3	0.1	–	–	–
Q4	0.1	–	0.1	0.1
2014 Q1	–	–	–	–
Q2	–	–	–	–
Q3	–	–	–	–
Q4	0.1	–	–	–
2015 Q1	–	–	–	0.1
Q2	–	–	–	–
Q3	0.1	–	–	–
Q4	–	–	–	0.1
2016 Q1	0.1	0.1	0.1	0.1
Q2	0.1	–	–	–0.1
Q3	0.1	0.1	–	–
Q4	0.1	0.1	0.1	0.1
2017 Q1	0.1	–0.1	–	–
Q2	–	–	0.1	–