



Index of Production and Index of Construction for Wales: 2018 Quarter 3

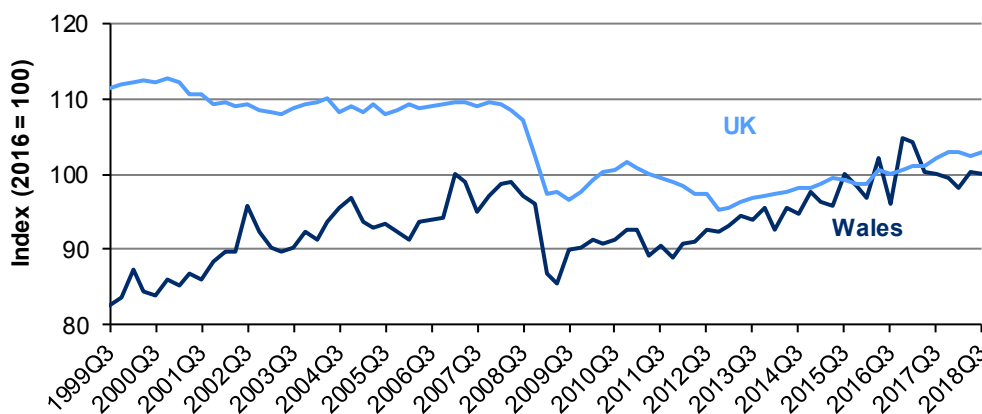
24 January 2019
SFR 03/2019

1. Background and key points

The Production and Construction sectors account for approximately 22.0 per cent and 5.9 per cent of the Welsh economy respectively. The Welsh Government also publishes a quarterly statistical release for [Market Services](#), which account for a further 46.0 per cent of the Welsh economy.

When comparing the year ending September 2018 to the year ending September 2017, the Index of Production **decreased** for Wales (down 2.8 per cent) and increased in the UK (up 1.5 per cent). The decrease in Wales was largely accounted for by a fall in *Electricity, Gas and Water Supply* and *Basic Metals and Metal Products*, whilst the increase in the UK was largely due to growth in *Machinery and Equipment n.e.c* and *Computer and Electronic Products*. When comparing the current quarter with the previous quarter, output **decreased** for Wales (0.3 per cent) and increased in the UK (0.6 per cent).

Chart 1.1: Index of Production



Source: Short-term output indicators. WG and ONS

The Index of Construction **increased** when comparing the year ending September 2018 to year ending September 2017 by 13.2 per cent for Wales and by 1.4 per cent in the UK. When comparing the current quarter with the previous quarter, construction industry output **increased** by 10.9 per cent in Wales and by 2.3 per cent in the UK, although the time series has proven to be volatile over the last ten years.

About this release

The Index of Production for Wales and the Index of Construction for Wales are quarterly indices showing short term movements in the output of companies in the production and construction sectors within Wales. This release includes data up to September 2018.

In this release

Index of Production Sector Changes	3
Sub-Indices of Index of Production	4
Index of Construction	6
Key Quality Information	7
Appendix A: Sections of SIC	11
Appendix B: Reference Tables	12

The Index of Production and the Index of Construction are two separate indices. The Index of Production covers sections B to E of the 2007 Standard Industrial Classification and the Index of Construction covers Section F:

- Section B: Mining and Quarrying
- Section C: Manufacturing
- Section D: Electricity, Gas, Steam and Air Conditioning Supply
- Section E: Water Supply; Sewerage, Waste Management and Remediation Activities
- Section F: Construction

The Index of Production is composed of three sub-indices, the largest of which is *Manufacturing* which accounts for 81.9 per cent. *Electricity, Gas and Water Supply* accounts for 17.0 per cent and *Mining and Quarrying* for 1.1 per cent.

The largest components within *Manufacturing* are *Transport Equipment* and *Other Manufacturing and Repair*, accounting for 18.0 per cent and 17.4 per cent of the Index of Production, respectively. The smallest component within *Manufacturing* is *Textiles, Wearing Apparel & Leather* accounting for 1.5 per cent of the Index of Production. For further information on the industry sections and sub-sectors see Appendix A.

Table 1.1 shows the Index of Production and Index of Construction for Wales. Percentage changes are provided to show the longer term trend (comparing the latest four quarters with the same period a year earlier) and the short term trend (showing the latest quarterly movement) for both Wales and the UK.

Table 1.1: Seasonally adjusted indices of output for Wales ⁽¹⁾

(2016=100)

	2017			2018			<i>Percentage change: Latest</i>			
							4 qtrs to previous 4 qtrs		qtr to previous qtr	
	Q2	Q3	Q4	Q1	Q2	Q3	Wales	UK ⁽²⁾	Wales	UK ⁽²⁾
PRODUCTION	100.2 (r)	100.0	99.5 (r)	98.2 (r)	100.3 (r)	100.0	-2.8	1.5	-0.3	0.6
Manufacturing	103.2 (r)	103.9 (r)	103.4 (r)	101.1 (r)	104.0 (r)	103.9	-1.0	2.2	-0.1	0.4
Mining and Quarrying	58.9 (r)	50.4 (r)	54.0 (r)	59.2 (r)	56.6 (r)	60.1	-23.0	-0.3	6.2	1.5
Electricity, Gas and Water Supply ⁽³⁾	88.4 (r)	84.6 (r)	83.6 (r)	86.5 (r)	85.2 (r)	83.8	-11.1	-0.5	-1.7	1.2
CONSTRUCTION	103.8 (r)	99.4 (r)	106.3 (r)	108.7 (r)	113.7 (r)	126.0	13.2	1.4	10.9	2.3

Source: Short Term Output Indicators, Welsh Government and ONS

(1) All series are seasonally adjusted. Please see Table B (Appendix B) for more detail on industrial sectors.

(2) UK figures for production as published by the Office for National Statistics on 21 December 2018 and UK figures for Construction as published by the Office for National Statistics on 10 December 2018.

(3) Relates to SIC 2007 Sections D - Electricity, Gas and Air Conditioning Supply and Section E - Water Supply; Sewerage, Waste Management and Remediation Activities.

(r) Data revised since last publication.

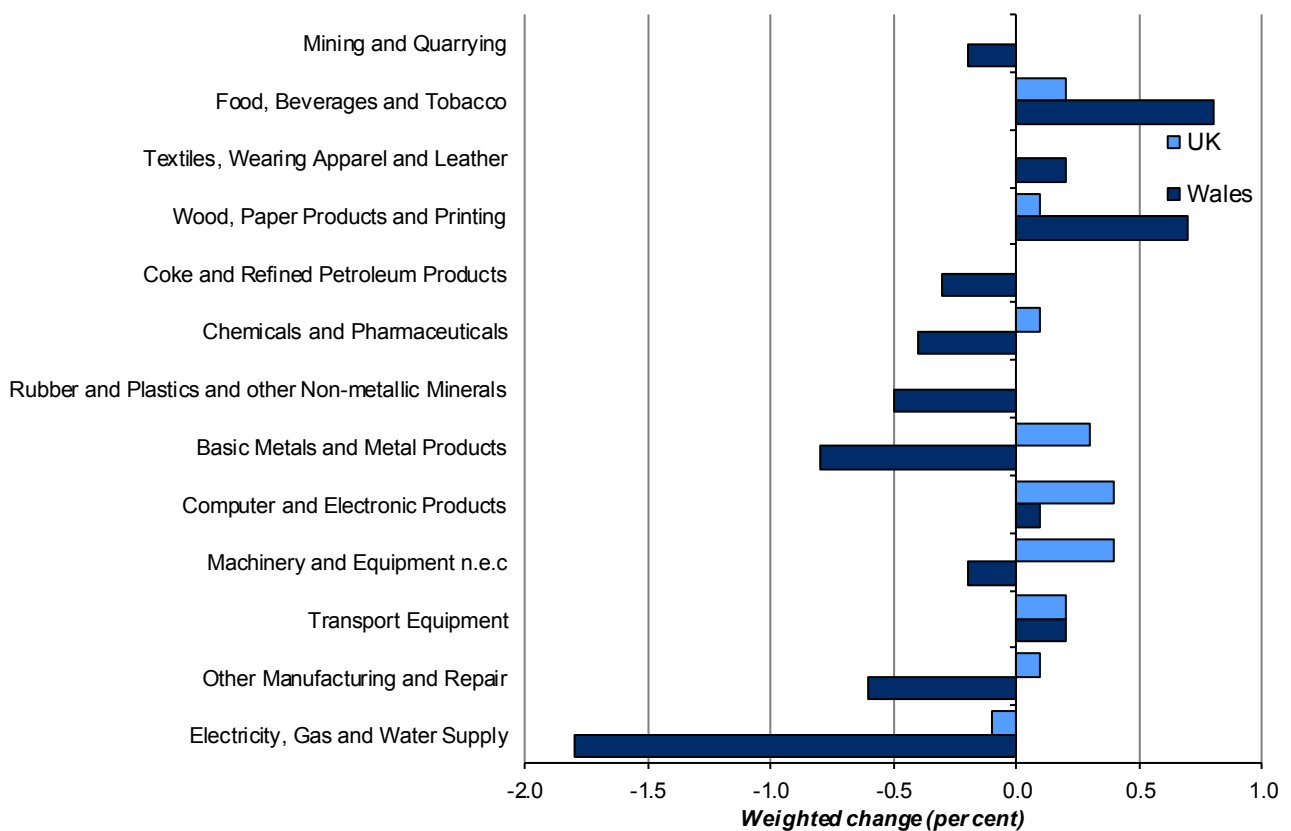
2. Index of production sector changes

This section examines the outputs of each industry within the Index of Production and their respective impact on the overall index.

Chart 2.1 shows the impact of changes in the sub-sectors on the index as a whole for the latest year (based on weighted data).

Five of the thirteen sub-sectors within the Welsh Index of Production have grown in output over the year ending September 2018 and eight sub-sectors have declined. *Food, Beverages and Tobacco* showed the largest positive weighted change overall in Wales, whilst *Electricity, Gas and Water Supply* has shown the largest negative weighted change.

Chart 2.1: Contribution to overall percentage change, latest four quarters compared with previous four quarters



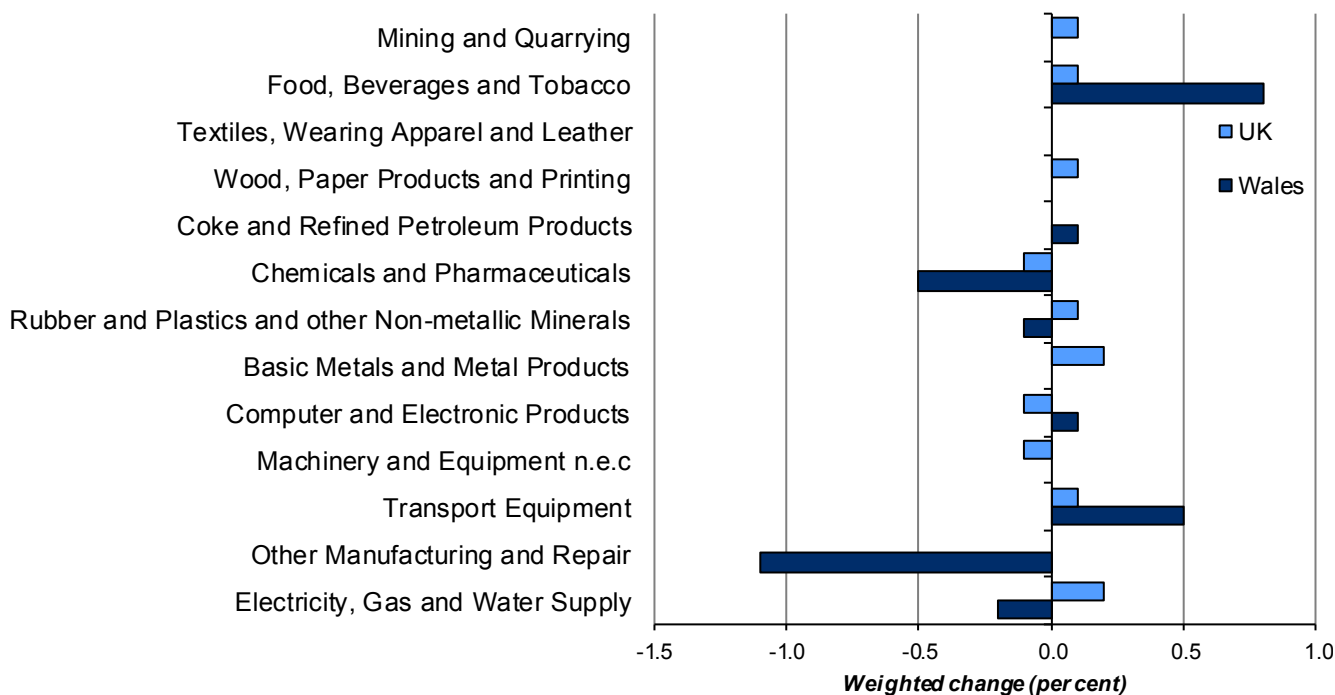
Source: Short-term Output Indicators, WG and ONS

(1) Data rounded to one decimal place

For the UK, eight of the thirteen sub-sectors have grown in output over the year to September 2018, one sub-sector has fallen, and four sub-sectors have remained unchanged (to one decimal place). Both *Machinery and Equipment* and *Computer and Electronic Products* were the sub-sectors with the largest positive weighted change in the UK.

Chart 2.2 shows a comparison of the weighted data for the current quarter with the previous quarter. Four of the thirteen sub-sectors within the Welsh Index of Production have shown growth over the quarter, four of the sub-sectors declined and five were unchanged (to one decimal place). In the UK, seven of the thirteen sub-sectors showed growth in output, whilst three sub-sectors declined and three remained unchanged (to one decimal place).

Chart 2.2: Contribution to quarterly percentage change, current quarter compared with previous quarter



⁽¹⁾ Data rounded to one decimal place

Food, Beverages and Tobacco had the largest positive weighted change for Wales whilst *Basic Metals and Metal Products* and *Electricity, Gas and Water Supply* had the largest positive weighted change in the UK. The *Other Manufacturing and Repair* sub-sector has shown the largest negative weighted change for Wales. *Chemicals and Pharmaceuticals*, *Computer and Electronic Products* and *Machinery and Equipment n.e.c* all had the same negative weighted change for the UK.

3. Results for sub-sectors of Index of Production

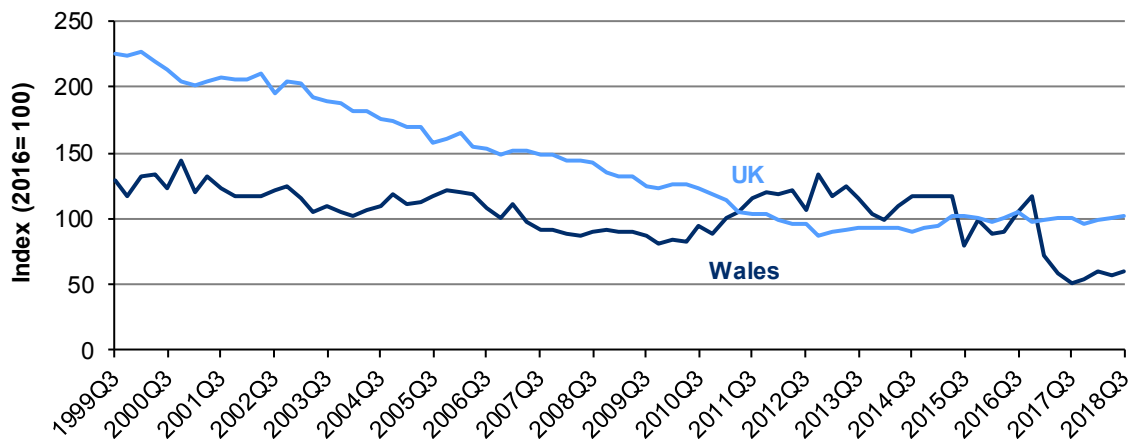
This section shows the latest results for the three sub-indices which comprise the Index of Production. References to the longer term refer to the year ending September 2018 compared to the year ending September 2017 and references to the short term refer to comparisons for the current quarter with the previous quarter. The Welsh results for some data series are more volatile than the UK counterparts because of smaller survey samples.

Table B in Appendix B shows the latest data with the percentage change over the short and longer term. Time series for the Index of Production and its sub-indices are available on [StatsWales](https://stats.wales.gov.uk/).

3.1. Index of Mining and Quarrying

The Index of Mining and Quarrying in Wales and the UK fell overall between 1999 and 2009. It increased in Wales between 2010 and the end of 2012, which was attributed to increases in coal mining in Wales. The index for Wales has since fluctuated and decreased overall, which is due to a number of sites having ceased production during this time period. (Chart 3.1)

Chart 3.1: Index of Mining and Quarrying



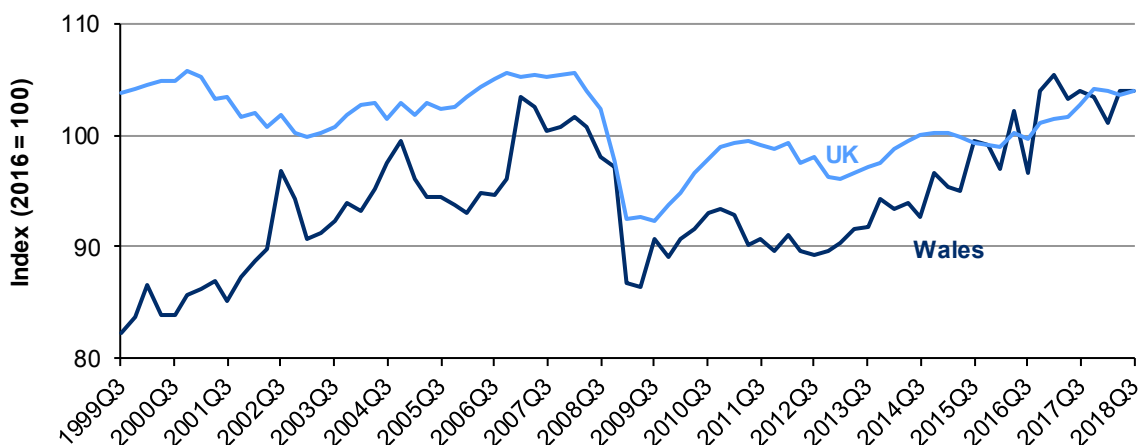
Source: Short-term output indicators, WG and ONS

The Index of Mining and Quarrying for Wales decreased over the longer term (down 23.0 per cent) and increased over the short term (up 6.2 per cent). The UK index also decreased over the longer term and increased over the short term (down 0.3 per cent and up 1.5 per cent, respectively).

3.2. Index of Manufacturing

The Index of Manufacturing in Wales and the UK have followed a similar pattern since 1999. They both increased to 2008 before decreasing during the 2008-09 recession. Since then they have both increased at similar rates. (Chart 3.2)

Chart 3.2: Index of Manufacturing



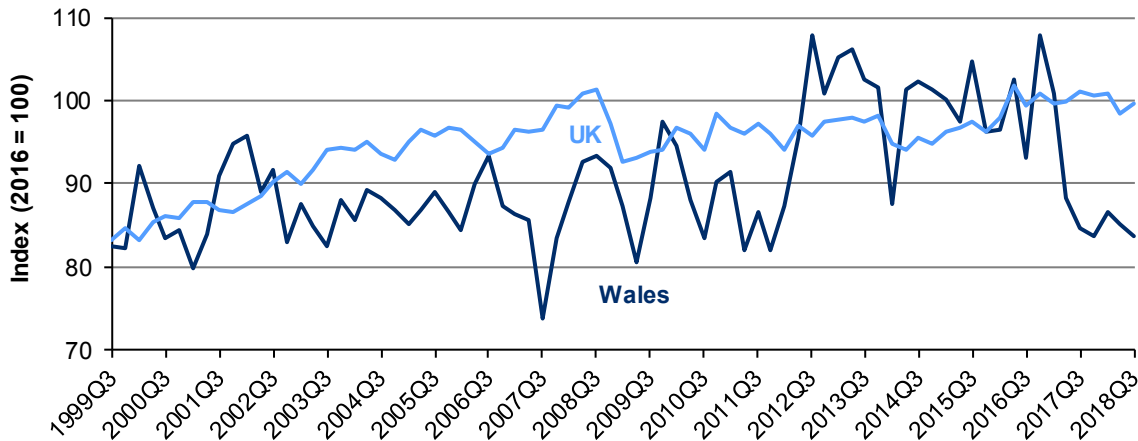
Source: Short-term output indicators, WG and ONS

The manufacturing industry is typically the main driver of the production industries as it accounts for 81.9 per cent of the Index of Production. Manufacturing output over the longer term has decreased in Wales (down 1.0 per cent) and increased in the UK (up 2.2 per cent). Over the short term, manufacturing output has decreased in Wales (down 0.1 per cent) and increased in the UK (up 0.4 per cent). A time series for the industry sub-sectors in the Index of Manufacturing is available on [StatsWales](https://www.statswales.gov.wales/).

3.3. Index of Electricity, Gas and Water Supply

The Index of Electricity, Gas and Water Supply in Wales has fluctuated since 1999. It increased in 2012 quarter 2, mostly due to the opening of a new power station in Pembroke. The output of this power station has continued to impact on this series since, although the series continues to fluctuate. Output has generally decreased since the end of 2016, which can be attributed to the downgrading in operations of Aberthaw power station. The UK has steadily increased since 1999 with a fall between 2008 and 2009 due to the recession. (Chart 3.3)

Chart 3.3: Index of Electricity, Gas and Water Supply



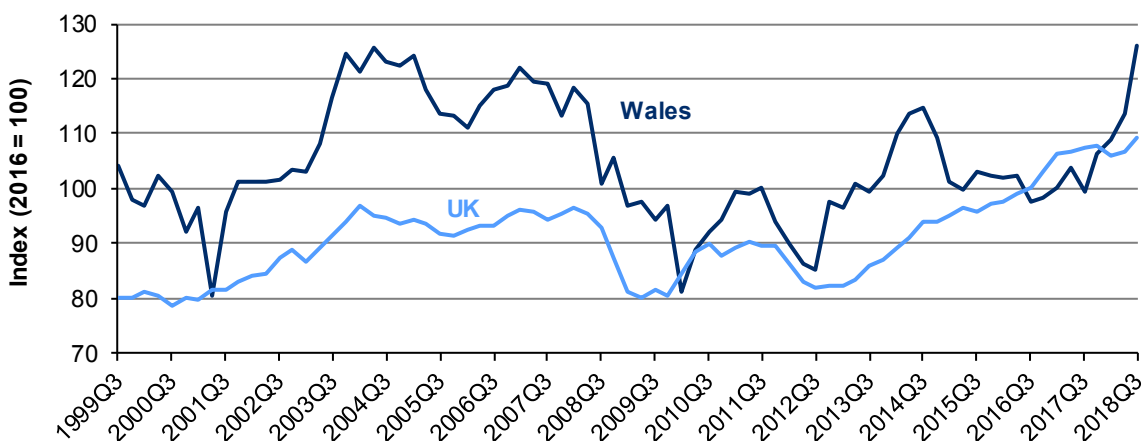
Source: Short-term output indicators, WG and ONS

The Index of Electricity, Gas and Water Supply for both the UK and Wales decreased over the longer term (down 11.1 per cent and 0.5 per cent, respectively). Output over the short term decreased in Wales (down 1.7 per cent) and in the UK (up 1.2 per cent).

4. Index of Construction

Around the recession of 2008-09, both Wales and the UK decreased with Wales having a larger fall than the UK. Despite this fall, both have increased overall since 1999. (Chart 4.1)

Chart 4.1: Index of Construction



Source: Short-term output indicators, WG and ONS

The Index of Construction for Wales increased over both the longer term (13.2 per cent) and the short term (10.9 per cent). The UK index also increased over the longer term by 1.4 per cent and over the short term by 2.3 per cent. A time series for the Index of Construction is available on StatsWales.

5. Key Quality Information

5.1 Relevance

This release provides estimates of output in production and construction industries for Wales and the UK. The UK production estimates are taken from the Quarterly National Accounts release from the ONS. The construction estimates are taken from the ONS monthly construction release. These statistics are used by the Welsh Government to monitor the output for these industries in the Welsh economy as well as providing comparisons with the UK. They are also used by other public sector organisations, businesses, academia and private individuals to identify the key trends in production and construction output for Wales.

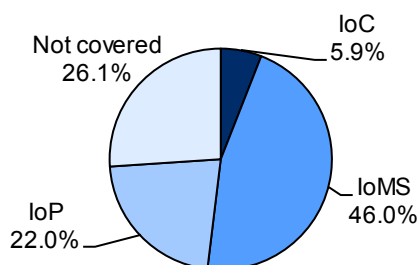
The Index of Production and Index of Construction show the quarterly movements in gross output of the production and construction sectors in Wales. Gross output is used as a proxy for Gross Value Added (GVA), measured by a variety of data sources since GVA cannot currently be measured to a sufficient timeliness for the production of short term indices.

The indices are estimated using a combination of:

- Directly collected data from existing monthly surveys.
- A quarterly top up of specifically Welsh data from large inter-regional businesses.
- Post stratification methodology.
- Volume data from a number of different sources.

The majority of the data comes from the ONS Monthly Business Survey. The results from this survey are used to calculate the relative movements of the individual series and these in turn are weighted together to produce the overall index. The weights are derived from the distribution of GVA for Wales using the Regional Accounts. Both volume and sales data are used to compile the index. GVA is a measure of economic activity at basic prices, which includes taxes (less subsidies) on production but excludes taxes (less subsidies) on products. The sales data are deflated to 2010 prices using the deflators produced for the UK index.

The following pie chart represents the percentage that the Index of Market Services, Index of Production and Index of Construction for Wales have in the overall Regional GVA by industry. Industries not covered include agriculture and fishing industries and the public sector.



Source: *Short Term Output Indicators, Welsh Government and ONS*

5.2 Accuracy

Estimates are subject to revision. Estimates for individual quarters fluctuate due to random sampling error and therefore it is recommended that emphasis is placed on changes in the average of the latest four quarters compared to the average of the previous four quarters for more volatile series. The entire time series is open to revisions arising from changes in the seasonally adjusted series from the addition of a new data point, and changes to the last 15 months turnover data from late or revised survey returns. For more information on our revisions policy see our [website](#).

Table 5.1 shows the revisions made (in index points) to the previous quarter's estimates.

Table 5.1: Comparison of Current and Previous Estimates of 2018 Quarter 2 ¹

	Production	Manufacturing	Mining & Quarrying	Electricity, Gas & Water	Construction
Current	100.3	104.0	56.6	85.2	113.7
Previous	99.9	103.5	60.0	85.7	116.1
<i>Revision</i>	<i>0.3</i>	<i>0.5</i>	<i>-3.4</i>	<i>-0.4</i>	<i>-2.4</i>

Source: Short-term output indicators, WG and ONS

¹ Numbers in the table have been rounded to one decimal place, therefore there may be slight discrepancies between the constituent items and the overall revision shown.

5.3 Timeliness and punctuality

This release is published quarterly. It is the earliest official indicator of the performance of the Welsh production and construction industries other than the UK figures which are produced by the Office for National Statistics monthly. There is approximately a 14 week lag between publication and the period to which the release refers to.

5.4 Accessibility and clarity

This First Release and the headline statistics are available on the [Welsh Government Statistics](#) website. Additional information on the Index of Production and Index of Construction is available on [StatsWales](#), in addition to the data from 1998. A Summary Quality Report containing information on the quality of the Index of Production and Index of Construction as well as a summary of methods used to compile the output is available on the background tab on the [Indices of Production and Construction](#) webpage.

5.5 Comparability and coherence

The UK and Wales estimates in this release are calculated by the Office for National Statistics (ONS) and are comparable as they use the same methodology. Methodologies relating to the components within the Index of Production and Index of Construction are available from the background information tab on the release webpage. The ONS is currently developing Regional Short term indicators for English regions. The Scottish Government publishes a [GDP](#) measure in place of short-term output indicators. The Northern Ireland Assembly publishes the Northern Ireland Composite Economic Index ([NICEI](#)), which is also not directly comparable to the Welsh short term output indicators.

Due to difficulties collecting historical data from contributors from earlier time periods, the time series begins in 1998 but early quarters and initial years include a proportion of estimated data. More information is given in the Summary Quality Report which can be found on the background tab on our [website](#).

Throughout the release references to the longer term refer to the latest four quarters compared to the previous four quarters, and references to the short term refer to the current quarter compared to the previous quarter. It is recommended that when looking at the growth rates of volatile series, users should focus on the percentage change over the longer term.

5.6 National Statistics status

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics.

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value.

All official statistics should comply with all aspects of the Code of Practice for Official Statistics. They are awarded National Statistics status following an assessment by the UK Statistics Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is Welsh Government's responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

5.7 Well-being of Future Generations Act (WFG)

The Well-being of Future Generations Act 2015 is about improving the social, economic, environmental and cultural well-being of Wales. The Act puts in place seven well-being goals for Wales. These are for a more equal, prosperous, resilient, healthier and globally responsible Wales, with cohesive communities and a vibrant culture and thriving Welsh language. Under section (10)(1) of the Act, the Welsh Ministers must (a) publish indicators ("national indicators") that must be applied for the purpose of measuring progress towards the achievement of the Well-being goals, and (b) lay a copy of the national indicators before the National Assembly. The 46 national indicators were laid in March 2016.

Information on the indicators, along with narratives for each of the well-being goals and associated technical information is available in the [Well-being of Wales report](#).

Further information on the [Well-being of Future Generations \(Wales\) Act 2015](#).

The statistics included in this release could also provide supporting narrative to the national indicators and be used by public services boards in relation to their local well-being assessments and local well-being plans.

5.8 Further details

Links

This document is available at <http://gov.wales/statistics-and-research/index-production-construction>.

The Index of Market Services is available at <http://gov.wales/statistics-and-research/index-market-services>.

Previous publications of this statistical release contained tables B2-B3 in Appendix B. All the information contained within these tables can now be found on [StatsWales](#).

Next update

April 2019 (*Statistical First Release for 2018 Q4*)

We want your feedback

We welcome any feedback on any aspect of these statistics which can be provided by email to economic.stats@gov.wales.

Open Government Licence

All content is available under the [Open Government Licence v3.0](#), except where otherwise stated.



Appendix A: Sections of Standard Industrial Classification¹ in Index of Production, Index of Construction and Index of Market Services

Table A1: Sections and sub-sections in Index of Production

SIC 2007	Description
B	Mining and Quarrying
C	Manufacturing
CA (10-12)	<i>Food products, beverages and tobacco</i>
CB (13-15)	<i>Textiles, wearing apparel and leather products</i>
CC (16-18)	<i>Wood and paper products, and printing</i>
CD (19)	<i>Coke and refined petroleum products</i>
CECF (20-21)	<i>Chemicals and pharmaceuticals</i>
CG (22-23)	<i>Rubber & plastics products, & other non-metallic minerals</i>
CH (24-25)	<i>Basic metals and metal products</i>
CICJ (26-27)	<i>Computer and electronic products</i>
CK (28)	<i>Machinery and equipment n.e.c.</i>
CL (29-30)	<i>Transport equipment</i>
CM (31-33)	<i>Other manufacturing and repair</i>
CIJKL	<i>Engineering and allied industries</i>
CCGM	<i>Other manufacturing</i>
DE	Electricity, gas and water supply

Table A2: Sections in Index of Construction

SIC 2007	Description
F	Construction

Table A3: Sections and sub-sections in Index of Market Services

SIC 2007	Description
G	Distribution
45	<i>Wholesale, Retail Sale & Repair of Motor Vehicles</i>
46	<i>Wholesale Trade except Motor Vehicles</i>
47	<i>Retail Sales except Motor Vehicles</i>
H	Transportation and Storage
49-51	<i>Land, water and air transport</i>
52-53	<i>Warehousing and support activities for transportation; postal and courier activities</i>
I	Accommodation and Food Service Activities
55	<i>Accommodation</i>
56	<i>Food and beverage service activities</i>
J	Information and Communication
JA (58-60)	<i>Publishing, audio-visual and broadcasting activities</i>
JB (61)	<i>Telecommunications</i>
JC (62-63)	<i>Information technology and other information activities</i>
K	Financial and Insurance Activities
L	Real Estate Activities
L x OOD	<i>Real Estate excluding Owner Occupied Dwellings</i>
OOD	<i>Owner Occupied Dwellings</i>
M	Professional, Scientific and Technical Activities
N	Administrative and Support Service Activities
R-T	Other Services

¹ See [UK Standard Industrial Classification of Economic Activities 2007](#) for full category descriptions.

Appendix B: Reference Table

Table B: Index of Production and Index of Construction for Wales ⁽¹⁾

SEASONALLY ADJUSTED ⁽²⁾ : 2016 = 100

2007 STANDARD INDUSTRIAL CLASSIFICATION		Index Weights ⁽³⁾	Annual Indices		2017			2018			Percentage change: Latest				
			2016	2017	QTR 2	QTR 3	QTR 4	QTR 1	QTR 2	QTR 3	4 qtrs to previous 4 qtrs	Wales	UK ⁽⁴⁾	Wales	UK ⁽⁴⁾
Section	DESCRIPTION														
B-E	PRODUCTION INDUSTRIES	1000	100.0 (r)	101.0	100.2 (r)	100.0	99.5 (r)	98.2 (r)	100.3 (r)	100.0	-2.8	1.5	-0.3	0.6	
B	MINING AND QUARRYING	11	100.0 (r)	58.7 (r)	58.9 (r)	50.4 (r)	54.0 (r)	59.2 (r)	56.6 (r)	60.1	-23.0	-0.3	6.2	1.5	
C	MANUFACTURING	819	100.0 (r)	104.0 (r)	103.2 (r)	103.9 (r)	103.4 (r)	101.1 (r)	104.0 (r)	103.9	-1.0	2.2	-0.1	0.4	
CA	Food, Beverages and Tobacco	144	100.0 (r)	98.4 (r)	98.7 (r)	100.5 (r)	98.3 (r)	107.3 (r)	108.4	115.3	6.7	1.7	6.4	0.9	
CB	Textiles, Wearing Apparel and Leather	15	100.0 (r)	127.9 (r)	137.1	137.9	133.3	127.0	145.2 (r)	149.1	13.4	0.3	2.7	0.0	
CC	Wood, Paper Products and Printing	65	100.0 (r)	99.0 (r)	95.5	99.4	108.8	106.7	108.6 (r)	108.9	13.7	1.2	0.3	1.2	
CD	Coke and Refined Petroleum Products	48	100.0 (r)	96.3 (r)	98.9	96.7	91.9	76.4	97.8	99.2	-7.4	-4.9	1.4	4.2	
CE-CF	Chemicals and Pharmaceuticals	91	100.0 (r)	107.1 (r)	106.6 (r)	111.1	105.1 (r)	94.4 (r)	103.7 (r)	96.6	-5.1	0.7	-6.8	-0.9	
CG	Rubber and Plastics and other Non-metallic Minerals	71	100.0 (r)	108.0 (r)	108.8 (r)	110.9 (r)	105.8 (r)	101.5 (r)	97.2	95.7	-8.0	-0.1	-1.5	1.1	
CH	Basic Metals and Metal Products	118	100.0 (r)	106.3 (r)	106.6 (r)	109.6 (r)	104.3	91.6 (r)	93.9 (r)	94.4	-8.5	3.5	0.5	2.2	
CI-CJ	Computer and Electronic Products	74	100.0 (r)	103.0 (r)	99.0 (r)	111.0 (r)	105.7 (r)	103.8 (r)	101.7 (r)	104.0	2.0	6.4	2.3	-1.0	
CK	Machinery and Equipment n.e.c	21	100.0 (r)	129.9 (r)	128.5	142.5	132.2	110.3	104.8 (r)	104.5	-8.8	7.6	-0.3	-2.1	
CL	Transport Equipment	180	100.0 (r)	107.0 (r)	106.1 (r)	104.5 (r)	108.2 (r)	106.3 (r)	105.7 (r)	109.3	1.4	1.7	3.4	1.1	
CM	Other Manufacturing and Repair	174	100.0	100.0 (r)	97.3	88.7 (r)	94.1 (r)	100.8 (r)	105.7 (r)	98.1	-4.2	2.0	-7.2	0.1	
CUJL	Engineering and Allied Industries	275	100.0 (r)	107.7 (r)	106.0 (r)	109.2 (r)	109.4 (r)	105.9 (r)	104.6 (r)	107.5	0.6	4.1	2.8	-0.2	
CCGM	Other Manufacturing	310	100.0 (r)	101.6 (r)	99.5 (r)	96.0 (r)	99.9 (r)	102.2 (r)	104.3 (r)	99.8	-1.7	1.0	-4.4	0.7	
DE	ELECTRICITY, GAS AND WATER SUPPLY ⁽⁵⁾	170	100.0 (r)	89.4 (r)	88.4 (r)	84.6 (r)	83.6 (r)	86.5 (r)	85.2 (r)	83.8	-11.1	-0.5	-1.7	1.2	
F	CONSTRUCTION	1000	100.0 (r)	102.4 (r)	103.8 (r)	99.4 (r)	106.3 (r)	108.7 (r)	113.7 (r)	126.0	13.2	1.4	10.9	2.3	

Source: Short Term Output Indicators, Welsh Government and ONS

- (1) Revisions to the series are normally made each quarter to take account both of more recent information and improved seasonal factors
- (2) All series are seasonally adjusted except CB, CC, CD and CK.
- (3) Where the sections are highlighted in bold; the weights sum to the Index of Production (IOP = 1,000). Those sub-sections whose weights are not highlighted sum to the individual section e.g the sum of the weights for sub-sections CC, CG and CM sum to Section CCGM. There may be some apparent slight discrepancies between the constituent items and the total due to rounding.
- (4) UK figures for production as published by the Office for National Statistics on 21 December 2018 and UK figures for Construction as published by the Office for National Statistics on 10 December 2018.
- (5) Relates to SIC 2007 Sections D - Electricity, Gas and Air Conditioning Supply and Section E - Water Supply; Sewerage, Waste Management and Remediation Activities.
- (r) Data revised since last publication