

Statistical bulletin

Index of Production, UK: September 2016

Movements in the volume of production for the UK production industries: manufacturing, mining and quarrying, energy supply, and water and waste management. Figures are seasonally adjusted.



Contact:
Alaa Al-Hamad
indexofproduction@ons.gsi.gov.uk
uk
+44 (0) 1633 455648

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1 . Main points

This is the first quarterly estimate for Index of Production (IoP) covering data post-EU referendum. Quarterly estimate for production output decreased by 0.5% in Quarter 3 (July to Sept) 2016. The largest downward pressure came from manufacturing, which fell by 0.9%, partially offset by a rise in mining and quarrying of 4.3%.

Quarterly IoP in [Gross Domestic Product preliminary estimate for Quarter 3 \(July to Sept\)](#) was revised from a fall of 0.4% to a fall of 0.5%, no impact on GDP to 1 decimal place.

The monthly picture shows a decrease of 0.4% compared with August 2016. Mining and quarrying was the main sector to show a fall of 3.8%, partially offset by an increase in manufacturing of 0.6%. Users should note that we always warn against overly interpreting 1 month's figures.

The month-on-month a year ago picture shows an increase of 0.3% in September 2016 with upward increases from 3 of the 4 main sectors. The largest contribution came from water and waste management, 5.4%.

In the 3 months to September 2016, production and manufacturing were 7.9% and 5.5% respectively below their level reached in the pre-downturn GDP peak in Quarter 1 (Jan to Mar) 2008.

2 . Changes to publication schedule for economic statistics

As previously announced, from January 2017 we are improving the way we publish economic statistics in a number of ways:

We are publishing related data at the same time under new "theme" days. This will increase the coherence of our data releases and involve minor changes to the timing of certain publications. For more information see [Changes to publication schedule for economic statistics](#).

We are also improving the format and structure of statistical bulletins, which means they will be shorter and more insightful. To complement this, analysis that provides an over-arching economic picture of all the data published on each theme day will also be published.

3 . Index of Production headline figures

This bulletin presents the monthly estimates of the Index of Production (IoP) for the UK production industries, for September 2016. The IoP is one of the earliest indicators of growth and it measures output in the manufacturing (the largest component of production); mining and quarrying; energy supply; and water supply and waste management industries. In this publication, the production industries weight accounts for 14.6% of the [output approach to the measurement of gross domestic product \(GDP\)](#).

IoP values are referenced to 2013 so that the average for 2013 is equal to 100. Therefore, an index value of 110 would indicate that output is 10% higher than the average for 2013. The index estimates are mainly based on the Monthly Business Survey (MBS) of approximately 6,000 businesses, covering all the territory of the UK without geographical breakdown. The total IoP estimate and various breakdowns are widely used in private and public sector institutions. Care should be taken when using the month-on-month growth rates due to their volatility. All figures contained within this release are chained volume seasonally adjusted estimates, unless otherwise stated.

This release presents:

- the most recent loP figures
- the economic context to the loP
- gross domestic product (GDP) impact and components
- a supplementary analysis to the loP
- spotlight
- background notes section including an assessment of the quality of the loP, as well as an explanation of the terms used in this bulletin

Table 1 shows the main figures for this release. Figure 1 shows the production and manufacturing series from June 2014 to September 2016.

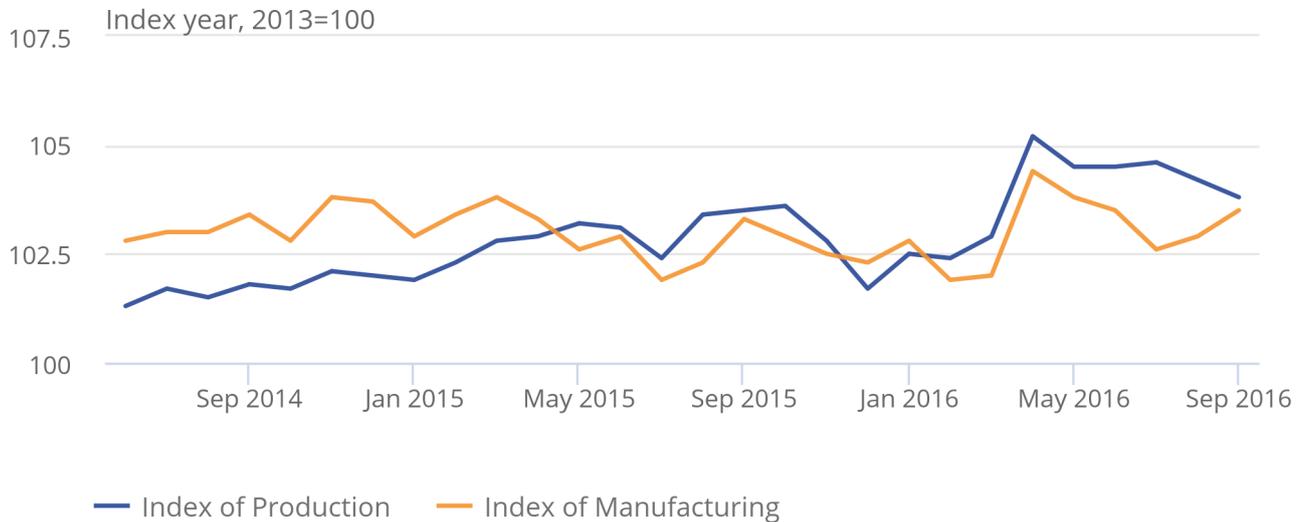
Table 1: Index of Production main figures, September 2016, UK

	Index number (2013=100)	Most recent month on a year earlier	Most recent 3 months on a year earlier	Percentage change	
				Most recent month on previous month	Most recent 3 months on previous 3 months
Production	103.8	0.3	1.0	-0.4	-0.5
Manufacturing	103.5	0.2	0.5	0.6	-0.9

Source: Office for National Statistics

Figure 1: Seasonally adjusted production and manufacturing, June 2014 to September 2016, UK

Figure 1: Seasonally adjusted production and manufacturing, June 2014 to September 2016, UK



Source: Primarily Monthly Business Survey (Production and Services) - Office for National Statistics

4 . Quality of the Index of Production

We have developed [guidelines for measuring statistical quality](#); these are based upon the 5 European Statistical System (ESS) quality dimensions. The Index of Production (IoP) in its current form adheres to these requirements. One important dimension for measuring statistical quality is accuracy. That is, the extent to which the estimate measures the underlying "true" value of the output growth (of the production industries) in the UK for a particular period. Although the IoP meets its legal requirements for statistical accuracy, all survey-based estimates, by definition, are subject to statistical uncertainty or errors. These errors consist of 2 main elements: the sampling error and the non-sampling error.

For many well-established statistics we measure and publish the sampling error associated with the estimate, using this as an indicator of accuracy. However, the IoP is constructed from a variety of data sources, some of which are not based on random samples. We previously announced that research was under way to attempt to measure the standard error; this work has been completed and published in [Survey Methodology Bulletin No.75 Spring 2016](#) using the standard errors of the growths for the year 2014. We are working on updating this for regular publication as part of this release.

Non-sampling errors are not easy to quantify but can be caused by coverage issues, measurement, processing and non-response. The response rate gives an indication of the likely impact of non-response error on the survey estimates. From January 2015, the Monthly Business Survey (MBS) response rates for data included in the IoP publication have been published in the background notes "methods" section of the statistical bulletin. This is to give further information of the percentages of the amount of turnover and questionnaire forms returned. We publish [MBS historical response rates](#) back to 2010.

A further dimension of measuring accuracy is reliability, which can be measured using evidence from analyses of revisions to assess the closeness of early estimates to subsequent estimated values. Revisions are an inevitable consequence of the trade-off between timeliness and accuracy.

Figures for the most recent months are provisional and subject to revision in light of:

- late responses to surveys and administrative sources
- forecasts being replaced by actual data
- revisions to seasonal adjustment factors, which are re-estimated every month and reviewed annually

Revisions to the IoP are typically small (around 0.1 to 0.2 percentage points), with the frequency of upward and downward revisions broadly equal.

Further information on the most recent revisions analysis can be found in the revisions to IoP section and in the revision triangles section in the bulletin.

Care should be taken when using the month-on-month growth rates, due to their volatility. Further information on the latest quality and methodology information (QMI) for the IoP can be found in the [Quality and Methodology Information report](#). Furthermore, the IoP is constantly being reviewed and improved for accuracy and uncertainty as part of the GDP(O) improvement project; further details of improvements are published each year as part of a suite of Blue Book articles. A full list of the GDP(O) improvement project articles can be found on the [Improvements](#) page of our website.

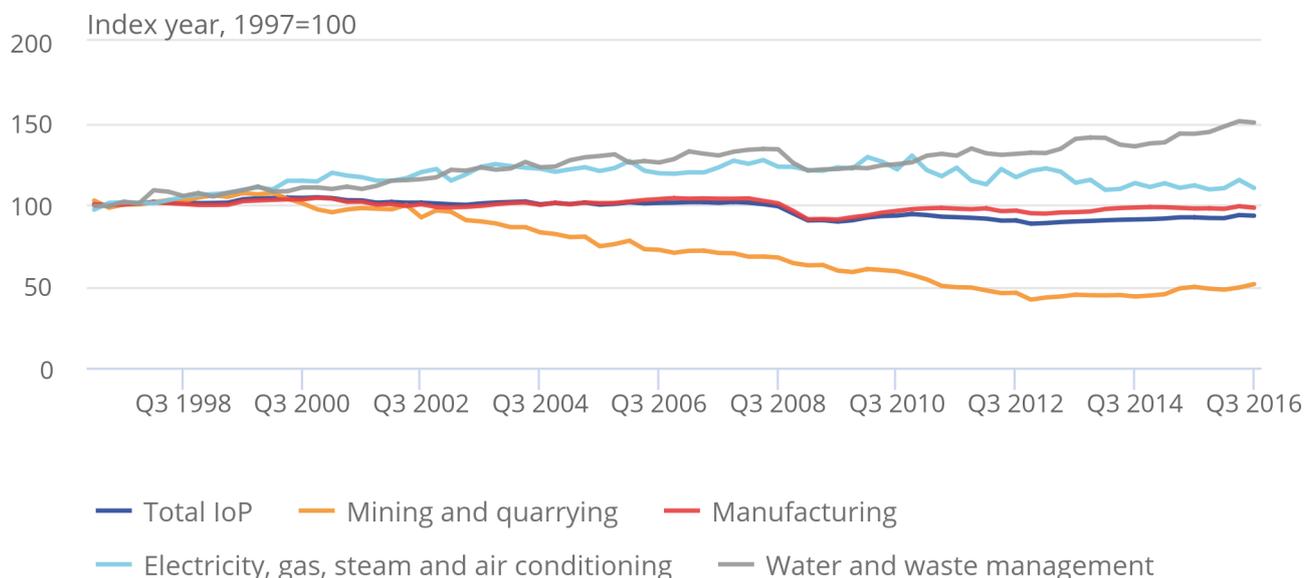
5 . Economic context

Production output fell in September 2016 by 0.4%, following a decline of 0.4% in August and growth of 0.3% month on same month a year ago since September 2015. In the latest quarter, Quarter 3 (July to Sept) 2016, production output decreased by 0.5% compared with a rise of 2.1% in Quarter 2 (Apr to June) 2016.

Since early 2014, manufacturing – the largest component of production – has experienced alternating periods of expansion and contraction, remaining broadly flat over this period. In September 2016, manufacturing grew by 0.6% compared with August 2016. (For more information and analysis of the latest figures, see the production and sectors supplementary analysis section of the bulletin.)

Figure 2: Index of production and sub-components, Quarter 1 (Jan to Mar) 1997 to Quarter 3 (July to Sept) 2016, UK

Figure 2: Index of production and sub-components, Quarter 1 (Jan to Mar) 1997 to Quarter 3 (July to Sept) 2016, UK



Source: Primarily Monthly Business Survey (Production and Services) - Office for National Statistics

Notes:

1. Throughout this release Q1 refers to Quarter 1 (January to March), Q2 refers to Quarter 2 (April to June), Q3 refers to Quarter 3 (July to September) and Q4 refers to Quarter 4 (October to December).

Figure 2 shows that production and its main components have followed very different paths over time.

Looking over the entire period (Quarter 2 1997 to Quarter 3 2016), the water supply, sewerage and waste management and electricity, gas, steam and air conditioning supply main sectors grew fastest, at compound average growth rates of 0.5% and 0.2% per quarter respectively, while production as a whole contracted at a compound average growth rate of 0.1% per quarter. Over the same period, mining and quarrying contracted at a compound average growth rate of 0.9% per quarter while manufacturing output was broadly unchanged (0.0%). A compound average growth is the rate at which a series would have increased or decreased if it had grown or fallen at a steady rate over a number of periods.

During the economy's downturn (between Quarter 1 (Jan to Mar) 2008 and Quarter 2 2009), production and all of its components contracted. However, the path of mining and quarrying shows little sign of the economy's downturn, with its output continuing to decline (Figure 3). Between the economy's peak in Quarter 1 2008 and the economy's trough in Quarter 2 2009, manufacturing experienced the largest contraction (12.2%) followed by contractions in total production (10.5%) water supply, sewerage and waste management (9.0%), mining and quarrying (7.5%) and electricity, gas, steam and air conditioning (3.5%).

In Quarter 3 2016, production and manufacturing output remained below their Quarter 1 2008 levels by 7.9% and 5.5%, respectively. Mining and quarrying and electricity, gas, steam and air conditioning output were also below their values in Quarter 1 2008 by 24.7% and 11.9%, respectively. In contrast, water supply, sewerage and waste management is the only main sector within production to have surpassed its value in Quarter 1 2008, by 12.6%, as of Quarter 3 2016.

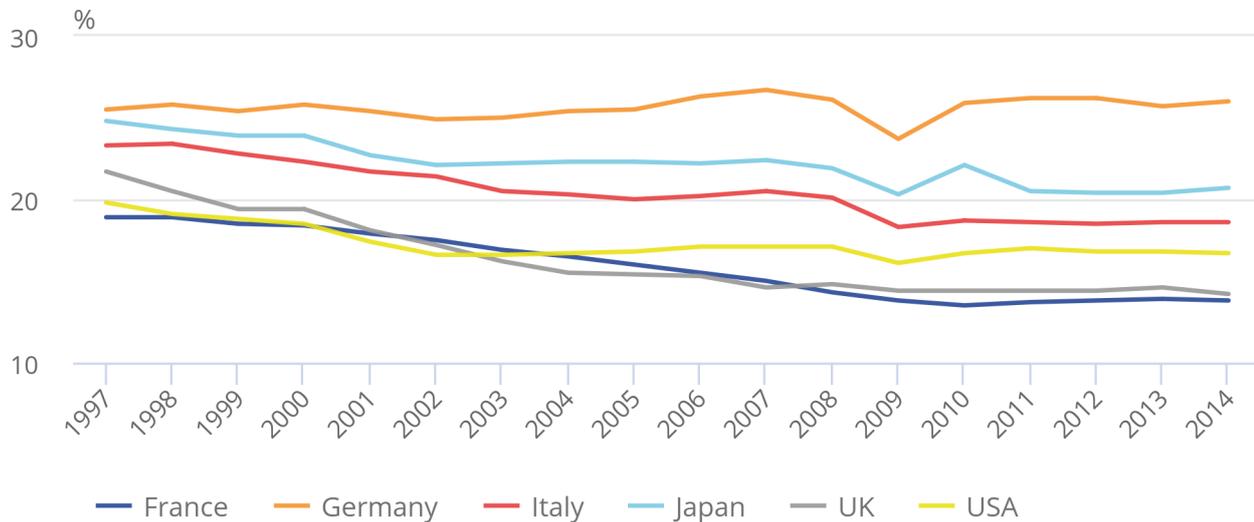
Headline gross domestic product (GDP) surpassed its pre-downturn peak in Quarter 3 2013 and while services have performed well since the downturn, the other headline industry groupings have struggled to recover, with manufacturing and production still below their pre-downturn peak. This is consistent with the historical trend of services growing at a faster rate than production and manufacturing, despite the fact that productivity in the production industries (manufacturing in particular) has on average grown at a faster rate than in the service industries since 1997 (more information can be found in [Gross Domestic Product, preliminary estimate: July to Sept 2016](#) and [Labour productivity: Apr to June 2016](#)). The slower output growth and increased productivity, therefore, reflect the falling share of the labour force employed in manufacturing, which fell from 16.5% to 9.6% between 1997 and 2015 ([UK Labour Market: October 2016, EMP13](#)).

In September 2016 the manufacturing industry experienced inflation in terms of the prices manufacturers pay for materials and fuels used in the production process (input prices) and the prices they charge for the goods they produce (output prices). Input prices paid by UK manufacturers rose by 7.2% in the year to September 2016, from a rise of 7.8% in the year to August 2016. Output prices for goods produced by UK manufacturers rose by 1.2% in the year to September 2016, from a rise of 0.9% in the year to August 2016. Both input and output prices have been rising in recent months and this is the third consecutive month of positive price growth in both series (more information can be found in [UK producer price inflation: Sept 2016](#) and this month's spotlight section).

Figure 3 shows the share of nominal gross value added (GVA) accounted for by production in the UK and a selection of other major economies (more information on data for France, Germany, Italy, Japan and the USA can be found on the [Organisation for Economic Co-operation and Development \(OECD\) website](#)).

Figure 3: Production as a percentage of nominal gross value added (GVA) in comparable economies to the UK, 1997 to 2014

Figure 3: Production as a percentage of nominal gross value added (GVA) in comparable economies to the UK, 1997 to 2014



Source: Office for National Statistics, Organisation for Economic Co-operation and Development (OECD)

In 1997, the share of nominal GVA accounted for by production in the UK was 21.7%, around the middle of the range relative to the other economies. By 2014, the UK had become relatively less reliant on production, as its share fell to 14.2% of nominal GVA.

The same trend was observed in manufacturing, where the share of nominal GVA fell from 17.1% in 1997 to 10.2% in 2014. Moreover, between 1997 and 2014, the composition of production in the UK changed, with the share of production attributed to manufacturing decreasing from 78.7% in 1997 to 71.6% in 2014.

6 . Gross domestic product (GDP) impact and components

In this release, periods back to July 2016 are open for revision, in line with the [National Accounts revisions policy](#).

The [Gross Domestic Product, preliminary estimate: July to Sept 2016](#), published on 27 October 2016, contained a forecasted decrease of 0.4% for production in Quarter 3 (July to Sept) 2016. This release estimates that production decreased by 0.5% between Quarter 2 (Apr to June) and Quarter 3 2016. The downwards revision to the quarterly loP growth rate is primarily due to the revision in mining and quarrying data supplied by the Department for Business, Energy and Industrial Strategy (BEIS).

Due to the weight of the production industries within the economy, there was no impact on the recently published [Gross Domestic Product, preliminary estimate: July to Sept 2016](#) to 1 decimal place.

The estimates for the production industries are generally the first of the main components for the output approach to the measurement of GDP to be published (agriculture, [construction](#) and [services](#) are the other components). Details of the data already published can be found in Table 2. The [Retail Sales Index](#) reported in Table 2 is not a direct component of the output approach to measuring GDP. It does, however, feed into estimates of GDP in 2 ways. Firstly, it feeds into the services industries when GDP is measured from the output approach. Secondly, it is a data source used to measure household final consumption expenditure, which feeds into GDP estimates when measured from the expenditure approach.

Output in the [construction](#) industry for September 2016 will be published on 11 November 2016 and [services](#) output for the same period on 25 November 2016.

Table 2: Components of GDP, September 2016, UK

Publication	Percentage of GDP	Release date	Month or quarter of GDP ²	Percentage change			
				Most recent 3 months on a year earlier	Most recent 3 months on 3 months earlier ³	Most recent month on the same month a year ago ³	Most recent month on the previous month
Index of	14.6	08 Nov	Sep 2016	1.0	-0.5	0.3	-0.4
Production ¹			Aug 2016	1.4	0.2	0.7	-0.4
Construction	5.9	14 Oct	Aug 2016	-0.5	-1.3	0.2	-1.5
			Jul 2016	-0.5	-1.0	-1.0	0.5
Index of	78.8	27 Oct	Aug 2016	2.9	0.8	3.2	0.2
services			Jul 2016	2.7	0.6	2.9	0.4
Retail		20 Oct	Sep 2016	5.4	1.8	4.1	0.0
Sales			Aug 2016	5.4	1.5	6.6	0.0
Agriculture	0.7		Q3 2016	-1.4	-0.7

Source: Office for National Statistics

Notes:

1 The data for the index of production reflects the latest revisions published as part of this release.

2. Throughout this release Q1 refers to Quarter 1 (January to March), Q2 refers to Quarter 2 (April to June), Q3 refers to Quarter 3 (July to September) and Q4 refers to Quarter 4 (October to December).

3. Any apparent inconsistencies between this table and the latest GDP estimate are due to rounding.

7 . Production and sectors supplementary analysis

Table 3: Headline growth rates and contributions for the Index of Production, September 2016, UK

Description 1	% of production 2	Month on same month a year ago growth (%)	Contribution to production (percentage points)	Month on previous month growth (%)	Contribution to production (percentage points)
IoP	100.0	0.3	0.3	-0.4	-0.4
Sector B	12.0	1.2	0.16	-3.8	-0.51
Division 06	9.6	2.0	0.21	-4.5	-0.50
Sector C	70.0	0.2	0.11	0.6	0.41
Sector D	10.4	-4.0	-0.38	-1.9	-0.18
Sector E	7.5	5.4	0.40	-1.1	-0.08

Source: Office for National Statistics

Notes:

1. IoP Total Index of Production; Sector B mining and quarrying; and within this, Division 06 oil and gas extraction; Sector C manufacturing; Sector D electricity, gas, steam and air conditioning; and Sector E water supply, sewerage and waste management.

2. "% of production" column does not add up to 100 due to rounding.

Table 4: Growths and contributions to production, quarter on previous quarter, September 2016, UK

Sector	Summary description	Quarter on previous quarter growth (%)	Contribution to production (percentage points)
IoP	Index of Production	-0.5	-0.52
Sector B	Total Mining and Quarrying	4.3	0.55
5	Coal and Lignite	11.1	0.00
6	Crude petroleum and Natural gas	5.0	0.53
789	Other mining and quarrying	0.9	0.02
Sector C	Total Manufacturing	-0.9	-0.61
CA	Food, beverages and tobacco	0.6	0.07
CB	Textiles and leather products	4.8	0.11
CC	Wood, paper and printing	-1.6	-0.08
CD	Coke and petroleum	-0.3	0.00
CE	Chemical products	1.7	0.07
CF	Pharmaceutical products	-7.5	-0.42
CG	Rubber and plastic products	-1.5	-0.09
CH	Metal products	-0.3	-0.02
CI	Computer, electronic and optical	0.5	0.02
CJ	Electrical equipment	-2.5	-0.05
CK	Machinery and equipment	0.1	0.01
CL	Transport equipment	-2.2	-0.22
CM	Other manufacturing and repair	0.2	0.01
Sector D	Total Electricity and Gas	-4.3	-0.42
35.1	Electric power generation, transmission and distribution	-2.7	-0.17
35.2-3	Manufacture of gas; distribution of gaseous fuels through mains; steam and aircon supply	-7.6	-0.24
Sector E	Total Water	-0.5	-0.04
36	Water collection, treatment and supply	1.0	0.02
37	Sewerage	0.2	0.01
38	Waste collection, treatment and disposal activities; materials recovery	-1.9	-0.06
39	Remediation activities and other waste management services	-1.7	0.00

Source: Office for National Statistics

Table 5: Growths and contributions to production, month on same month a year ago, September 2016, UK

Sector	Summary description	Month on same month a year ago growth (%)	Contribution to production (percentage points)
IoP	Index of Production	0.3	0.28
Sector B	Total Mining and Quarrying	1.2	0.16
5	Coal and Lignite	-51.9	-0.02
6	Crude petroleum and Natural gas	2.0	0.21
789	Other mining and quarrying	-1.4	-0.03
Sector C	Total Manufacturing	0.2	0.11
CA	Food, beverages and tobacco	1.0	0.12
CB	Textiles and leather products	-0.6	-0.01
CC	Wood, paper and printing	-1.3	-0.06
CD	Coke and petroleum	-7.3	-0.06
CE	Chemical products	-1.4	-0.06
CF	Pharmaceutical products	-2.5	-0.14
CG	Rubber and plastic products	2.4	0.14
CH	Metal products	-0.7	-0.06
CI	Computer, electronic and optical	-0.8	-0.03
CJ	Electrical equipment	-9.9	-0.20
CK	Machinery and equipment	-0.7	-0.03
CL	Transport equipment	1.6	0.15
CM	Other manufacturing and repair	5.4	0.35
Sector D	Total Electricity and Gas	-4.0	-0.38
35.1	Electric power generation, transmission and distribution	-5.6	-0.38
35.2-3	Manufacture of gas; distribution of gaseous fuels through mains; steam and aircon supply	-0.2	-0.01
Sector E	Total Water	5.4	0.40
36	Water collection, treatment and supply	0.7	0.01
37	Sewerage	9.7	0.20
38	Waste collection, treatment and disposal activities; materials recovery	5.7	0.18
39	Remediation activities and other waste management services	4.5	0.00

Source: Office for National Statistics

Table 6: Growths and contributions to production, month on previous month, September 2016, UK

Sector	Summary description	Month on previous month growth (%)	Contribution to production (percentage points)
IoP	Index of Production	-0.4	-0.37
Sector B	Total Mining and Quarrying	-3.8	-0.51
5	Coal and Lignite	-7.1	0.00
6	Crude petroleum and Natural gas	-4.5	-0.50
789	Other mining and quarrying	-0.5	-0.01
Sector C	Total Manufacturing	0.6	0.41
CA	Food, beverages and tobacco	0.8	0.09
CB	Textiles and leather products	0.5	0.01
CC	Wood, paper and printing	-0.4	-0.02
CD	Coke and petroleum	2.2	0.02
CE	Chemical products	1.5	0.06
CF	Pharmaceutical products	2.5	0.13
CG	Rubber and plastic products	1.4	0.08
CH	Metal products	0.5	0.04
CI	Computer, electronic and optical	-0.5	-0.02
CJ	Electrical equipment	1.4	0.02
CK	Machinery and equipment	-0.6	-0.03
CL	Transport equipment	-2.1	-0.21
CM	Other manufacturing and repair	3.6	0.23
Sector D	Total Electricity and Gas	-1.9	-0.18
35.1	Electric power generation, transmission and distribution	-0.6	-0.04
35.2-3	Manufacture of gas; distribution of gaseous fuels through mains; steam and aircon supply	-4.9	-0.15
Sector E	Total Water	-1.1	-0.08
36	Water collection, treatment and supply	0.9	0.02
37	Sewerage	-3.0	-0.07
38	Waste collection, treatment and disposal activities; materials recovery	-0.9	-0.03
39	Remediation activities and other waste management services	-1.7	0.00

Total production

Total production decreased by 0.5% in Quarter 3 (July to Sept) 2016 compared with Quarter 2 (Apr to June) 2016 (Table 4). The quarterly decrease in total production reflected falls in 3 of its 4 main sectors, with manufacturing (the largest component of production) having the largest contribution, decreasing by 0.9% and contributing a downward 0.6 percentage points to total production. There were also decreases in electricity, gas, steam and air conditioning output of 4.3% and in water supply, sewerage and waste management of 0.5%. These decreases were partially offset by an increase of 4.3% in mining and quarrying.

Total production output in September 2016 increased by 0.3% compared with September 2015 (Table 5). This increase reflected rises in 3 of its 4 main sectors, with water supply, sewerage and waste management output having the largest contribution, increasing by 5.4% and contributing 0.4 percentage points to total production. This increase was followed by rises in mining and quarrying, which increased by 1.2% and in manufacturing, which increased by 0.2%. The increases in total production were partially offset by a decrease in electricity, gas, steam and air conditioning output, which decreased by 4.0%.

Total production output in September 2016 decreased by 0.4% compared with August 2016 (Table 6). This decrease reflected falls in 3 of its 4 main sectors, with mining and quarrying having the largest contribution, decreasing by 3.8% and contributing a downward 0.5 percentage points to total production. The decrease in mining and quarrying was followed by falls in electricity, gas, steam and air conditioning output, which decreased by 1.9% and in water supply, sewerage and waste management output, which decreased by 1.1%. These decreases were partially offset by an increase in manufacturing, which increased by 0.6% and contributed 0.4 percentage points to total production.

Manufacturing

Manufacturing output decreased by 0.9% in Quarter 3 2016 compared with Quarter 2 2016, broadly in line with the estimate contained within the recent [Gross Domestic Product, preliminary estimate: July to Sept 2016](#). Output decreased in 7 of the 13 manufacturing sub-sectors (Table 4). The manufacturing sub-sector with the largest downward contribution to total production was the manufacture of basic pharmaceutical products and pharmaceutical preparations, which decreased by 7.5% and contributed a downward 0.4 percentage points to total production. This was the largest quarterly decrease since Quarter 2 2012, when it decreased by 11.5%. The fall of 7.5% followed an increase of 5.6% in the previous quarter.

In contrast, the manufacturing sub-sector with the largest upward contribution to total production in Quarter 3 2016 was the manufacture of textiles, wearing apparel and leather products (for further information on the characteristics of this industry see the previously published [spotlight](#)). This sub-sector increased by 4.8% and contributed 0.1 percentage points to total production. The largest contribution to the increase within this sub-sector came from the manufacture of textiles, which increased by 7.2% and contributed 0.1 percentage points to total production.

Manufacturing output increased by 0.2% between September 2015 and September 2016, contributing 0.1 percentage points to total production. Output increased in 4 of the 13 manufacturing sub-sectors compared with a year ago (Table 5). The manufacturing sub-sector with the largest upward contribution to total production was other manufacturing and repair, which increased by 5.4% and contributed 0.3 percentage points to total production. The largest contribution within this sub-sector came from the manufacture of furniture, which increased by 10.3% and contributed 0.2 percentage points to total production. This was the eighth consecutive increase on a year ago, having increased by 10.6% in the previous month. There was evidence to suggest the increase was due to broad-based strength across the industry.

In contrast, the manufacturing sub-sector with the largest downward contribution to total production between September 2015 and September 2016 was the manufacture of electrical equipment, which decreased by 9.9% with a downward contribution of 0.2 percentage points to total production.

Manufacturing output increased by 0.6% between August 2016 and September 2016 and contributed 0.4 percentage points to total production (Table 6). This followed an increase of 0.2% in the previous month. There were increases in 9 of the 13 manufacturing sub-sectors. The largest upward contribution came from other manufacturing and repair, which increased by 3.6% and contributed 0.2 percentage points to total production. This followed a decrease of 2.3% in the previous month (for more information on the characteristics of the other manufacturing and repair industry see the previously published [spotlight](#)). The largest contribution within this sub-sector came from the rest of repair and installation, which increased by 8.5% and contributed 0.1 percentage points to total production. This increase followed a decrease of 3.6% in the previous month.

In contrast, the manufacturing sub-sector with the largest downward contribution to total production in September 2016 compared with August 2016 was the manufacture of transport equipment, which decreased by 2.1%, contributing a downward 0.2 percentage points to total production. The largest contribution within this sub-sector came from the manufacture of motor vehicles, trailers and semi trailers, which decreased by 4.9% and contributed a downward 0.3 percentage points to total production. This decrease followed an increase of 3.2% in the previous month.

Mining and quarrying

Mining and quarrying output increased by 4.3% in Quarter 3 2016 compared with Quarter 2 2016, contributing 0.6 percentage points to total production. This compared with an estimated increase of 5.2% contained within the recent [Gross Domestic Product, preliminary estimate: July to Sept 2016](#). The Department for Business, Energy and Industrial Strategy (BEIS) advised that this was due to actual data replacing initial estimates. The sub-sector with the largest contribution to this quarterly increase was the extraction of crude petroleum and natural gas, which increased by 5.0% and contributed 0.5 percentage points to total production (Table 4).

Mining and quarrying output increased by 1.2% in September 2016 compared with September 2015 and contributed 0.2 percentage points to total production. The sub-sector with the largest contribution to the increase was the extraction of crude petroleum and natural gas, which increased by 2.0% and contributed 0.2 percentage points to total production (Table 5).

Mining and quarrying output decreased by 3.8% in September 2016 compared with August 2016 and contributed a downward 0.5 percentage points to total production. This followed a decrease of 2.9% in the previous month, revised up from a decrease of 3.7% in the previous publication. The sub-sector with the largest contribution to the decrease in September 2016 was the extraction of crude petroleum and natural gas, which decreased by 4.5% and contributed a downward 0.5 percentage points to total production (Table 6). This decrease followed a decrease of 3.5% in the previous month. BEIS advised the decrease can largely be attributed to continued maintenance in several oil fields in the North Sea.

Electricity, gas, steam and air conditioning

Electricity, gas, steam and air conditioning output decreased by 4.3% in Quarter 3 2016 having increased by 4.6% in the previous quarter (Table 4). This is the largest quarterly decrease since Quarter 1 (Jan to Mar) 2014 (a decrease of 5.4%). This decrease was larger than the 3.6% decrease forecasted within the recent [Gross Domestic Product, preliminary estimate: July to Sept 2016](#). The decrease in electricity, gas, steam and air conditioning output reflected a fall in output in both of its sub-sectors. The main contributor to the decrease was the manufacture of gas and distribution of gaseous fuels through mains, which decreased by 7.6% and contributed a downward 0.2 percentage points to total production, having increased by 11.1% in the previous quarter. The decrease of 7.6% was the largest since Quarter 1 2014, when it fell by 9.3%.

Electricity, gas, steam and air conditioning output decreased by 4.0% in September 2016 compared with September 2015, with a downward contribution of 0.4 percentage points to total production (Table 5). This decrease reflected a fall in output in both of its sub-sectors. The main contributor to the decrease was the electric power generation, transmission and distribution sub-sector, which decreased by 5.6% and contributed a downward 0.4 percentage points to total production. Evidence from BEIS indicated the decrease in September 2016 was a result of a fall in outputs due to a fall in demand due to the higher than average temperature, along with an increase in the cost of the fuel mix used for the purpose of generating electricity.

Electricity, gas, steam and air conditioning output decreased by 1.9% in September 2016 compared with August 2016 and contributed a downward 0.2 percentage points to total production (Table 6). This reflected falls in output in both of its sub-sectors; the largest contribution came from the manufacture of gas and distribution of gaseous fuels through mains, which decreased by 4.9% and contributed a downward 0.1 percentage points to total production. Evidence suggested this was due to the higher than average temperature.

Water and waste management

Water supply, sewerage and waste management output decreased by 0.5% in Quarter 3 2016 compared with Quarter 2 2016 (Table 4). This decrease was larger than the forecasted decrease of 0.2% contained within the recent [Gross Domestic Product, preliminary estimate: July to Sept 2016](#). The largest contribution to the decrease came from waste collection, treatment and disposal activities, which decreased by 1.9% and contributed a downward 0.1 percentage points to total production.

Water supply, sewerage and waste management output increased by 5.4% in September 2016 compared with September 2015, continuing the pattern of increasing month-on-month a year ago growth rates from March 2015. This increase reflected a rise in all of its 4 sub-sectors' output (Table 5), with the largest contribution coming from sewerage, which increased by 9.7% and contributed 0.2 percentage points to total production.

Water supply, sewerage and waste management output decreased by 1.1% between August 2016 and September 2016 contributing a downward 0.1 percentage points to total production. This decrease reflected falls in 3 of its 4 sub-sectors, with the largest downward contribution coming from sewerage, which decreased by 3.0% with a downward contribution of 0.1 percentage points to total production (Table 6).

Revisions to IoP

Revisions to the Index of Production (IoP) follow the [National Accounts revisions policy](#). Revisions are caused by a number of factors including, but not limited to revisions to source data due to late responses to the Monthly Business Survey (MBS), actual data replacing forecast data and revisions to seasonal factors that are re-estimated every period.

We produce revisions triangles of production and manufacturing growth to provide users with one indication of the reliability of this important indicator. Statistical tests are performed on the average revision to test if it is statistically significantly different from zero. Further information can be found in section 9 quality and methodology.

In this release of data, periods back to July 2016 were open for revision and there were no revisions to the total IoP monthly growth rates.

Further details on the revisions to IoP components can be found in the IOP5R tables, located within the [dataset](#) section of this release.

8 . Spotlight: Note on the impact of prices on the index of manufacturing

In order to derive the volume of production activity in the manufacturing industry, export prices and producer output prices are used to deflate the current price (nominal) value of output.

Export prices (and to a lesser extent output prices) have risen over the past year, which will, all else being equal, act to reduce the volume of manufacturing output growth relative to value growth.

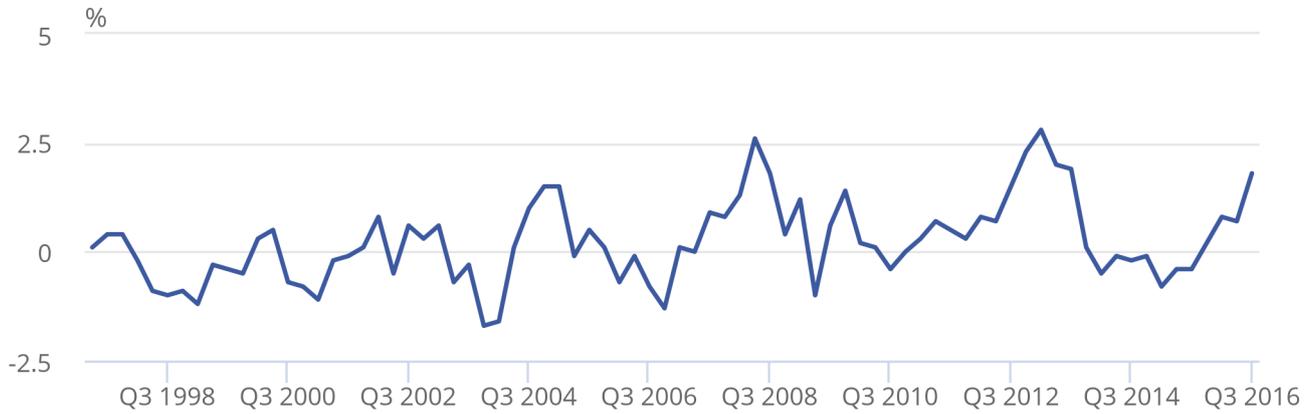
As set out in the [Gross Domestic Product, preliminary estimate: July to Sept 2016](#) bulletin, the fall in the value of the sterling exchange rate following the EU referendum vote on 23 June 2016 is likely to have put upward pressure on the prices of exported goods. One reason for this is that firms [have been shown to export a large proportion of their goods in foreign currency](#). In addition, higher import prices may have indirectly fed through to higher export prices; however, this effect is likely to have been far smaller in the short term. Output prices have also risen in recent months, but the impact of sterling on this measure has been difficult to discern as oil prices and other factors may have contributed to this effect. More detail on export and output prices can be found in the [UK trade](#) and [UK producer price inflation](#) bulletins.

Figure 4 shows the performance of the manufacturing implied deflator between Quarter 2 (Apr to Jun) 1997 and Quarter 3 (July to Sept) 2016. Implied deflators are calculated by dividing the value of output by the volume of output. A higher value in the deflator implies that the volume measure of output is smaller relative to the current price measure.

We can see that in the recent quarter prices rose according to the implied deflator. Both input and output prices have been rising in recent months and September 2016 is the third consecutive month of positive price growth in both series ([producer price inflation](#)).

Figure 4: Total manufacturing implied deflator, Quarter 2 (Apr to Jun) 1997 to Quarter 3 (July to Sept) 2016, UK

Figure 4: Total manufacturing implied deflator, Quarter 2 (Apr to Jun) 1997 to Quarter 3 (July to Sept) 2016, UK



Source: Office for National Statistics

Table 7 shows the quarterly change in the “implied” deflators for each of the main components of manufacturing for Quarter 1 (Jan to Mar), Quarter 2 and Quarter 3 2016. The table shows that the deflator rose much more sharply in Quarter 3 compared with historical averages for a number of manufacturing sub-industries, across a broad range of products.

Table 7: Quarterly percentage change in implied deflators by manufacturing component, Quarter 1 (Jan to Mar) 2016 to Quarter 3 (July to Sept) 2016, UK

		Q1 2016	Q2 2016	Q3 2016
C	Total Manufacturing	0.8	0.7	1.8
CA	Food, drink and tobacco	0.3	0.2	0.9
CB	Textiles, wearing apparel and leather products	0.8	0.6	1.6
CC	Wood, paper products and printing	0.7	0.3	0.2
CD	Coke and refined petroleum products	-8.1	2.6	7.7
CE	Chemicals and chemical products	0.7	1.0	2.3
CF	Pharmaceutical products and preparations	1.4	1.1	3.2
CG	Rubber and plastic products and non-metallic mineral products	1.2	0.8	1.2
CH	Basic metals	0.5	0.8	2.0
CI	Computer, electronic and optical products	1.0	0.6	2.0
CJ	Manufacture of electrical equipment	1.3	0.6	1.9
CK	Machinery and equipment not elsewhere classified	1.0	0.7	1.9
CL	Transport equipment	1.1	1.2	2.2
CM	Other manufacturing and repair	1.2	0.5	1.9

Source: Office for National Statistics

Notes:

1. Q1 refers to Quarter 1 (Jan to Mar), Q2 refers to Quarter 2 (Apr to June), Q3 refers to Quarter 3 (July to Sept).

The change in the exchange rate is likely to have a larger effect on the sub-industries that have higher export proportion. For example, the implied deflators for the motor vehicle (within CL) and pharmaceuticals (CF) industries – which have export proportions of 50% and 60% respectively – rose at slightly faster rates than the implied deflator across total manufacturing. Coke and refined petroleum products (CD) saw the highest increase in the implied deflator in Quarter 3 2016; however, this is likely to have been more affected by oil prices in this period than recent changes in sterling. We published the export proportions for manufacturing industries collected by the Monthly Business Survey for the first time alongside this release – see What’s new? in the background notes for more information.

9 . Quality and methodology

The [Index of Production Quality and Methodology Information][1] document contains important information on:

- the strengths and limitations of the data and how it compares with related data
- users and uses of the data
- how the output was created
- the quality of the output including the accuracy of the data

Methods

The [Index of Production methodology](#) is published on our website within our methodology web pages. These include details on improvements, a sources catalogue detailing methods, data and weights used to compile IoP, Index of Services and output approach to gross domestic product (GDP(O)).

Composition of the data

The Index of Production uses a variety of different data from sources that are produced on either a quarterly or monthly basis.

Most of the series are derived using current price turnover deflated by a suitable price index. This includes the Monthly Business Survey (MBS) data, our short-term survey of various industries in the economy. It is one of the main data sources used in the compilation of the Index of Production.

Approximately 70% of the IoP estimates are based on data collected through MBS. The remainder are based on data received from external sources. The MBS response rates for data included in this publication are presented in Table 8 for the current month and the 3 months prior. The response rates for the historical periods are updated to reflect the current level of response, incorporating data from late returns. We have included 2 response rates: one percentage for the amount of turnover returned and the other percentage for the amount of questionnaire forms. We have also published [MBS historical production industries response rates](#) back to 2010.

Table 8: Monthly Business Survey (MBS) response rates, September 2016, UK

	%			
	Year	Period	Turnover	Questionnaire
MBS overall	2016	Sep	88.4	74.5
	2016	Aug	94.9	83.2
	2016	Jul	96.5	85.0
	2016	Jun	97.0	85.5
MBS production only	2016	Sep	87.8	78.3
	2016	Aug	94.6	86.5
	2016	Jul	96.8	87.8
	2016	Jun	97.3	88.6

Source: Office for National Statistics

Seasonal adjustment

The index numbers in this statistical bulletin are all seasonally adjusted in line with international best practice, using X-13-ARIMA-SEATS software. This aids interpretation by removing annually recurring fluctuations, for example, due to holidays or other regular seasonal patterns. Unadjusted data are also available.

Seasonal adjustment removes regular variation from a time series. Regular variation includes effects due to month lengths, different activity near particular events such as shopping activity before Christmas, and regular holidays such as the May bank holiday. Some features of the calendar are not regular each year, but are predictable if we have enough data, for example, the number of certain days of the week in a month may have an effect, or the impact of the timing of Easter. As Easter changes between March and April, we can estimate its effect on time series and allocate it between March and April depending on where Easter falls. Estimates of the effects of day of the week and Easter are used respectively to make trading day and Easter adjustments prior to seasonal adjustments.

Although leap years only happen every 4 years, they are predictable and regular and their impact can be estimated. Hence, if there is a leap year effect, it is removed as part of regular seasonal adjustment.

Deflation

It is common for the value of a group of financial transactions to be measured in several time periods. The values measured will include both the change in the volume sold and the effect of the change of prices over that year. Deflation is the process whereby the effect of price change is removed from a set of values.

All series, unless otherwise quoted, are chained volume measures. Deflators adjust the value series to take out the effect of price change to give the volume series.

Quality

Basic quality information

A common pitfall in interpreting data is that expectations of accuracy and reliability in early estimates are often too high. Revisions are an inevitable consequence of the trade off between timeliness and accuracy. Early estimates are based on incomplete data.

Very few statistical revisions arise as a result of "errors" in the popular sense of the word. All estimates, by definition, are subject to statistical "error" but in this context the word refers to the uncertainty inherent in any process or calculation that uses sampling, estimation or modelling. Most revisions reflect either the adoption of new statistical techniques, or the incorporation of new information that allows the statistical error of previous estimates to be reduced. Only rarely are there avoidable "errors" such as human or system failures and such mistakes are made quite clear when they occur.

Revision triangles

One indication of the reliability of the main indicators in this bulletin can be obtained by monitoring the size of revisions. Table 9 is based on the revisions which have occurred over the last 5 years. Please note that these indicators only report summary measures for revisions. The revised data may themselves be subject to sampling or other sources of error.

Table 9 presents a summary of the differences between the first estimates published between October 2010 and September 2015 and the estimates published 12 months later.

Table 9: Revisions, September 2016, UK

Growth rates	Value in latest period	Revisions between first publication and estimates 12 months later		Percentage change
		Average over the last 60 months	Average over the last 60 months without regard to sign (average absolute revision)	
Production - 3 month	-0.5	-0.14		0.26
Manufacturing - 3 month	-0.9	-0.14		0.26
Production - 1 month	-0.4	-0.08 *		0.23
Manufacturing - 1 month	0.6	-0.07		0.20

Source: Office for National Statistics

Datasets give [revisions triangles](#) of estimates for all months from April 1998 through to the current month. A statistical test has been applied to the average revisions to find out if they are statistically significantly different from zero. An asterisk (*) indicates if a figure has been found to be statistically significant from zero.

The table uses historical data for the most recent 60 months, comparing the estimate at first publication with the estimate as published 12 months later. The numbers which underpin these averages include normal changes due to late data and re-seasonal adjustment, but also significant methodological changes, the most recent being the introduction of the 2007 Standard Industrial Classification in October 2011.

The result, presented in Table 9, suggests that the average revision for our 3 monthly estimates is not statistically significantly different from zero and that there are small downward revisions for our monthly production estimates over 12 months. In other words, the initial estimates for any given period provide a good indication of the later IoP estimates once more data have become available.

10. Background notes

1. What's new?

We have published the proportion of sales that are exports in the manufacturing industries as an Excel table to accompany this release. The proportion of export sales have been published for industries collected by the Monthly Business Survey where the value of exports are reported as well as the total turnover. These are non-seasonally adjusted series.

Our [first dashboard](#) has gone live. It can also be found embedded within our [UK economic review: November 2016](#) published on 3 November 2016, providing further commentary on the economy. This edition of the Economic Review provides a summary of our data covering the post-EU referendum period, which have been published since the last Review.

The Visual.ONS team published a piece on [Why has the value of the pound been falling and what could this mean for people in the UK?](#)

The Index of Production (IoP) is constantly being reviewed and improved, a full list of the output approach to gross domestic product (GDP(O)) improvement project articles can be found on the [Improvements](#) page of our website.

Upcoming changes

The Index of Production release for October 2016, to be published on 7 December 2016, will contain revisions back to January 2015.

Due to the recent events affecting the steel industry, we are aiming to review current seasonal adjustment for the industry. This is in line with our continuous improvement programme and we will report on results when available.

The standard error for the Index of Production has been calculated based on growth rates from 2014 and published in [Survey Methodology Bulletin No.75 Spring 2016](#). We are working on updating this for regular publication as part of this release.

VAT project update

HM Revenue and Customs ([HMRC](#)) [VAT update October 2016](#) was published on 4 October 2016 and shared early VAT turnover analysis and data for manufacturing and 6 industries within the services sector at 2-digit SIC (51 air transport services, 55 accommodation and food services, 56 food and beverage serving services, 73 advertising and market research services, 79 travel agency tour operator and other related services, 93 sports services and amusement and recreation services).

The research article represents the first significant publication of new VAT turnover statistics as part of our commitment to develop a diverse range of administrative data sources for use in the national accounts. The 5 previous VAT articles outlined progress in the development of this administrative data source and its tactical use in a pilot which was planned to launch in September. We are now adopting a more strategic approach and developing the methods and data to allow us to use VAT turnover in the national accounts by the end of 2017. It describes the current methodology but also the data challenges which we have so far identified. The next article will be published in January 2017 and we would welcome feedback on how we could potentially improve our methods and data. Please contact us with your views: vatdev@ons.gsi.gov.uk

2. Special events

We previously maintained a list of candidate special events in the special events calendar up to 2014. As explained in our special events policy, it is not possible to separate the effects of special events from other changes in the series.

3. Understanding the data

Short guide to the Index of Production

This statistical bulletin gives details of the index of output of the production industries in the UK. Index numbers of output in this statistical bulletin are on the base 2013=100 and are classified to the [2007 Standard Industrial Classification \(SIC\)](#). The production industries, which accounted for 14.6% of GDP in 2013, cover mining and quarrying (Section B), manufacturing (Section C), electricity, gas, steam and air conditioning (Section D) and water supply and sewerage (Section E).

Interpreting the data

The non-seasonally adjusted series contain elements relating to the impact of the standard reporting period, moving holidays and trading day activity. When making comparisons it is recommended that users focus on seasonally adjusted estimates as these have the seasonal effects and systematic calendar-related components removed.

Figures for the most recent months are provisional and subject to revision in light of:

- late responses to surveys and administrative sources
- revisions to seasonal adjustment factors which are re-estimated every month and reviewed annually (changes from the latest review are included in this release)

Definitions and explanations

Definitions found within the main statistical bulletin:

Chained volume measure

An index number from a chain index of quantity; the index number for the reference period of the index may be set equal to 100 or to the estimated monetary value of the item in the reference period.

Index number

A measure of the average level of prices, quantities or other measured characteristics relative to their level for a defined reference period or location; it is usually expressed as a percentage.

Seasonally adjusted

Seasonal adjustment aids interpretation by removing effects associated with the time of the year or the arrangement of the calendar, which could obscure movements of interest.

Compound average growth

Compound average growth is the rate at which a series would have increased or decreased if it had grown or fallen at a steady rate over a number of periods. This allows the composition of growth in the recent economic recovery to be compared to the long-run average.

Use of the data

The IoP is an important economic indicator and one of the earliest short-term measures of economic activity. The main output is a seasonally adjusted estimate of total production and broad sector groupings of mining and quarrying; manufacturing; energy; and water supply and sewerage. The total IoP estimate and various breakdowns are widely used in private and public sector institutions, particularly the Bank of England, HM Treasury and the Office for Budget Responsibility, to assist in informed policy and decision making.

4. Code of Practice for Official Statistics

[National Statistics](#) are produced to high professional standards set out in the [Code of Practice for Official Statistics](#). They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political interference.

5. Accessing data

The complete run of data in the tables of this statistical bulletin is also available to view and download in electronic format free of charge using our [Time Series Data service](#). You can download the complete bulletin in a choice of zipped formats, or view and download your own selections of individual series.

We [publish revisions triangles](#) of all the main published main indicators on our website.

6. Relevant links

The [assessment of the post-referendum economy](#) was published on 21 September 2016.

On 2 December 2015, we published a short story on the [British steel industry since the 1970s](#).

On 1 September 2015, we published an article on [the performance of the UK's motor vehicle manufacturing industry](#).

[A methodological note on leap year adjustments](#) was published on 29 February 2016, explaining how leap years might affect our time series and the methods used to adjust for them as part of seasonal adjustment.

7. Customer feedback

We have received some comments from users regarding the Index of Production. These have mainly been in 3 areas and the bullet points detail the action we have taken, or plan to take, to address these concerns:

- you commented that longer time series would be useful so long-run time series of data for the main loP industries are available – furthermore, [data at 4 decimal places for loP and the main sub-sectors](#) are now available
- you would like more information on data content – from the bulletin published on 11 March 2015, response rates for the Monthly Business Survey data feeding in to loP were included
- you also raised concerns that the loP is not benchmarked to annual data through the supply and use framework – this is being addressed as part of our [response](#) to the [National Statistics Quality Review of National Accounts](#)

As a reader and user of our statistics we welcome your feedback on the content of this publication, your views for improvement and on the way you use our statistics currently. If you would like to get in touch or send your feedback, please contact us.

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Pages 12-21 Table IoP5R, revisions to index values and growth rates for industry groups and manufacturing sub-sectors

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IOP5 Output of the Production Industries

Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Broad industry groups					Main industrial groupings					
	Production industries B+C+D+E	Mining and quarrying B	Manufacturing C	Electricity, gas, steam and air conditioning D	Water supply, sewerage and waste management E	Oil and gas extraction 06	Consumer durables MIG-CD	Consumer non-durables MIG-CND	Capital goods MIG-CAG	Intermediate goods MIG-IG	Energy MG-NRG
Latest weight	1 000.0	120.4	700.4	104.5	74.7	96.2	52.1	208.2	235.8	254.6	232.7
	K222	K224	K22A	K248	K24C	K226	K24Q	K24R	K24S	K24O	K24T
2011	103.5	115.3	102.5	101.0	96.0	126.9	104.0	104.9	97.7	100.6	113.7
2012	100.7	102.8	101.0	100.2	95.9	109.0	101.3	100.9	99.0	100.6	103.6
2013	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2014	101.5	100.6	102.9	94.0	100.7	98.9	106.2	100.5	103.1	105.0	96.5
2015	102.8	109.1	102.8	94.4	104.1	109.7	106.0	101.0	101.9	105.3	101.2
2015 Q3	103.1	112.8	102.5	94.9	104.8	114.5	105.3	100.9	101.5	104.7	103.4
2015 Q4	102.7	110.2	102.6	92.8	105.6	111.9	104.9	101.7	101.7	103.7	101.6
2016 Q1	102.6	108.9	102.2	93.5	108.2	111.4	104.9	100.6	101.7	103.4	101.1
2016 Q2	104.7	111.9	103.9	97.8	110.5	114.7	106.1	102.6	104.7	103.9	104.3
2016 Q3	104.2	116.8	103.0	93.6	109.9	120.4	107.7	100.2	103.9	103.8	104.9
2015 Jul	102.4	110.2	101.9	94.0	107.1	110.6	106.3	100.7	99.3	105.2	101.4
2015 Aug	103.4	116.8	102.3	94.7	104.2	119.9	104.8	100.1	102.1	104.4	105.6
2015 Sep	103.5	111.3	103.3	96.0	103.2	113.1	104.9	102.0	103.1	104.6	103.3
2015 Oct	103.6	113.1	102.9	96.9	105.0	114.4	103.1	102.8	101.3	104.5	104.7
2015 Nov	102.8	110.9	102.5	93.5	104.8	113.0	105.8	101.0	101.2	104.1	102.5
2015 Dec	101.7	106.8	102.3	88.1	107.0	108.2	106.0	101.2	102.5	102.5	97.6
2016 Jan	102.5	106.0	102.8	92.3	108.1	107.5	106.0	100.0	103.0	104.3	99.1
2016 Feb	102.4	110.3	101.9	92.3	107.7	113.3	104.5	101.4	102.0	103.1	101.4
2016 Mar	102.9	110.3	102.0	95.7	108.7	113.6	104.1	100.4	102.0	102.8	102.8
2016 Apr	105.2	111.8	104.4	99.8	109.3	114.7	106.1	104.0	104.4	104.3	105.0
2016 May	104.5	111.2	103.8	97.0	111.0	113.6	106.9	102.4	104.2	103.9	103.8
2016 Jun	104.5	112.9	103.5	96.5	111.2	115.7	105.4	101.4	105.3	103.4	104.0
2016 Jul	104.6	120.6	102.6	94.6 [†]	111.2 [†]	125.2	107.2 [†]	99.7	103.4	103.7	107.3 [†]
2016 Aug	104.2	117.1 [†]	102.9 [†]	94.0	109.9	120.8 [†]	108.0	100.2 [†]	103.9 [†]	103.6 [†]	105.1
2016 Sep	103.8	112.6	103.5	92.2	108.7	115.3	107.8	100.8	104.4	104.2	102.2

Percentage change, latest year on previous year

2011	-0.6	-14.3	2.2	-6.1	5.7	-18.4	0.3	-0.2	6.8	0.7	-10.6
2012	-2.7	-10.9	-1.4	-0.9	-0.1	-14.1	-2.6	-3.8	1.3	-	-8.9
2013	-0.7	-2.7	-1.0	-0.2	4.3	-8.2	-1.3	-0.9	1.0	-0.6	-3.5
2014	1.5	0.6	2.9	-6.0	0.7	-1.1	6.2	0.5	3.1	5.0	-3.5
2015	1.3	8.5	-0.1	0.4	3.4	10.9	-0.2	0.5	-1.2	0.3	4.9

Percentage change, latest month on same month a year ago

2014 Jul	1.4	-2.4	2.8	1.1	-3.2	-4.8	6.8	-1.2	2.6	6.9	-2.9
2014 Aug	1.6	-3.4	3.3	2.3	-4.7	-7.1	5.2	2.4	3.0	5.1	-3.2
2014 Sep	1.1	-1.5	2.8	-4.1	-1.9	-4.5	9.1	0.8	3.7	4.1	-4.2
2014 Oct	1.3	2.9	2.1	-2.9	-2.1	2.3	8.8	0.8	2.8	2.0	-0.2
2014 Nov	1.6	0.6	3.5	-8.1	-1.4	-1.2	8.4	2.5	4.7	3.3	-4.2
2014 Dec	0.9	-4.3	2.6	-0.2	-4.0	-8.4	12.6	0.1	5.4	3.6	-4.9
2015 Jan	1.2	5.8	1.2	0.2	-4.4	5.0	4.9	3.6	-1.7	1.7	2.4
2015 Feb	1.0	-1.5	1.0	6.8	-2.3	-5.6	0.7	-1.2	1.2	3.6	0.8
2015 Mar	1.4	0.9	1.2	4.4	0.8	-0.6	3.9	1.4	-0.3	2.5	1.3
2015 Apr	1.3	7.6	-0.2	1.9	4.1	9.7	0.7	-2.3	-0.4	1.5	4.9
2015 May	1.8	9.3	0.4	1.3	4.1	12.9	2.4	1.0	-0.5	0.1	5.8
2015 Jun	1.8	11.2	0.1	-1.3	6.7	15.0	5.4	-0.5	-1.2	1.7	5.4
2015 Jul	0.7	11.1	-1.1	-3.4	8.0	13.9	0.7	0.4	-3.8	-0.3	4.3
2015 Aug	1.9	20.0	-0.7	-3.1	5.4	26.5	-1.7	-0.8	-0.1	-1.1	9.5
2015 Sep	1.6	9.6	-0.1	2.9	3.4	13.4	-4.3	1.4	-0.8	-1.1	7.1
2015 Oct	1.9	9.9	0.1	3.4	4.1	12.9	-4.9	2.8	-1.8	-0.3	7.6
2015 Nov	0.7	11.0	-1.3	0.3	3.2	16.3	-3.2	-0.3	-3.0	-1.6	7.4
2015 Dec	-0.3	7.3	-1.3	-7.6	7.9	12.8	-5.7	0.4	-1.9	-3.5	1.8
2016 Jan	0.6	2.9	-0.1	-3.6	8.8	6.7	-3.1	-0.8	2.3	-2.1	0.9
2016 Feb	0.1	9.5	-1.5	-4.9	6.2	16.4	-0.2	1.3	-2.5	-4.0	3.9
2016 Mar	0.1	6.1	-1.7	0.6	6.6	11.1	-2.6	-1.8	-0.1	-3.9	4.6
2016 Apr	2.2	2.9	1.1	8.0	4.7	5.0	-0.1	4.3	1.3	-2.3	5.1
2016 May	1.2	-2.2	1.1	2.7	6.5	-2.0	2.3	0.3	3.0	-0.6	0.3
2016 Jun	1.4	2.4	0.6	2.5	4.8	3.9	-3.9	2.3	2.2	-2.6	2.7
2016 Jul	2.1	9.4	0.8 [†]	0.6 [†]	3.9 [†]	13.2	0.8 [†]	-1.0 [†]	4.2 [†]	-1.4	5.8 [†]
2016 Aug	0.7	0.2 [†]	0.5	-0.8	5.4	0.7 [†]	3.1	0.1	1.7	-0.8 [†]	-0.4
2016 Sep	0.3	1.2	0.2	-4.0	5.4	2.0	2.8	-1.2	1.2	-0.3	-1.0

¹ Any apparent inconsistencies between the index numbers and the percentage changes shown in these tables are due to rounding.

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

IOP5 Output of the Production Industries

continued

Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Broad industry groups						Main industrial groupings				
	Production industries	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning	Water supply, sewerage and waste management	Oil and gas extraction	Consumer durables	Consumer non-durables	Capital goods	Intermediate goods	Energy
	B+C+D+E	B	C	D	E	06	MIG-CD	MIG-CND	MIG-CAG	MIG-IG	MG-NRG
Latest weight	1 000.0	120.4	700.4	104.5	74.7	96.2	52.1	208.2	235.8	254.6	232.7
	K222	K224	K22A	K248	K24C	K226	K24Q	K24R	K24S	K24O	K24T
Percentage change, latest month on previous month											
2014 Jul	0.3	0.1	0.2	2.0	-0.3	0.4	1.5	0.7	-1.1	1.1	1.1
Aug	-0.2	-1.9	-	0.4	-0.3	-2.4	1.0	0.6	-0.9	-	-0.8
Sep	0.4	4.3	0.4	-4.6	0.9	5.2	2.8	-0.3	1.6	0.1	0.1
Oct	-0.1	1.3	-0.6	0.5	1.1	1.6	-1.2	-0.5	-0.7	-0.8	0.9
Nov	0.4	-2.9	1.0	-0.5	0.6	-4.1	0.9	1.2	1.2	0.9	-1.9
Dec	-0.1	-0.5	-0.1	2.2	-2.3	-1.2	2.8	-0.5	0.1	0.3	0.5
2015 Jan	-0.1	3.6	-0.8	0.6	0.2	5.0	-2.6	0.1	-3.7	0.4	2.5
Feb	0.4	-2.3	0.5	1.4	2.0	-3.4	-4.2	-0.7	2.1	0.9	-0.7
Mar	0.4	3.2	0.3	-2.1	0.6	5.1	2.0	2.1	-0.6	-0.4	0.7
Apr	0.1	4.5	-0.5	-2.9	2.3	6.8	-0.6	-2.5	0.9	-0.2	1.6
May	0.3	4.6	-0.7	2.2	-0.2	6.2	-1.5	2.4	-1.8	-2.0	3.6
Jun	-0.1	-3.0	0.3	-0.3	1.8	-4.0	4.9	-2.8	1.9	1.5	-2.1
Jul	-0.7	-0.1	-1.0	-0.2	0.9	-0.6	-3.0	1.6	-3.7	-0.9	0.1
Aug	1.0	6.0	0.5	0.8	-2.7	8.4	-1.4	-0.6	2.9	-0.8	4.1
Sep	0.1	-4.7	1.0	1.3	-1.0	-5.7	0.1	1.9	0.9	0.1	-2.2
Oct	0.1	1.6	-0.5	1.0	1.8	1.2	-1.8	0.8	-1.7	-0.1	1.4
Nov	-0.8	-1.9	-0.3	-3.5	-0.2	-1.2	2.7	-1.8	-0.1	-0.4	-2.1
Dec	-1.0	-3.7	-0.2	-5.8	2.1	-4.3	0.1	0.3	1.3	-1.6	-4.7
2016 Jan	0.8	-0.7	0.5	4.8	1.0	-0.7	-	-1.2	0.5	1.8	1.5
Feb	-0.1	4.0	-0.8	-	-0.4	5.4	-1.4	1.4	-2.7	-1.1	2.3
Mar	0.5	-	0.1	3.6	1.0	0.3	-0.4	-1.1	1.8	-0.3	1.4
Apr	2.3	1.3	2.3	4.3	0.5	1.0	1.9	3.6	2.4	1.5	2.1
May	-0.7	-0.5	-0.7	-2.8	1.5	-0.9	0.8	-1.6	-0.2	-0.4	-1.2
Jun	-	1.6	-0.2	-0.5	0.2	1.8	-1.5	-1.0	1.1	-0.5	0.3
Jul	0.1	6.8	-0.9	-2.0 [†]	-	8.2 [†]	1.8 [†]	-1.7 [†]	-1.8 [†]	0.3	3.1 [†]
Aug	-0.4	-2.9 [†]	0.2	-0.6	-1.2	-3.5	0.8	0.5	0.5	-0.1 [†]	-2.0
Sep	-0.4	-3.8	0.6	-1.9	-1.1	-4.5	-0.2	0.6	0.4	0.6	-2.8
Percentage change, latest 3 months on same 3 months a year ago²											
2014 Jul	1.3	0.1	2.4	-3.4	-0.9	-1.3	4.6	-1.6	3.1	5.5	-2.9
Aug	1.3	-2.6	2.7	0.4	-3.1	-4.9	5.3	-0.4	3.1	5.3	-3.1
Sep	1.4	-2.4	2.9	-0.2	-3.3	-5.5	7.0	0.7	3.1	5.4	-3.4
Oct	1.4	-0.7	2.7	-1.6	-2.9	-3.2	7.7	1.3	3.2	3.8	-2.6
Nov	1.3	0.6	2.8	-5.1	-1.8	-1.2	8.8	1.4	3.7	3.2	-2.9
Dec	1.3	-0.3	2.8	-3.8	-2.5	-2.5	9.9	1.1	4.3	3.0	-3.2
2015 Jan	1.2	0.6	2.4	-2.8	-3.3	-1.7	8.6	2.1	2.8	2.8	-2.3
Feb	1.0	-0.1	1.6	2.2	-3.6	-3.2	6.0	0.8	1.6	2.9	-0.6
Mar	1.2	1.6	1.1	3.7	-2.0	-0.5	3.2	1.2	-0.3	2.6	1.5
Apr	1.2	2.3	0.7	4.4	0.8	1.1	1.8	-0.7	0.2	2.5	2.3
May	1.5	5.9	0.5	2.5	3.0	7.3	2.3	-	-0.4	1.4	4.0
Jun	1.6	9.4	0.1	0.6	5.0	12.5	2.8	-0.6	-0.7	1.1	5.3
Jul	1.4	10.5	-0.2	-1.2	6.3	13.9	2.8	0.3	-1.8	0.5	5.1
Aug	1.5	14.0	-0.6	-2.6	6.7	18.4	1.4	-0.3	-1.7	0.1	6.4
Sep	1.4	13.5	-0.6	-1.3	5.6	17.8	-1.8	0.3	-1.6	-0.8	7.0
Oct	1.8	13.1	-0.2	1.0	4.3	17.4	-3.7	1.2	-0.9	-0.8	8.1
Nov	1.4	10.2	-0.4	2.2	3.6	14.2	-4.1	1.3	-1.9	-1.0	7.4
Dec	0.8	9.4	-0.8	-1.3	5.1	14.0	-4.6	1.0	-2.2	-1.8	5.6
2016 Jan	0.3	7.0	-0.9	-3.7	6.6	11.8	-4.0	-0.2	-0.9	-2.4	3.3
Feb	0.1	6.6	-1.0	-5.4	7.6	11.9	-3.1	0.3	-0.7	-3.2	2.2
Mar	0.2	6.1	-1.1	-2.7	7.2	11.3	-2.0	-0.5	-0.1	-3.4	3.1
Apr	0.8	6.1	-0.7	1.1	5.8	10.6	-1.0	1.2	-0.4	-3.4	4.5
May	1.2	2.2	0.2	3.8	5.9	4.4	-0.1	0.9	1.4	-2.3	3.3
Jun	1.6	1.0	1.0	4.4	5.3	2.2	-0.6	2.3	2.2	-1.9	2.7
Jul	1.6	3.2	0.8	1.9 [†]	5.0 [†]	4.9	-0.3 [†]	0.5	3.1	-1.6	2.9 [†]
Aug	1.4	3.9 [†]	0.6	0.8	4.7	5.8 [†]	-	0.5 [†]	2.7	-1.6 [†]	2.6
Sep	1.0	3.5	0.5	-1.4	4.9	5.2	2.2	-0.7	2.4	-0.9	1.4

1 Any apparent inconsistencies between the index numbers and the percentage changes shown in these tables are due to rounding.

2 Any apparent inconsistencies between these tables and the latest GDP estimate are due to rounding.

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

IOP5 Output of the Production Industries

continued

Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Broad industry groups					Main industrial groupings					
	Production industries	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning	Water supply, sewerage and waste management	Oil and gas extraction	Consumer durables	Consumer non-durables	Capital goods	Intermediate goods	Energy
	B+C+D+E	B	C	D	E	06	MIG-CD	MIG-CND	MIG-CAG	MIG-IG	MG-NRG
Latest weight	1 000.0	120.4	700.4	104.5	74.7	96.2	52.1	208.2	235.8	254.6	232.7
	K222	K224	K22A	K248	K24C	K226	K24Q	K24R	K24S	K24O	K24T
Percentage change, latest 3 months on previous 3 months²											
2014 Jul	-	-1.3	-0.1	4.9	-2.2	-2.9	-0.2	-1.1	0.6	0.3	0.7
Aug	0.1	-4.0	0.2	5.6	-1.4	-5.4	1.9	-1.0	0.7	0.4	-0.1
Sep	0.2	-2.0	0.3	3.3	-0.7	-2.5	3.3	-0.3	-	0.9	0.3
Oct	0.2	-0.2	0.4	-0.4	0.3	-0.3	4.1	0.2	-	0.5	-0.4
Nov	0.4	2.9	0.4	-3.5	1.6	3.3	3.5	0.4	0.5	0.3	-0.2
Dec	0.3	1.4	0.3	-2.1	1.3	1.0	2.5	0.1	0.8	-	-0.5
2015 Jan	0.3	0.2	0.4	-0.1	0.2	-0.6	2.0	0.5	0.1	0.8	-0.2
Feb	0.2	-0.4	-	2.9	-0.7	-1.4	-0.2	-	-1.1	1.2	0.9
Mar	0.4	1.8	-0.1	2.0	0.4	2.0	-2.7	0.4	-2.1	1.3	2.0
Apr	0.7	3.6	-	0.1	2.6	5.1	-4.0	-0.3	-0.5	0.9	2.2
May	0.9	7.5	-0.1	-2.2	3.6	11.4	-2.8	0.7	-0.5	-0.5	3.4
Jun	0.7	8.0	-0.4	-2.5	3.9	12.0	-0.2	-0.8	0.6	-1.1	3.6
Jul	0.3	6.6	-1.0	-0.7	3.1	9.4	0.9	-0.1	-1.4	-1.6	3.5
Aug	-	3.4	-0.8	0.3	2.2	4.4	1.0	-1.3	-0.6	-0.8	2.2
Sep	0.1	1.7	-0.4	1.3	-0.1	2.1	-1.4	0.6	-0.9	-1.0	1.8
Oct	0.6	2.1	0.4	1.8	-1.6	2.8	-2.4	1.0	1.0	-0.8	2.4
Nov	0.3	-0.6	0.5	1.3	-1.4	-0.4	-2.2	2.0	0.4	-0.8	0.7
Dec	-0.4	-2.2	0.1	-2.2	0.8	-2.3	-0.4	0.7	0.2	-1.0	-1.8
2016 Jan	-1.2	-5.1	-0.3	-4.8	2.4	-5.4	1.6	-0.9	0.1	-0.8	-4.6
Feb	-1.1	-3.6	-0.6	-4.8	3.1	-3.4	0.9	-1.0	-	-1.0	-4.0
Mar	-0.1	-1.2	-0.3	0.7	2.4	-0.4	-0.1	-1.1	0.1	-0.3	-0.5
Apr	1.1	2.7	0.3	5.1	1.8	3.9	-1.0	1.2	-	-0.2	3.3
May	2.0	3.1	1.1	7.2	1.9	3.9	0.2	1.3	1.6	0.4	4.5
Jun	2.1	2.8	1.6	4.6	2.1	2.9	1.2	2.0	2.9	0.4	3.1
Jul	1.0	3.7	0.5	0.1 [†]	2.4 [†]	3.8	1.5 [†]	-0.8 [†]	2.1	0.3	1.9 [†]
Aug	0.2	5.2 [†]	-0.4	-2.5	1.0	5.8 [†]	1.1	-1.8	0.7	-0.1	1.6
Sep	-0.5	4.3	-0.9	-4.3	-0.5	5.0	1.5	-2.3	-0.7	-	0.6

¹ Any apparent inconsistencies between the index numbers and the percentage changes shown in these tables are due to rounding.

² Any apparent inconsistencies between these tables and the latest GDP estimate are due to rounding.

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

IOP5 Output of the Production IndustriesChained volume indices of gross value added¹

continued

Seasonally adjusted 2013 = 100

Section	Food products, beverages and tobacco	Textiles, wearing apparel and leather products	Wood and paper products and printing	Coke and refined petroleum products	Chemicals and chemical products	Basic pharmaceutical products and preparations
	CA	CB	CC	CD	CE	CF
Latest weight	114.2	25.4	51.0	9.2	39.8	58.7
	K22B	K22P	K22T	K22X	K22Z	K239
2011	104.4	108.3	103.3	113.4	103.1	109.1
2012	101.7	104.6	97.8	102.0	101.1	102.7
2013	100.0	100.0	100.0	100.0	100.0	100.0
2014	104.2	97.3	101.1	91.1	102.8	95.0
2015	104.1	97.3	101.6	93.3	109.0	96.0
2015 Q3	104.1	95.8	100.9	96.7	109.0	96.8
Q4	104.7	96.5	101.5	101.5	108.2	97.4
2016 Q1	104.3	92.3	100.6	89.6	105.2	95.6
Q2	104.8	91.8	102.4	90.1	105.0	101.0
Q3	105.4	96.2	100.8	89.9	106.8	93.4
2015 Jul	103.3	99.1	100.2	96.3	108.9	96.6
Aug	104.1	91.2	100.6	95.5	108.8	95.8
Sep	105.0	97.3	101.8	98.4	109.3	97.9
Oct	104.9	98.2	100.9	103.6	108.6	100.6
Nov	104.6	95.8	102.8	103.5	109.7	95.2
Dec	104.5	95.4	100.8	97.3	106.2	96.4
2016 Jan	104.6	97.2	101.8	93.9	106.3	90.8
Feb	105.2	90.8	99.7	91.4	104.7	97.8
Mar	103.2	88.9	100.3	83.6	104.6	98.2
Apr	104.0	94.2	101.8	84.8	106.1	106.9
May	105.4	88.4	103.4	92.2	105.0	99.0
Jun	105.0	92.7	102.2	93.4	104.0	96.9
Jul	104.9 [†]	95.7 [†]	101.0 [†]	89.1 [†]	106.5 [†]	91.5 [†]
Aug	105.3	96.2	101.0	89.3	106.2	93.2
Sep	106.1	96.7	100.5	91.3	107.8	95.5

Percentage change, latest year on previous year

2011	6.6	1.4	-5.6	1.4	6.8	-13.5
2012	-2.6	-3.4	-5.3	-10.1	-1.9	-5.8
2013	-1.7	-4.4	2.3	-1.9	-1.1	-2.6
2014	4.2	-2.7	1.1	-8.9	2.8	-5.0
2015	-0.1	-	0.5	2.5	6.0	1.0

Percentage change, latest month on same month a year ago

2014 Jul	1.4	-6.0	0.4	-12.9	5.3	-2.4
Aug	4.3	-8.9	3.3	-12.6	-0.8	4.7
Sep	6.1	-6.0	2.5	-5.2	3.1	-6.8
Oct	6.8	-10.1	3.5	2.6	2.0	-8.5
Nov	5.9	-9.1	3.7	-3.0	3.9	-2.1
Dec	5.6	-9.8	-0.8	-10.4	1.4	-5.4
2015 Jan	2.5	-9.9	3.2	-2.8	4.9	7.5
Feb	0.8	-5.1	1.9	3.5	10.4	-5.7
Mar	0.5	-1.1	3.9	-7.7	7.2	0.8
Apr	-1.2	-3.0	2.4	-8.3	8.2	-6.9
May	-	-6.2	-	-7.0	3.4	6.9
Jun	-0.6	4.9	-0.9	-4.9	7.2	-1.5
Jul	-1.1	6.4	-0.6	9.4	5.3	0.3
Aug	-0.6	-2.7	-2.6	7.9	8.5	-0.9
Sep	0.8	3.2	-0.9	10.1	4.8	3.2
Oct	-0.1	6.8	-1.8	13.1	5.6	9.1
Nov	-0.4	2.6	0.7	14.4	4.6	-0.2
Dec	-1.3	6.8	0.8	3.0	2.4	0.7
2016 Jan	-0.2	5.5	-2.0	2.9	-2.4	-3.5
Feb	0.6	-6.2	-3.1	-3.0	-6.1	6.2
Mar	-1.1	-10.7	-2.0	-3.2	-5.0	0.2
Apr	1.0	-4.4	-0.3	-0.6	-4.7	15.3
May	2.4	-13.5	2.6	8.2	-1.4	-1.8
Jun	2.0	-8.9	2.4	12.7	-3.5	5.8
Jul	1.5 [†]	-3.4 [†]	0.8 [†]	-7.5	-2.2 [†]	-5.3 [†]
Aug	1.1	5.5	0.3	-6.5	-2.4	-2.7
Sep	1.0	-0.6	-1.3	-7.3	-1.4	-2.5

¹ Any apparent inconsistencies between the index numbers and the percentage changes shown in these tables are due to rounding.

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

IOP5 Output of the Production Industries

continued Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Rubber and plastic products and non-metallic mineral products	Basic metals and metal products	Computer, electronic and optical products	Electrical equipment	Machinery and equipment not elsewhere classified	Transport equipment	Other manufacturing and repair
	CG	CH	CI	CJ	CK	CL	CM
Latest weight	55.0	83.1	36.2	20.9	50.6	92.0	64.4
	K23B	K23G	K23N	K23P	K23R	K23T	K23Z
2011	107.3	100.0	101.6	94.6	112.2	89.0	102.1
2012	102.8	102.9	102.1	104.9	113.4	92.9	95.6
2013	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2014	113.1	101.5	103.9	96.8	104.3	103.5	105.6
2015	109.8	101.9	102.0	97.8	91.1	110.0	103.8
2015 Q3	109.2	100.6	101.9	97.5	89.6	111.0	102.3
Q4	109.5	99.3	100.7	97.0	88.2	112.1	102.1
2016 Q1	111.0	101.1	98.7	94.1	88.8	110.5	107.1
Q2	113.1	99.6	100.5	91.3	90.1	116.9	108.2
Q3	111.4	99.3	101.1	89.1	90.2	114.4	108.4
2015 Jul	109.9	99.8	101.7	96.6	88.5	108.1	101.9
Aug	108.0	101.7	102.1	96.4	89.5	113.0	100.4
Sep	109.6	100.2	102.0	99.5	90.8	111.7	104.5
Oct	109.7	100.1	100.5	98.4	87.7	113.3	98.5
Nov	109.1	99.3	99.7	97.0	87.6	111.6	104.0
Dec	109.6	98.6	102.0	95.7	89.3	111.4	103.9
2016 Jan	111.7	101.7	101.6	94.8	88.4	111.8	108.0
Feb	110.7	100.7	97.8	95.0	87.6	108.3	106.4
Mar	110.6	100.9	96.9	92.5	90.5	111.5	106.9
Apr	114.0	99.4	99.3	93.3	92.0	117.5	106.7
May	112.9	99.8	101.4	89.8	90.1	117.2	107.1
Jun	112.5	99.6	100.9	90.9	88.2	116.1	110.7
Jul	111.3 [†]	99.4 [†]	100.5 [†]	89.2 [†]	89.7 [†]	113.9 [†]	108.8 [†]
Aug	110.7	99.0	101.6	88.4	90.7	115.8	106.3
Sep	112.3	99.5	101.1	89.6	90.2	113.4	110.1

Percentage change, latest year on previous year

2011	-0.2	4.4	-1.3	-3.8	8.6	10.2	5.4
2012	-4.2	2.9	0.5	10.9	1.1	4.4	-6.3
2013	-2.8	-2.8	-2.1	-4.7	-11.8	7.6	4.6
2014	13.1	1.5	3.9	-3.2	4.3	3.5	5.6
2015	-3.0	0.5	-1.9	1.0	-12.7	6.3	-1.7

Percentage change, latest month on same month a year ago

2014 Jul	13.0	2.0	5.7	-2.0	5.1	3.1	5.5
Aug	13.4	3.7	2.9	-7.6	3.4	0.9	7.4
Sep	12.4	-	11.0	-2.6	2.7	1.7	3.9
Oct	10.7	-2.0	8.7	-7.2	-0.3	1.7	5.9
Nov	8.6	0.9	7.6	-1.5	0.3	4.1	8.7
Dec	10.0	-0.6	15.1	2.1	-1.2	9.9	0.5
2015 Jan	0.1	1.6	-1.4	-0.7	-10.1	6.4	-0.6
Feb	-0.1	3.5	-0.8	2.8	-9.7	6.8	1.6
Mar	-0.5	3.7	0.8	0.6	-11.6	4.6	3.3
Apr	-3.3	3.2	-1.5	2.3	-9.3	4.3	2.1
May	-2.9	0.6	0.5	3.8	-15.0	8.3	0.8
Jun	-2.2	3.2	7.7	-3.0	-14.6	3.7	-0.3
Jul	-3.5	0.2	-0.9	-1.3	-16.7	3.3	-4.0
Aug	-6.2	-1.3	-0.2	3.5	-12.5	11.9	-8.2
Sep	-3.8	-1.6	-6.2	2.1	-13.0	7.4	-1.2
Oct	-4.3	-0.5	-4.0	7.0	-14.6	8.8	-8.4
Nov	-4.0	-3.4	-5.7	-0.2	-13.0	5.0	-4.6
Dec	-4.5	-3.4	-9.4	-3.9	-11.6	4.7	-0.1
2016 Jan	0.8	-2.1	-0.7	-1.6	-5.9	5.0	2.7
Feb	-	-4.4	-2.8	-3.2	-8.6	-	1.5
Mar	-0.5	-3.2	-5.5	-6.7	-3.8	3.7	-0.2
Apr	3.3	-5.0	-3.2	-6.0	-3.8	8.6	-0.2
May	3.5	-0.2	0.8	-8.6	-0.4	6.1	3.0
Jun	2.6	-5.6	-6.1	-7.8	-2.6	5.4	5.6
Jul	1.2 [†]	-0.4 [†]	-1.2 [†]	-7.6 [†]	1.4 [†]	5.3 [†]	6.7 [†]
Aug	2.5	-2.7	-0.5	-8.4	1.3	2.5	5.8
Sep	2.4	-0.7	-0.8	-9.9	-0.7	1.6	5.4

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

IOP5 Output of the Production Industries

continued

Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Food products, beverages and tobacco	Textiles, wearing apparel and leather products	Wood and paper products and printing	Coke and refined petroleum products	Chemicals and chemical products	Basic pharmaceutical products and preparations
	CA	CB	CC	CD	CE	CF
Latest weight	114.2	25.4	51.0	9.2	39.8	58.7
	K22B	K22P	K22T	K22X	K22Z	K239
Percentage change, latest month on previous month						
2014 Jul	0.8	-4.0	0.1	1.0	2.8	3.6
Aug	0.3	0.6	2.5	0.6	-3.1	0.3
Sep	-0.5	0.6	-0.6	1.0	4.0	-1.8
Oct	0.8	-2.4	-	2.4	-1.4	-2.9
Nov	-	1.5	-0.6	-1.2	2.0	3.5
Dec	0.9	-4.3	-2.1	4.4	-1.1	0.3
2015 Jan	-1.0	3.1	3.9	-3.4	5.0	-1.6
Feb	-0.3	5.0	-1.0	3.3	2.4	-2.1
Mar	-0.2	2.9	-0.5	-8.4	-1.3	6.3
Apr	-1.3	-1.0	-0.3	-1.2	1.1	-5.3
May	-	3.7	-1.3	-0.2	-4.4	8.8
Jun	-0.1	-0.4	-1.0	-2.6	1.3	-9.2
Jul	0.4	-2.6	0.4	16.1	1.0	5.5
Aug	0.8	-7.9	0.4	-0.8	-0.1	-0.9
Sep	0.8	6.7	1.2	3.1	0.4	2.3
Oct	-0.1	1.0	-0.9	5.2	-0.6	2.7
Nov	-0.2	-2.4	1.9	-0.1	1.0	-5.3
Dec	-0.1	-0.4	-2.0	-6.0	-3.2	1.3
2016 Jan	-	1.8	1.0	-3.5	0.1	-5.8
Feb	0.6	-6.6	-2.0	-2.6	-1.4	7.6
Mar	-1.9	-2.1	0.6	-8.6	-0.1	0.4
Apr	0.7	6.0	1.5	1.5	1.5	9.0
May	1.4	-6.2	1.6	8.6	-1.1	-7.4
Jun	-0.5	4.9	-1.2	1.4	-0.9	-2.2
Jul	-0.1 [†]	3.2 [†]	-1.2 [†]	-4.6 [†]	2.4 [†]	-5.6 [†]
Aug	0.4	0.6	-	0.3	-0.3	1.8
Sep	0.8	0.5	-0.4	2.2	1.5	2.5
Percentage change, latest 3 months on same 3 months a year ago						
2014 Jul	1.6	0.9	-	-13.1	2.1	-7.9
Aug	2.7	-5.9	1.1	-14.6	1.3	-3.0
Sep	3.9	-7.0	2.1	-10.3	2.5	-1.7
Oct	5.7	-8.3	3.1	-5.4	1.4	-3.8
Nov	6.3	-8.4	3.2	-1.9	3.0	-5.8
Dec	6.1	-9.7	2.1	-4.0	2.4	-5.4
2015 Jan	4.7	-9.6	2.0	-5.6	3.4	-0.3
Feb	2.9	-8.3	1.4	-3.6	5.5	-1.6
Mar	1.2	-5.4	3.0	-2.4	7.5	0.6
Apr	-	-3.1	2.7	-4.2	8.6	-4.0
May	-0.3	-3.5	2.1	-7.7	6.3	0.1
Jun	-0.6	-1.6	0.5	-6.8	6.2	-0.6
Jul	-0.6	1.3	-0.5	-0.9	5.3	1.9
Aug	-0.8	2.9	-1.4	4.2	7.0	-0.7
Sep	-0.3	2.3	-1.4	9.1	6.2	0.8
Oct	-	2.4	-1.8	10.4	6.3	3.7
Nov	0.1	4.2	-0.6	12.5	5.0	4.0
Dec	-0.6	5.4	-0.1	10.0	4.2	3.1
2016 Jan	-0.7	4.9	-0.2	6.7	1.5	-1.0
Feb	-0.3	1.8	-1.5	0.9	-2.1	1.1
Mar	-0.2	-4.0	-2.4	-1.1	-4.5	0.9
Apr	0.2	-7.1	-1.8	-2.3	-5.3	7.1
May	0.8	-9.6	0.1	1.5	-3.7	4.3
Jun	1.8	-9.0	1.6	6.7	-3.2	6.2
Jul	2.0	-8.6 [†]	1.9	3.9	-2.4 [†]	-0.6 [†]
Aug	1.6 [†]	-2.5	1.2 [†]	-1.0 [†]	-2.7	-0.8
Sep	1.2	0.4	-0.1	-7.1	-2.0	-3.5

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IOP5 Output of the Production Industries

Chained volume indices of gross value added¹

continued

Seasonally adjusted 2013 = 100

Section	Rubber and plastic products and non-metallic mineral products	Basic metals and metal products	Computer, electronic and optical products	Electrical equipment	Machinery and equipment not elsewhere classified	Transport equipment	Other manufacturing and repair
	CG	CH	CI	CJ	CK	CL	CM
Latest weight	55.0	83.1	36.2	20.9	50.6	92.0	64.4
	K23B	K23G	K23N	K23P	K23R	K23T	K23Z

Percentage change, latest month on previous month

2014	Jul	1.5	-2.7	2.9	-3.7	0.2	-1.4	1.1
	Aug	1.0	3.5	-0.4	-4.8	-3.7	-3.5	3.0
	Sep	-1.0	-1.2	6.2	4.5	1.9	2.9	-3.3
	Oct	0.6	-1.1	-3.7	-5.6	-1.5	0.1	1.7
	Nov	-0.9	2.1	1.0	5.7	-1.9	2.1	1.4
	Dec	1.0	-0.7	6.5	2.4	0.3	0.1	-4.6
2015	Jan	-3.4	1.8	-9.2	-3.2	-7.1	-	1.1
	Feb	-	1.4	-1.6	1.9	2.0	1.7	-0.3
	Mar	0.4	-1.0	1.8	1.0	-1.9	-0.8	2.1
	Apr	-0.7	0.4	-	-	1.7	0.7	-0.2
	May	-1.2	-4.5	-1.9	-0.9	-5.4	2.0	-2.7
	Jun	0.6	5.7	6.9	0.3	0.1	-0.3	0.7
	Jul	0.2	-5.5	-5.4	-2.1	-2.2	-1.8	-2.7
	Aug	-1.8	1.9	0.4	-0.2	1.2	4.5	-1.5
	Sep	1.5	-1.5	-0.1	3.1	1.4	-1.2	4.0
	Oct	0.1	-0.1	-1.5	-1.1	-3.4	1.5	-5.7
	Nov	-0.6	-0.9	-0.8	-1.5	-	-1.5	5.6
	Dec	0.5	-0.7	2.4	-1.3	1.9	-0.1	-0.1
2016	Jan	1.9	3.2	-0.4	-0.9	-1.1	0.3	4.0
	Feb	-0.9	-0.9	-3.7	0.2	-0.9	-3.1	-1.5
	Mar	-0.1	0.2	-0.9	-2.6	3.3	2.9	0.4
	Apr	3.1	-1.5	2.5	0.8	1.7	5.4	-0.2
	May	-1.0	0.3	2.1	-3.7	-2.1	-0.3	0.4
	Jun	-0.3	-0.1	-0.4	1.2	-2.1	-0.9	3.3
	Jul	-1.1 [†]	-0.2 [†]	-0.5 [†]	-1.9 [†]	1.7 [†]	-1.9 [†]	-1.7 [†]
	Aug	-0.5	-0.5	1.2	-0.9	1.1	1.8	-2.3
	Sep	1.4	0.5	-0.5	1.4	-0.6	-2.1	3.6

Percentage change, latest 3 months on same 3 months a year ago

2014	Jul	13.1	3.4	1.6	-4.1	6.9	3.5	6.4
	Aug	12.8	3.6	2.5	-3.9	4.5	2.8	6.7
	Sep	12.9	1.9	6.5	-4.1	3.8	1.9	5.6
	Oct	12.2	0.5	7.5	-5.8	1.9	1.4	5.7
	Nov	10.6	-0.4	9.1	-3.7	0.9	2.5	6.2
	Dec	9.8	-0.6	10.5	-2.2	-0.4	5.2	5.0
2015	Jan	6.1	0.6	6.9	-	-3.8	6.8	2.8
	Feb	3.2	1.5	4.1	1.4	-7.1	7.7	0.5
	Mar	-0.1	2.9	-0.5	0.9	-10.5	6.0	1.4
	Apr	-1.3	3.5	-0.5	1.9	-10.2	5.3	2.3
	May	-2.3	2.5	-0.1	2.2	-12.0	5.8	2.1
	Jun	-2.8	2.3	2.2	1.0	-13.0	5.4	0.8
	Jul	-2.9	1.4	2.4	-0.2	-15.4	5.1	-1.2
	Aug	-4.0	0.7	2.2	-0.4	-14.6	6.2	-4.2
	Sep	-4.5	-0.9	-2.5	1.4	-14.1	7.5	-4.5
	Oct	-4.8	-1.1	-3.5	4.1	-13.4	9.3	-6.0
	Nov	-4.0	-1.9	-5.3	2.9	-13.5	7.1	-4.8
	Dec	-4.2	-2.5	-6.4	0.8	-13.1	6.2	-4.4
2016	Jan	-2.6	-3.0	-5.4	-1.9	-10.3	4.9	-0.7
	Feb	-1.3	-3.3	-4.5	-2.9	-8.7	3.2	1.4
	Mar	0.1	-3.2	-3.0	-3.9	-6.1	2.9	1.3
	Apr	0.9	-4.2	-3.8	-5.3	-5.4	4.1	0.4
	May	2.1	-2.8	-2.6	-7.1	-2.7	6.1	0.8
	Jun	3.1	-3.7	-2.9	-7.5	-2.3	6.7	2.8
	Jul	2.4 [†]	-2.1 [†]	-2.3 [†]	-8.0	-0.5 [†]	5.6 [†]	5.1 [†]
	Aug	2.1	-2.9	-2.7	-7.9	-	4.4	6.1
	Sep	2.0	-1.3	-0.8	-8.7	0.6	3.1	6.0

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

IOP5 Output of the Production Industries

continued

Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Food products, beverages and tobacco	Textiles, wearing apparel and leather products	Wood and paper products and printing	Coke and refined petroleum products	Chemicals and chemical products	Basic pharmaceutical products and preparations
	CA	CB	CC	CD	CE	CF
Latest weight	114.2	25.4	51.0	9.2	39.8	58.7
	K22B	K22P	K22T	K22X	K22Z	K239
Percentage change, latest 3 months on previous 3 months						
2014 Jul	-0.2	-1.7	1.1	-3.9	0.1	-3.7
Aug	0.5	-8.8	2.0	-5.2	-1.4	-1.8
Sep	0.8	-8.6	1.9	-2.1	0.5	0.3
Oct	0.9	-6.4	2.1	1.1	0.1	-
Nov	0.5	-1.5	0.9	3.0	2.5	-1.2
Dec	0.8	-2.2	-0.7	4.0	1.1	-1.6
2015 Jan	0.6	-1.8	-0.9	2.4	3.3	0.6
Feb	0.4	-0.5	-0.3	3.1	3.9	-0.2
Mar	-0.7	5.0	1.4	-1.7	6.2	0.3
Apr	-1.3	7.3	0.4	-3.7	4.9	-0.8
May	-1.6	7.9	-0.5	-8.3	1.2	3.4
Jun	-1.5	4.9	-2.1	-6.8	-1.5	0.4
Jul	-0.8	2.8	-2.1	-0.6	-3.0	2.2
Aug	-	-2.8	-1.5	7.0	-0.7	-2.6
Sep	1.1	-5.0	-	14.5	0.4	1.8
Oct	1.6	-5.4	0.9	12.6	1.1	1.8
Nov	1.4	-0.2	1.7	11.2	0.6	3.4
Dec	0.5	0.7	0.6	4.9	-0.8	0.6
2016 Jan	-0.1	0.6	0.7	-1.0	-1.4	-4.0
Feb	-0.1	-2.7	-1.1	-7.5	-3.2	-2.9
Mar	-0.3	-4.4	-0.9	-11.7	-2.7	-1.8
Apr	-0.4	-5.1	-1.2	-11.8	-2.1	7.2
May	-0.5	-4.2	1.1	-7.8	-0.5	6.7
Jun	0.4	-0.5	1.8	0.6	-0.2	5.6
Jul	0.9	1.1 [†]	1.6 [†]	5.7	- [†]	-5.1 [†]
Aug	0.8 [†]	4.8	-0.4	4.3	0.3	-7.4
Sep	0.6	4.8	-1.6	-0.3	1.7	-7.5

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

IOP5 Output of the Production Industries

Chained volume indices of gross value added¹

continued

Seasonally adjusted 2013 = 100

Section	Rubber and plastic products and non-metallic mineral products	Basic metals and metal products	Computer, electronic and optical products	Electrical equipment	Machinery and equipment not elsewhere classified	Transport equipment	Other manufacturing and repair
	CG	CH	CI	CJ	CK	CL	CM
Latest weight	55.0	83.1	36.2	20.9	50.6	92.0	64.4
	K23B	K23G	K23N	K23P	K23R	K23T	K23Z
Percentage change, latest 3 months on previous 3 months							
2014 Jul	0.5	-0.9	-1.5	1.0	0.3	1.6	0.9
Aug	0.9	1.2	-0.4	0.9	-1.1	1.1	2.9
Sep	1.2	0.4	3.2	-1.6	-1.5	-0.7	2.7
Oct	1.5	1.4	4.3	-3.9	-2.9	-1.2	2.6
Nov	0.3	0.1	4.7	-2.1	-2.2	0.8	0.5
Dec	-	0.4	3.0	0.1	-2.7	2.3	-0.2
2015 Jan	-1.3	1.1	1.6	3.7	-4.4	3.2	-1.4
Feb	-1.7	2.0	-1.1	2.6	-5.5	2.2	-2.6
Mar	-3.0	2.6	-5.4	1.8	-6.8	1.7	-1.1
Apr	-2.0	1.8	-4.7	1.2	-3.5	1.5	0.2
May	-1.7	-0.8	-3.1	0.9	-3.7	1.5	1.3
Jun	-1.1	-1.1	1.7	0.8	-2.5	2.1	-0.5
Jul	-1.1	-2.9	1.4	-1.0	-5.6	1.5	-2.5
Aug	-0.9	-0.6	1.9	-1.7	-4.1	1.6	-3.4
Sep	-0.5	-2.7	-1.6	-1.2	-2.8	1.2	-2.8
Oct	-0.4	-1.1	-1.7	0.3	-0.5	2.8	-2.4
Nov	0.2	-2.4	-3.0	1.1	-0.9	1.6	-0.1
Dec	0.3	-1.2	-1.2	-0.5	-1.5	1.1	-0.2
2016 Jan	1.0	-0.8	-0.4	-2.3	-1.0	-1.0	4.1
Feb	1.1	0.5	-0.2	-3.1	-0.3	-1.5	3.7
Mar	1.4	1.8	-2.0	-3.0	0.7	-1.4	4.9
Apr	1.5	0.5	-3.1	-2.3	1.8	0.7	1.3
May	1.6	-0.3	-1.3	-3.5	2.7	4.4	0.7
Jun	1.9	-1.5	1.8	-3.0	1.4	5.8	1.0
Jul	0.4 [†]	-0.8 [†]	3.0 [†]	-3.9 [†]	-0.8 [†]	2.9 [†]	2.0
Aug	-0.9	-0.7	1.9	-2.6	-1.5	-0.1	1.6 [†]
Sep	-1.5	-0.3	0.5	-2.5	0.1	-2.2	0.2

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- [Page 1](#) Output by Broad industry groups and Main industrial groupings
Percentage change, latest year on previous year
Percentage change, latest month on same month a year ago
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Percentage change, latest 3 months on same 3 months a year ago
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- [Page 4](#) Output by Manufacturing sub-sectors part 1
Percentage change, latest year on previous year
Percentage change, latest month on same month a year ago
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Percentage change, latest year on previous year
Percentage change, latest month on same month a year ago
- [Page 6](#) Percentage change, latest month on previous month part 1
Percentage change, latest 3 months on same 3 months a year ago
- [Page 7](#) Percentage change, latest month on previous month part 2
Percentage change, latest 3 months on same 3 months a year ago
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- [Enquiries](#)

IOP5R

Output of the Production Industries

Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Broad industry groups					Main industrial groupings					
	Production industries	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning	Water supply, sewerage and waste management	Oil and gas extraction	Consumer durables	Consumer non-durables	Capital goods	Intermediate goods	Energy
	B+C+D+E	B	C	D	E	06	MIG-CD	MIG-CND	MIG-CAG	MIG-IG	MG-NRG
Latest weight	1 000.0	120.4	700.4	104.5	74.7	96.2	52.1	208.2	235.8	254.6	232.7
	K222	K224	K22A	K248	K24C	K226	K24Q	K24R	K24S	K24O	K24T
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	-	-	-
2015 Q2	-	-	-	-	-	-	-	-	-	-	-
2015 Q3	-	-	-	-	-	-	-	-	-	-	-
2015 Q4	-	-	-	-	-	-	-	-	-	-	-
2016 Q1	-	-	-	-	-	-	-	-	-	-	-
2016 Q2	-	-	-	-	-	-	-	-	-	-	-
2015 Jun	-	-	-	-	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-
2016 Jan	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-	-	-	-	-
Aug	-	1.0	0.1	-0.3	-0.5	-1.6	1.1	2.0	0.2	-0.1	0.1
											0.2
											0.3
Percentage change, latest year on previous year											
2011	-	-	-	-	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	-	-	-
Percentage change, latest month on same month a year ago											
2014 Jun	-	-	-	-	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-
2015 Jan	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-
2016 Jan	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-	-	-	-	-
Aug	-	0.8	0.1	-0.3	-0.5	-1.6	0.9	1.9	0.2	-0.1	0.1
											0.2
											0.3

¹ Any apparent inconsistencies between the index numbers and the percentage changes shown in these tables are due to rounding.

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

IOP5R
continuedOutput of the Production Industries
Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Broad industry groups						Main industrial groupings				
	Production industries	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning	Water supply, sewerage and waste management	Oil and gas extraction	Consumer durables	Consumer non-durables	Capital goods	Intermediate goods	Energy
	B+C+D+E	B	C	D	E	06	MIG-CD	MIG-CND	MIG-CAG	MIG-IG	MG-NRG
Latest weight	1 000.0	120.4	700.4	104.5	74.7	96.2	52.1	208.2	235.8	254.6	232.7
	K222	K224	K22A	K248	K24C	K226	K24Q	K24R	K24S	K24O	K24T
Percentage change, latest month on previous month											
2014	Jun	-	-	-	-	-	-	-	-	-	-
	Jul	-	-	-	-	-	-	-	-	-	-
	Aug	-	-	-	-	-	-	-	-	-	-
	Sep	-	-	-	-	-	-	-	-	-	-
	Oct	-	-	-	-	-	-	-	-	-	-
	Nov	-	-	-	-	-	-	-	-	-	-
	Dec	-	-	-	-	-	-	-	-	-	-
2015	Jan	-	-	-	-	-	-	-	-	-	-
	Feb	-	-	-	-	-	-	-	-	-	-
	Mar	-	-	-	-	-	-	-	-	-	-
	Apr	-	-	-	-	-	-	-	-	-	-
	May	-	-	-	-	-	-	-	-	-	-
	Jun	-	-	-	-	-	-	-	-	-	-
	Jul	-	-	-	-	-	-	-	-	-	-
	Aug	-	-	-	-	-	-	-	-	-	-
	Sep	-	-	-	-	-	-	-	-	-	-
	Oct	-	-	-	-	-	-	-	-	-	-
	Nov	-	-	-	-	-	-	-	-	-	-
	Dec	-	-	-	-	-	-	-	-	-	-
2016	Jan	-	-	-	-	-	-	-	-	-	-
	Feb	-	-	-	-	-	-	-	-	-	-
	Mar	-	-	-	-	-	-	-	-	-	-
	Apr	-	-	-	-	-	-	-	-	-	-
	May	-	-	-	-	-	-	-	-	-	-
	Jun	-	-	-	-	-	-	-	-	-	-
	Jul	-	-	-	0.5	-0.5	0.5	-0.1	0.1	-	0.2
	Aug	-	0.8	-	-0.8	-1.0	1.5	0.2	-0.1	0.1	0.1
Percentage change, latest 3 months on same 3 months a year ago											
2014	Jun	-	-	-	-	-	-	-	-	-	-
	Jul	-	-	-	-	-	-	-	-	-	-
	Aug	-	-	-	-	-	-	-	-	-	-
	Sep	-	-	-	-	-	-	-	-	-	-
	Oct	-	-	-	-	-	-	-	-	-	-
	Nov	-	-	-	-	-	-	-	-	-	-
	Dec	-	-	-	-	-	-	-	-	-	-
2015	Jan	-	-	-	-	-	-	-	-	-	-
	Feb	-	-	-	-	-	-	-	-	-	-
	Mar	-	-	-	-	-	-	-	-	-	-
	Apr	-	-	-	-	-	-	-	-	-	-
	May	-	-	-	-	-	-	-	-	-	-
	Jun	-	-	-	-	-	-	-	-	-	-
	Jul	-	-	-	-	-	-	-	-	-	-
	Aug	-	-	-	-	-	-	-	-	-	-
	Sep	-	-	-	-	-	-	-	-	-	-
	Oct	-	-	-	-	-	-	-	-	-	-
	Nov	-	-	-	-	-	-	-	-	-	-
	Dec	-	-	-	-	-	-	-	-	-	-
2016	Jan	-	-	-	-	-	-	-	-	-	-
	Feb	-	-	-	-	-	-	-	-	-	-
	Mar	-	-	-	-	-	-	-	-	-	-
	Apr	-	-	-	-	-	-	-	-	-	-
	May	-	-	-	-	-	-	-	-	-	-
	Jun	-	-	-	-	-	-	-	-	-	-
	Jul	-	-	-	0.1	-0.2	0.2	-	-	-	0.1
	Aug	-	0.2	-	0.1	-0.7	0.3	0.1	-	0.1	0.1

¹ Any apparent inconsistencies between the index numbers and the percentage changes shown in these tables are due to rounding.

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

IOP5R
 continued

Output of the Production Industries
 Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Broad industry groups						Main industrial groupings				
	Production industries	Mining and quarrying	Manufacturing	Electricity, gas, steam and air conditioning	Water supply, sewerage and waste management	Oil and gas extraction	Consumer durables	Consumer non-durables	Capital goods	Intermediate goods	Energy
	B+C+D+E	B	C	D	E	06	MIG-CD	MIG-CND	MIG-CAG	MIG-IG	MG-NRG
Latest weight	1 000.0	120.4	700.4	104.5	74.7	96.2	52.1	208.2	235.8	254.6	232.7
	K222	K224	K22A	K248	K24C	K226	K24Q	K24R	K24S	K24O	K24T
Percentage change, latest 3 months on previous 3 months											
2014 Jun	-	-	-	-	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-
2015 Jan	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-
2016 Jan	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-	-	-	-	-
Jul	-	-	-	0.2	-0.1	-	0.1	-0.1	-	-	0.1
Aug	-	0.3	-	0.1	-0.7	0.3	0.8	-	-	-	0.2

¹ Any apparent inconsistencies between the index numbers and the percentage changes shown in these tables are due to rounding.

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

IOP5R

continued

Output of the Production Industries

Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Food products, beverages and tobacco	Textiles, wearing apparel and leather products	Wood and paper products and printing	Coke and refined petroleum products	Chemicals and chemical products	Basic pharmaceutical products and preparations
	CA	CB	CC	CD	CE	CF
Latest weight	114.2	25.4	51.0	9.2	39.8	58.7
	K22B	K22P	K22T	K22X	K22Z	K239
2011	-	-	-	-	-	-
2012	-	-	-	-	-	-
2013	-	-	-	-	-	-
2014	-	-	-	-	-	-
2015	-	-	-	-	-	-
2015 Q2	-	-	-	-	-	-
Q3	-	-	-	-	-	-
Q4	-	-	-	-	-	-
2016 Q1	-	-	-	-	-	-
Q2	-	-	-	-	-	-
2015 Jun	-	-	-	-	-	-
Jul	-	-	-	-	-	-
Aug	-	-	-	-	-	-
Sep	-	-	-	-	-	-
Oct	-	-	-	-	-	-
Nov	-	-	-	-	-	-
Dec	-	-	-	-	-	-
2016 Jan	-	-	-	-	-	-
Feb	-	-	-	-	-	-
Mar	-	-	-	-	-	-
Apr	-	-	-	-	-	-
May	-	-	-	-	-	-
Jun	-	-	-	-	-	-
Jul	-0.1	0.1	0.1	0.1	0.3	-0.1
Aug	0.5	0.9	0.1	-	0.2	-0.4
Percentage change, latest year on previous year						
2011	-	-	-	-	-	-
2012	-	-	-	-	-	-
2013	-	-	-	-	-	-
2014	-	-	-	-	-	-
2015	-	-	-	-	-	-
Percentage change, latest month on same month a year ago						
2014 Jun	-	-	-	-	-	-
Jul	-	-	-	-	-	-
Aug	-	-	-	-	-	-
Sep	-	-	-	-	-	-
Oct	-	-	-	-	-	-
Nov	-	-	-	-	-	-
Dec	-	-	-	-	-	-
2015 Jan	-	-	-	-	-	-
Feb	-	-	-	-	-	-
Mar	-	-	-	-	-	-
Apr	-	-	-	-	-	-
May	-	-	-	-	-	-
Jun	-	-	-	-	-	-
Jul	-	-	-	-	-	-
Aug	-	-	-	-	-	-
Sep	-	-	-	-	-	-
Oct	-	-	-	-	-	-
Nov	-	-	-	-	-	-
Dec	-	-	-	-	-	-
2016 Jan	-	-	-	-	-	-
Feb	-	-	-	-	-	-
Mar	-	-	-	-	-	-
Apr	-	-	-	-	-	-
May	-	-	-	-	-	-
Jun	-	-	-	-	-	-
Jul	-0.1	0.1	0.1	-	0.3	-0.2
Aug	0.5	1.0	-	-	0.2	-0.5

¹ Any apparent inconsistencies between the index numbers and the percentage changes shown in these tables are due to rounding.

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

IOP5R

Output of the Production Industries

Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Rubber and plastic products and non-metallic mineral products	Basic metals and metal products	Computer, electronic and optical products	Electrical equipment	Machinery and equipment not elsewhere classified	Transport equipment	Other manufacturing and repair
	CG	CH	CI	CJ	CK	CL	CM
Latest weight	55.0	83.1	36.2	20.9	50.6	92.0	64.4
	K23B	K23G	K23N	K23P	K23R	K23T	K23Z
2011	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
2015 Q2	-	-	-	-	-	-	-
Q3	-	-	-	-	-	-	-
Q4	-	-	-	-	-	-	-
2016 Q1	-	-	-	-	-	-	-
Q2	-	-	-	-	-	-	-
2015 Jun	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-
2016 Jan	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-
Jul	0.3	0.6	0.6	-0.2	-1.1	-0.3	0.2
Aug	0.6	0.3	2.4	-	-0.9	-1.2	-
Percentage change, latest year on previous year							
2011	-	-	-	-	-	-	-
2012	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-
Percentage change, latest month on same month a year ago							
2014 Jun	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-
2015 Jan	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-
2016 Jan	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-
Jul	0.3	0.6	0.6	-0.1	-1.2	-0.3	0.2
Aug	0.5	0.3	2.3	-0.1	-1.0	-1.0	-0.1

¹ Any apparent inconsistencies between the index numbers and the percentage changes shown in these tables are due to rounding.

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

IOP5R

continued

Output of the Production Industries

Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Food products, beverages and tobacco	Textiles, wearing apparel and leather products	Wood and paper products and printing	Coke and refined petroleum products	Chemicals and chemical products	Basic pharmaceutical products and preparations
	CA	CB	CC	CD	CE	CF
Latest weight	114.2	25.4	51.0	9.2	39.8	58.7
	K22B	K22P	K22T	K22X	K22Z	K239
Percentage change, latest month on previous month						
2014 Jun	-	-	-	-	-	-
Jul	-	-	-	-	-	-
Aug	-	-	-	-	-	-
Sep	-	-	-	-	-	-
Oct	-	-	-	-	-	-
Nov	-	-	-	-	-	-
Dec	-	-	-	-	-	-
2015 Jan	-	-	-	-	-	-
Feb	-	-	-	-	-	-
Mar	-	-	-	-	-	-
Apr	-	-	-	-	-	-
May	-	-	-	-	-	-
Jun	-	-	-	-	-	-
Jul	-	-	-	-	-	-
Aug	-	-	-	-	-	-
Sep	-	-	-	-	-	-
Oct	-	-	-	-	-	-
Nov	-	-	-	-	-	-
Dec	-	-	-	-	-	-
2016 Jan	-	-	-	-	-	-
Feb	-	-	-	-	-	-
Mar	-	-	-	-	-	-
Apr	-	-	-	-	-	-
May	-	-	-	-	-	-
Jun	-	-	-	-	-	-
Jul	-0.1	0.1	0.1	0.1	0.2	-0.2
Aug	0.6	0.9	-	-	-0.1	-0.4
Percentage change, latest 3 months on same 3 months a year ago						
2014 Jun	-	-	-	-	-	-
Jul	-	-	-	-	-	-
Aug	-	-	-	-	-	-
Sep	-	-	-	-	-	-
Oct	-	-	-	-	-	-
Nov	-	-	-	-	-	-
Dec	-	-	-	-	-	-
2015 Jan	-	-	-	-	-	-
Feb	-	-	-	-	-	-
Mar	-	-	-	-	-	-
Apr	-	-	-	-	-	-
May	-	-	-	-	-	-
Jun	-	-	-	-	-	-
Jul	-	-	-	-	-	-
Aug	-	-	-	-	-	-
Sep	-	-	-	-	-	-
Oct	-	-	-	-	-	-
Nov	-	-	-	-	-	-
Dec	-	-	-	-	-	-
2016 Jan	-	-	-	-	-	-
Feb	-	-	-	-	-	-
Mar	-	-	-	-	-	-
Apr	-	-	-	-	-	-
May	-	-	-	-	-	-
Jun	-	-	-	-	-	-
Jul	-	0.1	-	-	0.1	-0.1
Aug	0.2	0.4	0.1	0.1	0.1	-0.2

¹ Any apparent inconsistencies between the index numbers and the percentage changes shown in these tables are due to rounding.

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IOP5R

continued

Output of the Production Industries

Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Rubber and plastic products and non-metallic mineral products	Basic metals and metal products	Computer, electronic and optical products	Electrical equipment	Machinery and equipment not elsewhere classified	Transport equipment	Other manufacturing and repair
	CG	CH	CI	CJ	CK	CL	CM
Latest weight	55.0	83.1	36.2	20.9	50.6	92.0	64.4
	K23B	K23G	K23N	K23P	K23R	K23T	K23Z
Percentage change, latest month on previous month							
2014 Jun	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-
2015 Jan	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-
2016 Jan	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-
Jul	0.3	0.6	0.6	-0.2	-1.2	-0.3	0.2
Aug	0.2	-0.4	1.8	0.2	0.2	-0.7	-0.2
Percentage change, latest 3 months on same 3 months a year ago							
2014 Jun	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-
2015 Jan	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-
2016 Jan	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-
Jul	0.1	0.2	0.2	-	-0.3	-0.1	0.1
Aug	0.3	0.3	0.9	-	-0.7	-0.4	0.1

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IOP5R

continued

Output of the Production Industries

Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Food products, beverages and tobacco	Textiles, wearing apparel and leather products	Wood and paper products and printing	Coke and refined petroleum products	Chemicals and chemical products	Basic pharmaceutical products and preparations
	CA	CB	CC	CD	CE	CF
Latest weight	114.2	25.4	51.0	9.2	39.8	58.7
	K22B	K22P	K22T	K22X	K22Z	K239
Percentage change, latest 3 months on previous 3 months						
2014 Jun	-	-	-	-	-	-
Jul	-	-	-	-	-	-
Aug	-	-	-	-	-	-
Sep	-	-	-	-	-	-
Oct	-	-	-	-	-	-
Nov	-	-	-	-	-	-
Dec	-	-	-	-	-	-
2015 Jan	-	-	-	-	-	-
Feb	-	-	-	-	-	-
Mar	-	-	-	-	-	-
Apr	-	-	-	-	-	-
May	-	-	-	-	-	-
Jun	-	-	-	-	-	-
Jul	-	-	-	-	-	-
Aug	-	-	-	-	-	-
Sep	-	-	-	-	-	-
Oct	-	-	-	-	-	-
Nov	-	-	-	-	-	-
Dec	-	-	-	-	-	-
2016 Jan	-	-	-	-	-	-
Feb	-	-	-	-	-	-
Mar	-	-	-	-	-	-
Apr	-	-	-	-	-	-
May	-	-	-	-	-	-
Jun	-	-	-	-	-	-
Jul	-	0.1	0.1	-	0.1	-0.1
Aug	0.1	0.3	0.1	-	0.1	-0.2

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IOP5R

continued

Output of the Production Industries

Chained volume indices of gross value added¹

Seasonally adjusted 2013 = 100

Section	Rubber and plastic products and non-metallic mineral products	Basic metals and metal products	Computer, electronic and optical products	Electrical equipment	Machinery and equipment not elsewhere classified	Transport equipment	Other manufacturing and repair
	CG	CH	CI	CJ	CK	CL	CM
Latest weight	55.0	83.1	36.2	20.9	50.6	92.0	64.4
	K23B	K23G	K23N	K23P	K23R	K23T	K23Z
Percentage change, latest 3 months on previous 3 months							
2014 Jun	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-
2015 Jan	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-
Jul	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-
2016 Jan	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-
Jul	0.1	0.2	0.2	-0.1	-0.4	-0.1	-
Aug	0.3	0.3	1.1	-0.1	-0.8	-0.4	0.1

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Issued by: Office for National Statistics, Government Buildings, Cardiff Road, Newport NP10 8XG

Media contact:
Tel: Media Relations Office +44 (0) 845 6041858
Emergency on-call +44 (0) 7867 906553
Email: press.office@ons.gsi.gov.uk

Statistical contact:
Name: Alaa Al-Hamad
Tel: Alaa Al-Hamad +44 (0) 1633 455648
Email: indexofproduction@ons.gsi.gov.uk

Contact us:
Tel: +44 (0) 845 601 3034
Email: info@ons.gsi.gov.uk
Website: www.statistics.gov.uk
Twitter: www.twitter.com/statisticsONS