Office for National Statistics

Statistical bulletin

Unit labour costs, UK: October to December 2019

Unit labour costs and sectional unit labour costs estimates for the whole economy and a range of industries.

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Release date:
7 April 2020

Next release:
7 July 2020

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1 . Main points

- Unit labour costs (ULCs) across the whole UK economy increased by 2.4% in Quarter 4 (Oct to Dec) 2019, compared with the same quarter a year ago, as growth in labour costs per hour outpaced the growth in labour productivity.
- Unit labour costs in the services sector grew by 1.9% in Quarter 4 2019, compared with the same period a year ago, which was noticeably lower than the growth in unit labour costs in the manufacturing sector, which grew by 6.2% in the same time period.
- Manufacturing saw faster unit labour cost growth than services as growth in hourly labour costs was higher (4.5% compared with 1.6%).

2 . Analysis of whole-economy unit labour costs in the post-downturn period

Unit labour costs (ULCs) give a measure of the total costs of the labour involved in creating a unit of output. As such, it goes up as salary, bonuses, employer contributions and other direct labour costs per hour rise, and falls as output per hour increases. ULCs can therefore be viewed as an indicator of inflationary pressure, as labour costs are the most important contributor to the costs of production.

Since the 2008 economic downturn, growth in ULCs has been broadly positive, reflecting steadily increasing labour costs of producing output, whilst output per hour growth has been historically weak. However, throughout this period ULC growth has remained relatively constrained, particularly from 2011 to 2016 when growth broadly trended around zero (except for 2013). This is in contrast with the last four years, when growth has been relatively sustained at levels above 2%. Against this background, the most recent quarter continues this trend.

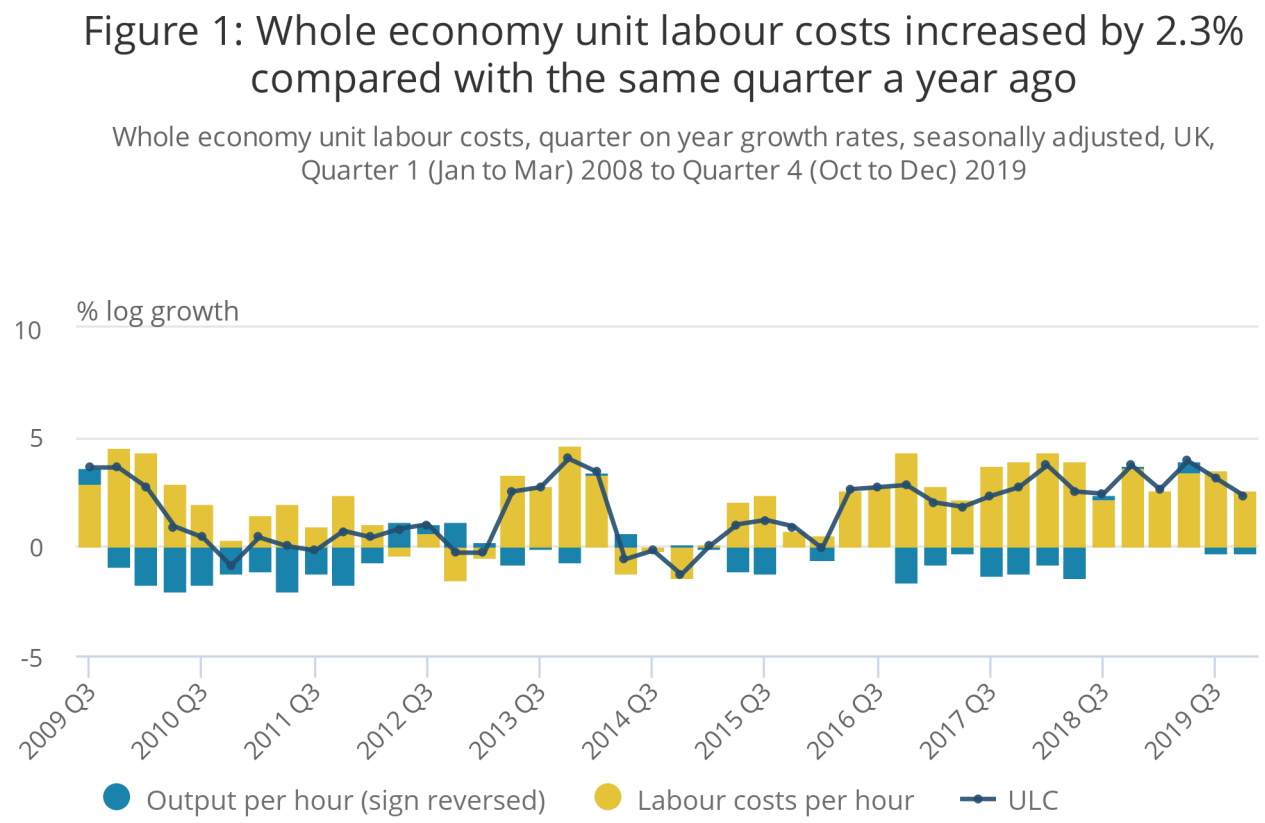
Figure 1 shows ULCs quarter-on-year log growth since Quarter 3 (July to Sept) 2009. Holding other factors constant, increasing output per hour reduces ULCs and the other way around. As a result, output per hour growth has its sign reversed in Figure 1.

Compared with the same quarter a year ago, ULCs increased by 2.3% in Quarter 4 (Oct to Dec) 2019. This is caused by labour costs, such as wages and salaries, growing faster (2.6%) than output per hour (0.3%).

Overall, in 2019 ULCs grew by 3.0% compared with 2018.

Figure 1: Whole economy unit labour costs increased by 2.3% compared with the same quarter a year ago

Whole economy unit labour costs, quarter on year growth rates, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 4 (Oct to Dec) 2019



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, because of differences in methodology.

2. Per cent log growth used here will differ slightly from per cent growth values in published datasets.

3 . Analysis of services and manufacturing sectional unit labour costs in the post-downturn period

Headline unit labour costs (ULCs) estimates can provide an insight into the whole economy, but can mask differences between the different sectors. The following section covers sectional unit labour costs (SULCs), which are produced on an experimental basis. This series will be paused following this release to allow for planned methodological improvements, which have been identified in recent months. The data contained in this release are unaffected by these methodological issues as they contain all four quarters of the calendar year 2019. A methodology consultation will be published shortly. This will aim to improve methods and bring ULC and SULC methodologies closer into alignment.

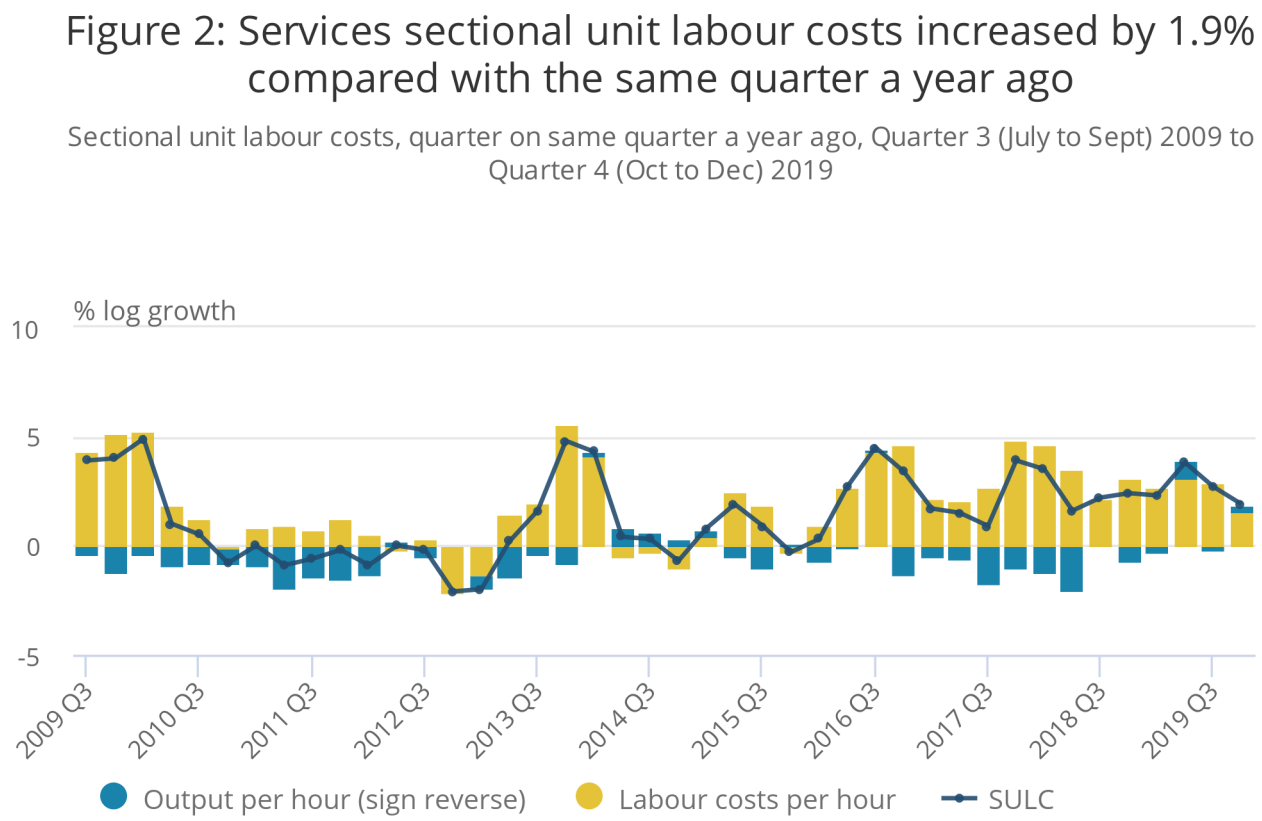
Services are by far the largest share of the UK economy and are therefore the main driver of ULCs. Compared with the same quarter a year ago, SULCs in services increased by 1.9%, with labour costs per hour growing faster than output per hour.

Figure 2 shows the log growth in SULCs for services compared with the same quarter a year ago, since Quarter 3 (July to Sept) 2009. As with the ULCs data this shows weakness from 2010 to 2016, excluding 2013, with subsequent sustained growth. There has not been a period of negative growth since Quarter 4 (Oct to Dec) 2015. In the first half of the decade, growth was more volatile, with growth peaking at 4.8% in Quarter 4 2013, and the worst performance in Quarter 4 2012, falling 2.1%.

The performance of SULCs in services closely mirrors whole economy unit labour costs, as services contributes accounts for approximately 80% of the hours worked and gross value added (GVA) generated in the whole economy.

Figure 2: Services sectional unit labour costs increased by 1.9% compared with the same quarter a year ago

Sectional unit labour costs, quarter on same quarter a year ago, Quarter 3 (July to Sept) 2009 to Quarter 4 (Oct to Dec) 2019



Source: Office for National Statistics

Notes:

1. Sectional unit labour costs estimates will differ from the National Statistic unit labour costs, because of differences in methodology.

2. Growth is measured as percentage log changes. Please see Section 9 for further information.

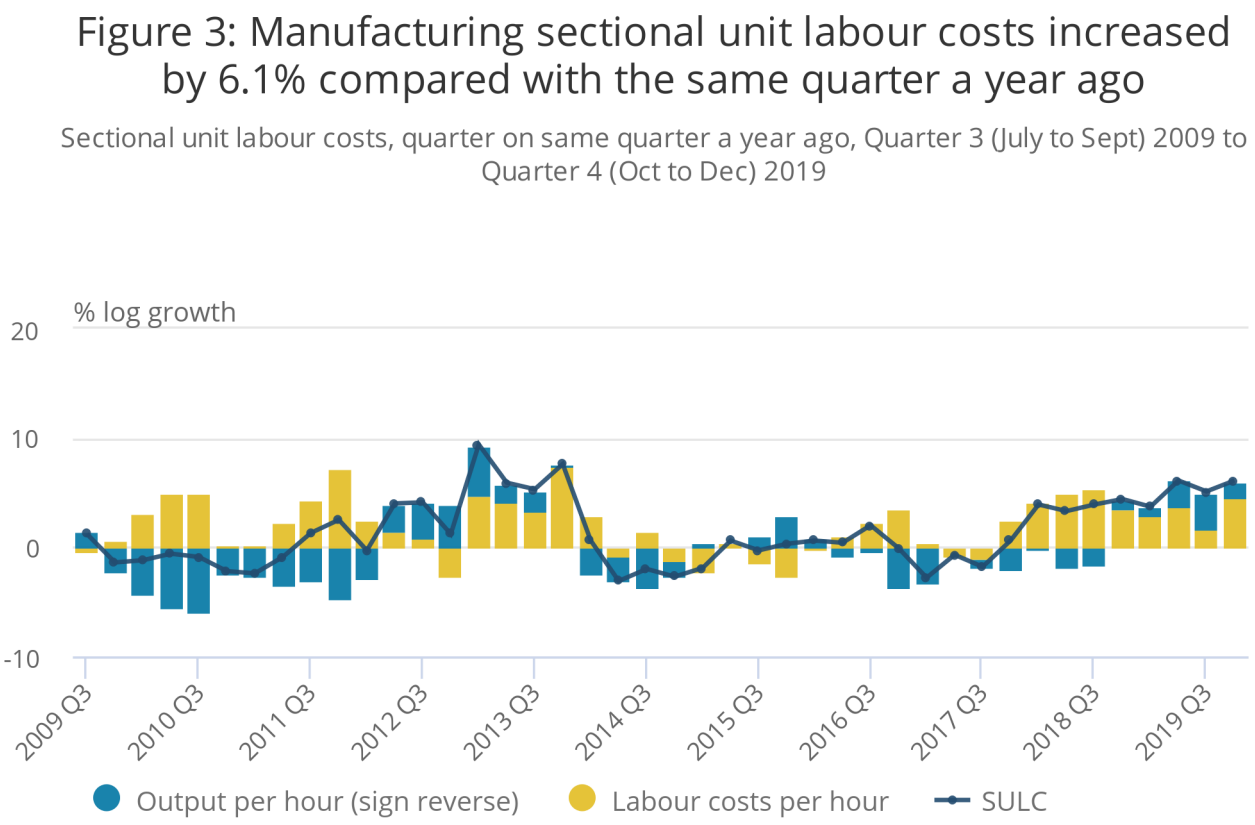
In Quarter 4 2019, SULCs in manufacturing increased by 6.1%, compared with the same quarter in the previous year. This was because of labour costs per hour growing 4.5% along with the growth in output per hour falling 1.6%.

In the last decade, manufacturing SULCs growth has shown a different growth path compared with services and the whole economy, but in part this is because manufacturing is now very much a minor part of the total economy. Manufacturing showed weakness between 2009 and 2011, before a period of positive growth between 2011 and 2014, including the peak in Quarter 1 (Jan to Mar) 2013 at 9.4% growth, before further weakness between 2013 and 2017. More recently, there have been nine quarters of consecutive growth.

The drivers of the strong and consistent growth seen in manufacturing SULCs is a result of labour costs per hour increasing at a faster rate than output per hour.

Figure 3: Manufacturing sectional unit labour costs increased by 6.1% compared with the same quarter a year ago

Sectional unit labour costs, quarter on same quarter a year ago, Quarter 3 (July to Sept) 2009 to Quarter 4 (Oct to Dec) 2019



Source: Office for National Statistics

Notes:

1. Sectional unit labour costs estimates will differ from the National Statistic unit labour costs, because of differences in methodology.

2. Growth is measured as percentage log changes. Please see section 9 for further information.

4 . Revisions to unit labour costs and unit wage costs

Revisions to unit labour costs (ULCs) and unit wage costs since the last publication on 8 January 2020 reflect revisions to the components of nominal gross value added (GVA) calculated by income – compensation of employees, gross operating surplus and mixed income – and to real GVA calculated by output.

Revisions to whole economy ULCs are low and are present only in Quarter 1 (Jan to Mar) 2019 and Quarter 3 (July to Sept) 2019. The larger of these in absolute terms is negative 0.4 percentage points in Quarter 3 2019.

However, growth revisions for manufacturing unit wage costs are generally higher in percentage terms and more widespread throughout the time series. The largest revision to manufacturing unit wage cost growth on the same quarter a year ago is positive 1.7 percentage points in Quarter 3 2019.

5 . Unit labour costs data

Unit labour cost and unit wage cost time series
Dataset | Updated 7 April 2020
Quarterly unit labour costs and unit wage costs for the whole UK economy and unit wage costs for manufacturing industries.

Unit labour costs
Dataset | Updated 7 April 2020
Unit labour costs and revisions from previously published estimates, UK.

Sectional unit labour costs
Dataset | Updated 7 April 2020
Sectional unit labour costs and revisions from previously published estimates, UK.

Labour productivity: sectional unit labour costs
Dataset | Updated 7 April 2020
Sectional unit labour costs and revisions from previously published estimates, UK.

Unit labour costs: revisions triangles
Dataset | Updated 7 April 2020
Revisions triangles unit labour costs, unit wage costs and unit wage costs in manufacturing. Data present the first estimates of chosen statistics used in the unit labour costs publication (and for quarter before Quarter 1 (Jan to Mar) 2019 in the Labour productivity publication) against later revised estimates. Includes first estimates and revisions.

6 . Glossary

Unit labour costs

Unit labour costs reflect the full labour costs, including social security and pension contributions paid by employers, which is incurred in the production of a unit of output. They are the ratio of total labour costs to gross value added (GVA), or equivalently the ratio of hourly labour costs to output per hour.

Unit wage costs

Unit wage costs are a narrower measure of unit labour costs, as they exclude non-wage labour costs. They are the ratio of wages and salaries per employee to output per worker.

Unit wage costs for manufacturing

To measure unit wage costs for the manufacturing industry, Average Weekly Earnings (AWE) for manufacturing are divided by manufacturing output per job.

7 . Measuring the data

More quality and methodology information on strengths, limitations, appropriate uses, and how the data were created is available in the Labour productivity QMI.

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 gross value added (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:

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

The article on productivity measures: sectional unit labour costs describes the methodology used to estimate ULCs below the whole-economy level and proposes to replace the currently published series for manufacturing unit wage costs with a broader and more consistent measure of ULCs.

The equation for growth of sectional unit labour costs (SULCs) can be calculated as:

$$In\Delta SULC \;= 100 \;\times\; In\Delta\left(\frac{Industry\ Labour\ Costs}{Industry\ Gross\ Value\ Added}\right)$$
$$=\; In\Delta Industry\ Labour\ Costs \;-\; In\Delta\ Industry\ Gross\ Value\ Added$$

Methodological improvements for both the ULCs and SULCs approaches have been identified as part of our regular reviews of these data. As such, SULCs will not be published in the summer of 2020 to allow us to consult on methodology improvements and to refresh the series ready for publication to re-commence later in the year.

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Presentation of growth rates in log percentage changes

In this bulletin charts and associated text measure growth in terms of percentage log changes and we will continue to use this presentation in future releases. The datasets will still contain the percentage growth rates and it is these statistics that hold the National Statistics status. The growth rates quoted in Section 1: Main points are consistent with the published datasets.

For typical rates of change for labour productivity and labour inputs, this change will not make much difference to the result. For example, a 2.0% percentage change translates to a 1.98% log change. We are adopting the approach because a log change between two observations has the same numerical value regardless of which observation is the starting point. This is not true for a percentage change. For illustrative purposes, in the following example, log changes are substantially different from percentage changes.

Suppose a series starts at 7, doubles to 14, then halves back to 7. The log change from 7 to 14 is 69% and the log change from 14 to 7 is negative 69%. But the percentage change from 7 to 14 is 100%, while the percentage change from 14 to 7 is negative 50%. The log change reflects the fact that the second change reverses the first (and so has the same value) while the percentage change series appears to be very different in the first period compared with the second.

This approach is the same as that we use to compile multi-factor productivity.

8 . Strengths and limitations

This release reports estimates of unit labour costs (ULCs) and experimental sectional unit labour costs (SULCs), for Quarter 4 (Oct to Dec) 2019. ULCs capture the full costs of labour – including social security and employers' pension contributions – incurred in the production of a unit of economic output. Labour costs make up around two-thirds of the overall cost of production of UK economic output. Changes in labour costs are therefore a large factor in overall changes in the cost of production. If increases in labour costs are not reflected in the volume of output, this can put upward pressure on the prices of goods and services, therefore this is a closely watched indicator of inflationary pressure in the economy.

Although these estimates have been previously released in the quarterly Labour productivity bulletin, this is the third stand-alone bulletin focusing on ULCs and SULCs.

This bulletinforms part of our quarterly productivity bulletin, which also includes quarterly labour productivity, an overarching commentary, quarterly estimates of public service productivity, quarterly estimates of multi-factor productivity and articles on productivity-related topics and data.

These statistics have been estimated using the latest data from the labour productivity statistics published on the same day.

The labour input measures used in this release are consistent with the latest labour market statistics.

Unless otherwise stated all figures are seasonally adjusted.

Details of where to find the ULC and SULC datasets can be found in our recent article Improving the presentation of the labour productivity release: July 2019.

9 . Related links

Productivity economic commentary: October to December 2019
Article | Released 7 April 2020
Draws together the main findings from official statistics and analysis of UK productivity to present a summary of recent developments.

Labour productivity, UK: October to December 2019
Article | Released 7 April 2020
The latest estimates of labour productivity for the whole economy.

Multi-factor productivity estimates, experimental estimates: October to December 2019
Bulletin | Released 7 April 2020
Growth accounting estimates for the UK market sector and 10 industry groups.

Quarterly UK public service productivity: October to December 2019
Article | Released 7 April 2020
Contains the latest experimental estimates for quarterly UK total public service productivity, inputs and output. Experimental Statistics.

Regional labour productivity including industries by region: 2018
Bulletin | Released 8 February 2020
Annual productivity estimates for 16 industries in Standard Industrial Classification 2007 section groups for each of the NUTS1 regions from 1997 to 2018. It compares annual productivity growth by region, as output per hour, relative to the UK and explains how manufacturing and services have grown across the regions.

Regional and sub-regional productivity in the UK
Article | Released 28 February 2020
Estimates for measures of labour productivity using a balanced gross value added (GVA) approach for NUTS 1, NUTS 2 and NUTS 3 sub-regions of the UK, selected city regions and English local enterprise partnerships (LEPs) up to 2017. Estimates are in both real and nominal terms.

1 Unit labour costs and unit wage costs
United Kingdom

Seasonally adjusted (2016=100)

	Whole economy		Manufacturing
	Unit labour costs	Unit wage costs	Unit wage costs
Section	A-U	A-U	C
Indices			
	LNNL	LNNK	DIX4
2016	100.0	100.0	100.0
2017	102.3	101.9	101.4†
2018	105.4	105.6	104.1
2019	108.7	108.0	107.8
2016 Q1	98.5	99.1	99.6
Q2	100.3	100.3	100.1
Q3	100.7	100.5	100.8†
Q4	100.5	100.2	99.5
2017 Q1	100.5	100.0	99.4
Q2	102.1	101.7	101.3
Q3	103.1	102.6	102.7
Q4	103.3	103.3	102.2
2018 Q1	104.3	104.9	103.2
Q2	104.7	105.0	103.9
Q3	105.6	105.7	104.4
Q4	107.2	107.0	104.8
2019 Q1	107.0†	106.9	103.2
Q2	108.9	108.2†	108.1
Q3	109.0	108.1	109.1
Q4	109.7	108.9	110.8
Per cent change on quarter a year ago			
	DMWN	LOJE	DJ4J
2016 Q1	–0.1	0.1	2.4
Q2	2.6	2.3	2.7
Q3	2.8	1.9	2.1
Q4	2.8	2.2	0.2†
2017 Q1	2.0	0.9	–0.2
Q2	1.9	1.4	1.2
Q3	2.4	2.1	1.9
Q4	2.7	3.2	2.7
2018 Q1	3.7	4.9	3.8
Q2	2.5	3.3	2.6
Q3	2.5	3.0	1.7
Q4	3.8	3.5	2.6
2019 Q1	2.6†	1.9	–
Q2	4.0	3.1	4.0
Q3	3.2	2.2†	4.5
Q4	2.4	1.8	5.7
Per cent change on previous quarter			
	DMWO	DMWL	DJ4I
2016 Q1	0.8	1.1	0.4
Q2	1.7	1.2	0.5
Q3	0.4	0.2	0.7†
Q4	–0.2	–0.3	–1.3
2017 Q1	–	–0.1	–0.1
Q2	1.6	1.6	1.9
Q3	0.9	0.9	1.4
Q4	0.2	0.7	–0.5
2018 Q1	1.0	1.5	1.0
Q2	0.4	0.1	0.8
Q3	0.9	0.6	0.5
Q4	1.5	1.2	0.4
2019 Q1	–0.1†	–0.1†	–1.6
Q2	1.7	1.2	4.8
Q3	0.1	–0.2	0.9
Q4	0.6	0.8	1.5

† 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		Manufacturing	
	Unit labour costs		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
	DMWN	DMWO	DJ4J	DJ4I
2015 Q3	–	–	–	0.1
Q4	–	–	–	–
2016 Q1	–	–	–	–
Q2	–	–	–	–
Q3	–	–	–	0.1
Q4	–	–	–0.2	–0.3
2017 Q1	–	–	–	0.2
Q2	–	–	–	–
Q3	–	–	0.2	0.3
Q4	–	–	0.2	–0.2
2018 Q1	–	–	–	–
Q2	–	–	–	–
Q3	–	–	–0.1	0.2
Q4	–	–	–	–0.1
2019 Q1	–0.1	–0.1	0.6	0.6
Q2	–	0.1	1.1	0.5
Q3	–0.4	–0.4	1.7	0.6