

Statistical bulletin

# Regional economic activity by gross domestic product, UK: 1998 to 2018

Annual estimates of economic activity by UK country, region and local area using gross domestic product (GDP). Estimates are available in current market prices and in chained volume measures and include a full industry breakdown of balanced regional gross value added (GVA(B)).



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## Notice

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Owing to the need to redeploy resources to support the production of additional statistics to monitor the impact of the coronavirus (COVID-19) pandemic, we have had to delay the production of some of our other regular economic statistics. The annual regional accounts measures of gross domestic product (GDP), gross value added (GVA) and gross disposable household income (GDHI) have all been affected by this.

We plan to publish annual regional GDP and balanced GVA in May 2021, rather than in December 2020. Following this, the next publication of regional GDHI is now planned for September 2021, rather than May 2021. We will aim to return to our normal publication schedule incrementally. We will keep you informed of our progress towards this as our plans evolve.

Please note that these delays only affect publication of the annual estimates of regional GDP and outputs that use these estimates in their own compilations, such as the annual regional and sub-regional productivity releases. Publication of our quarterly GDP statistics for countries and regions of the UK will continue as normal.

We thank you for your patience and understanding during this time.

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# 1 . Main points

- This is the first release of annual estimates of gross domestic product (GDP) for subnational areas of the UK.
- In 2018, "real" GDP for the UK increased by 1.4%; the highest annual growth of Nomenclature of Units for Territorial Statistics: NUTS1 areas was in both London and the West Midlands at 2.0% and the lowest annual growth was in Northern Ireland at negative 0.5%.
- At the NUTS1 level, in 2018, London had the highest GDP per head in current market prices at £54,686, while the North East had the lowest GDP per head at £23,569.
- In 2018, the highest annual growth in "real" GDP of the four capital city regions was in London at 2.0% and the lowest annual growth was in Belfast at negative 0.7%.
- In 2018, the highest annual growth in "real" GDP of NUTS3 areas was in Falkirk at 10.5%, while the lowest growth was in Mid and East Antrim at negative 10.1%.
- At the NUTS3 level, in 2018, Camden and City of London had the highest GDP per head in current market prices at £395,309, while Ards and North Down had the lowest at £15,034; both extremes are highly affected by commuting flows.

## 2 . Gross domestic product by UK constituent country and region

UK gross domestic product (GDP), in chained volume measures, was estimated to have increased by 1.4% in 2018.

Between 2017 and 2018, England increased by 1.4%, the highest increase of the four countries in the UK. Northern Ireland had the lowest growth between 2017 and 2018, at negative 0.5%, while Wales grew by 1.3% and Scotland increased by 0.9%.

Table 1: Summary of gross domestic product statistics for the NUTS1 countries and regions, 2018<sup>1 2</sup>

NUTS1 Regions	Population <sup>3</sup>	Total GDP (£ million)	GDP per head (£) <sup>1</sup>	Annual growth in 'real' GDP (%)	Annual growth in 'real' GDP per head (%)
<b>UK</b>	66,435,550	2,140,278	31,976	1.4	0.8
<b>England</b>	55,977,178	1,839,264	32,857	1.4	0.8
<b>North East</b>	2,657,909	62,644	23,569	0.9	0.4
<b>North West</b>	7,292,093	207,452	28,449	1.4	0.9
<b>Yorkshire and The Humber</b>	5,479,615	141,698	25,859	1.2	0.6
<b>East Midlands</b>	4,804,149	124,647	25,946	1.1	0.4
<b>West Midlands</b>	5,900,757	159,832	27,087	2.0	1.3
<b>East of England</b>	6,201,214	186,462	30,069	1.7	1.2
<b>London</b>	8,908,081	487,145	54,686	2.0	1.1
<b>South East</b>	9,133,625	311,300	34,083	0.6	0.0
<b>South West</b>	5,599,735	158,084	28,231	0.9	0.1
<b>Wales</b>	3,138,631	74,906	23,866	1.3	0.9
<b>Scotland</b>	5,438,100	161,295	29,660	0.9	0.7
<b>Northern Ireland</b>	1,881,641	48,887	25,981	-0.5	-1.1
<b>Extra-Regio</b>	n/a	15,927	n/a	7.1	n/a

Source: Office for National Statistics - Regional economic activity by gross domestic product, UK: 1998 to 2018

## Notes

1. Figures may not sum due to rounding in totals; per head (£) figures are rounded to the nearest pound sterling.
2. 2018 estimates are provisional.
3. Population estimates are sourced from the [Population estimates for the UK release](#).
4. GDP in current prices.
5. GDP in chained volume measures.
6. Per head figures exclude Extra-Regio: the off-shore contribution to GDP that cannot be assigned to any region.
7. n/a equals not applicable.

Table 1 shows that in 2018, GDP in chained volume measures increased in all [Nomenclature of Units for Territorial Statistics](#): NUTS1 countries and regions, with the exception of Northern Ireland, which showed a decrease. The highest growth was in both the West Midlands and London (2.0%) and the lowest growth was in Northern Ireland (negative 0.5%).

The decrease in Northern Ireland was evident in 6 of the 11 NUTS3 local areas in the province, with the largest fall in Mid and East Antrim (negative 10.1%). This widespread reduction in “real” economic activity can be seen in the gross value added (balanced) data for many industries, with the most significant at the country level including: public administration and defence (negative 5.5%); construction (negative 5.1%); education (negative 4.8%); financial and insurance activities (negative 4.8%); accommodation and food service activities (negative 4.6%); and wholesale and retail trade (negative 2.8%).

Figure 1 shows the annual rate of “real” growth in regional GDP in chained volume measures for each NUTS1 country and region across the period 1999 to 2018.

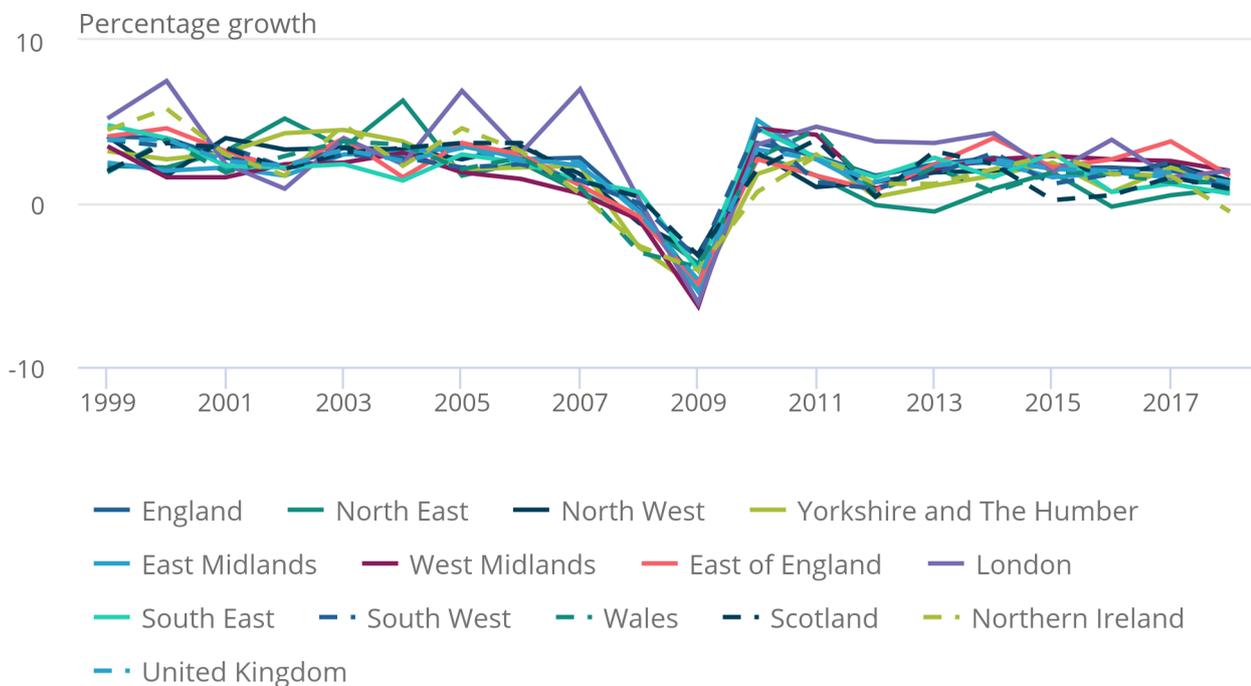
Click on the region names to toggle the lines on and off.

**Figure 1: Northern Ireland is the only country or region showing a decrease in gross domestic product<sup>1</sup> in 2018**

Growth in NUTS1 countries and regions, 1999 to 2018

Figure 1: Northern Ireland is the only country or region showing a decrease in gross domestic product<sup>1</sup> in 2018

Growth in NUTS1 countries and regions, 1999 to 2018



Source: Office for National Statistics - Regional economic activity by gross domestic product, UK: 1998 to 2018

Notes:

1. GDP in chained volume measures.

In Table 2 we present summary statistics for the four capital city regions. Here, London is represented by the Greater London Authority, Cardiff by the Cardiff Capital Region, Edinburgh by the Edinburgh and South East Scotland City Region, and Belfast by the Belfast Region City Deal area.

Table 2: Summary of GDP statistics for the UK capital city regions, 2018<sup>1 2</sup>

Capital City Region	Population <sup>3</sup>	Total GDP (£ million)	GDP per head <sup>4</sup>	Annual growth in 'real' GDP (%)	Annual Growth in 'real' GDP per head (%)
<b>Greater London Authority</b>	8,908,081	487,145	54,686	2.0	1.1
<b>Cardiff Capital Region</b>	1,532,828	38,039	24,816	1.4	0.8
<b>Edinburgh and SE Scotland City Region</b>	1,384,950	47,794	34,510	1.5	0.8
<b>Belfast City Region</b>	1,108,399	32,355	29,191	-0.7	-1.3

Source: Office for National Statistics - Regional economic activity by gross domestic product, UK: 1998 to 2018

## Notes

1. Figures may not sum due to rounding in totals; per head (£) figures are rounded to the nearest pound sterling.
2. 2018 estimates are provisional.
3. Population estimates are sourced from the [Population estimates for the UK release](#).
4. GDP in current prices.
5. GDP in chained volume measures.
6. Per head figures exclude Extra-Regio: the off-shore contribution to GDP that cannot be assigned to any region.
7. Although they cover the same area, estimates for the GLA and London LEP may differ slightly from those for the London NUTS1 region, due to rounding.
8. Table headings were corrected on 20 December 2019 to show GDP instead of GVA.

## Industrial analysis of gross value added (balanced)

As we do not have an industrial breakdown for regional gross domestic product (GDP), we can use the gross value added (balanced) (GVA(B)) estimates to understand the industry movements.

For GVA(B), both the West Midlands and London were the fastest-growing NUTS1 regions in 2018 at 2.1%, in chained volume measures.

Looking at the industrial composition of London for industry groupings, in chained volume measures, there were increases in professional, scientific and technical activities (6.1%), administrative and support service activities (4.1%), accommodation and food services (3.4%) and real estate activities (3.3%).

Within the industry groupings for the West Midlands, in chained volume measures, there were increases in information and communication (7.4%), education (4.0%) and human health and social work activities (4.0%).

By industry groupings, in chained volume measures, the most significant increases at a UK level were in professional, scientific and technical activities (4.3%), information and communication (4.1%), administrative and support service activities (3.4%) and wholesale and retail trade (2.8%).

Between 2017 and 2018, in the professional, scientific and technical activities industry group, in chained volume measures, all NUTS1 countries and regions experienced positive growth, except the North East, East Midlands and Northern Ireland. The strongest growth was in London at 6.1% while the slowest growth was in the North East at negative 0.8%.

In 2018, in chained volume measures, information and communication saw positive growth in all NUTS1 countries and regions except Wales (negative 0.7%). The fastest-growing region was the East Midlands at 9.4%.

At the UK level, there were a number of decreases in industry groupings. Agriculture, forestry and fishing (negative 4.3%), electricity, gas, steam and air conditioning supply (negative 2.2%) and water supply; sewerage and waste management (negative 2.1%) saw the largest decreases but as they are small industries they have little impact on total GVA. Of the more significant industries, the only industries showing a decline at the UK level were construction (negative 0.7%) and financial and insurance activities (negative 0.5%).

### **3 . Top 10 and bottom 10 NUTS3 regions**

In accordance with the [Nomenclature of Units for Territorial Statistics](#) (NUTS) classification, the 10 NUTS3 local areas with the highest gross domestic product (GDP) per head and the 10 areas with the lowest GDP per head in 2018 are shown in Table 3.

Table 3: Top 10 and bottom 10 NUTS3 local areas<sup>1</sup> by gross domestic product<sup>2</sup> per head, UK, 2018<sup>3</sup>

NUTS3 local areas	GDP per head (£) 2 3	Annual growth in "real" GDP per head (%)	Population	Total GDP (£ million) <sup>2</sup>	Annual growth in "real" GDP (%)
United Kingdom	31,976	0.8	66,435,550	2,140,278	1.4
Top 10 GDP per head					
Camden and City of London	395,309	0.3	270,932	107,102	4.2
Westminster	282,093	-1.2	255,324	72,025	3.0
Tower Hamlets	113,559	-4.5	317,705	36,078	-1.5
Kensington & Chelsea and Hammersmith & Fulham	65,468	3.3	341,623	22,366	4.1
Hounslow and Richmond upon Thames	61,899	5.4	467,686	28,949	6.1
Milton Keynes	58,393	2.3	268,607	15,685	2.7
Berkshire	51,310	0.8	911,403	46,764	1.4
City of Edinburgh	51,224	2.7	518,500	26,560	3.7
Solihull	49,328	5.0	214,909	10,601	5.4
Haringey and Islington	48,228	1.2	509,766	24,585	2.0
Bottom 10 GDP per head					
Newry, Mourne and Down	18,408	-3.0	180,012	3,314	-2.4
Causeway Coast and Glens	18,375	-2.6	144,246	2,650	-2.4
Greater Manchester North East	18,285	-2.0	645,732	11,807	-1.4
Central Valleys	17,950	-4.4	300,314	5,391	-4.0
Gwent Valleys	17,908	2.5	343,781	6,156	2.9
Sefton	17,850	0.7	275,396	4,916	1.0
Isle of Anglesey	17,781	3.8	69,961	1,244	4.1
Torbay	17,409	-7.0	135,780	2,364	-6.6
East Ayrshire and North Ayrshire mainland	16,795	-0.3	251,219	4,219	-0.5
Ards and North Down	15,034	0.1	160,864	2,419	0.5

Source: Office for National Statistics - Regional economic activity by gross domestic product, UK: 1998 to 2018

## Notes

1. Data for all NUTS3 local areas are included in dataset "Regional gross domestic product: all NUTS level regions".
2. GDP in current market prices on a workplace basis.
3. Figures may not sum due to rounding in totals; per head (£) figures are rounded to the nearest pound sterling.
4. 2018 estimates are provisional.
5. Per head figures exclude Extra-Regio: the off-shore contribution to GDP that cannot be assigned to any region.
6. Population estimates are sourced from the [Population estimates for the UK release](#).
7. GDP in chained volume measures.

When ordered by GDP per head in 2018, all of the top 10 NUTS3 local areas were in the London, South East, West Midlands or Scotland NUTS1 areas, the top five of which were in London. The bottom 10 local areas were mainly from Northern Ireland, the North West and Wales, with one each from Scotland and the South West.

While GDP per head can be a useful way of comparing regions of different size, comparisons can be affected by commuting flows into or out of the region. They should therefore be [used with caution](#). For such areas, it is advisable to refer to [ONS sub-regional productivity](#) data for a direct measure of economic performance.

"Real" GDP increased in 120 of the 179 NUTS3 local areas between 2017 and 2018. The largest percentage increases were in:

- Falkirk (Scotland), at 10.5%
- Peterborough (East of England), at 8.9%
- Derby (East Midlands), at 6.9%

"Real" GDP decreased in 56 local areas. The largest decreases were in:

- Mid and East Antrim (Northern Ireland), at negative 10.1%
- Walsall (West Midlands), at negative 8.9%
- Shetland Islands (Scotland), at negative 7.7%

The remaining three local areas were unchanged between 2017 and 2018.

## 4 . Gross domestic product per head for NUTS3 local areas, 1998 to 2018

Figure 2 shows how gross domestic product per head varied across [Nomenclature of Units for Territorial Statistics](#): NUTS3 local areas in 1998 to 2018.

Figure 2: Gross domestic product per head for NUTS3 local areas, UK, 1998 to 2018

## 5 . Regional economic activity data

### [Regional gross domestic product all NUTS level regions](#)

Dataset | 19 December 2019

Annual estimates of balanced UK regional gross domestic product (GDP). Current price estimates and chained volume measures for UK countries, NUTS1, NUTS2 and NUTS3 regions.

### [Regional gross domestic product city regions](#)

Dataset | 19 December 2019

Annual estimates of balanced UK regional gross domestic product (GDP). Current price estimates and chained volume measures for combined authorities and city regions.

### [Regional gross domestic product enterprise regions](#)

Dataset | 19 December 2019

Annual estimates of balanced UK regional gross domestic product (GDP). Current price estimates and chained volume measures for local enterprise partnership areas and other economic and enterprise regions

### [Regional gross domestic product local authorities](#)

Dataset | 19 December 2019

Annual estimates of balanced UK regional gross domestic product (GDP). Current price estimates and chained volume measures for local authority districts, London boroughs, unitary authorities and Scottish Council areas.

### [Regional gross value added \(balanced\) by industry all NUTS level regions](#)

Dataset | 19 December 2019

Annual estimates of balanced UK regional gross value added (GVA(B)). Current price estimates, chained volume measures and implied deflators for UK countries, NUTS1, NUTS2 and NUTS3 regions, with a detailed industry breakdown.

## 6 . Glossary

### Chained volume measures (CVM)

These time series have the effects of inflation removed by considering changes in quantity between consecutive periods, holding prices from previous periods constant.

### Constant price (KP) series

These series have the effects of inflation removed by holding prices throughout the series at the level in a chosen base year (also known as "real terms" series).

### Current price (CP) series

These series include the effects of inflation.

## Deflator (implied)

A series that shows changes in price and can be used to convert nominal values into "real" values, which are adjusted for the effects of inflation. An implied deflator is a series that shows the implied change in average prices for a variable by dividing the current price series by the real or volume series.

## GDP

Gross domestic product (GDP) measures the value of goods and services produced in the UK. It estimates the size of and growth in the economy.

## Gross value added (GVA)

The value generated by any unit engaged in production and the contributions of individual sectors or industries to gross domestic product.

# 7 . Measuring the data

## Geographic levels for gross domestic product estimates

Estimates in this bulletin are available at four geographic levels, in accordance with the [Nomenclature of Units for Territorial Statistics \(NUTS\) classification](#) that came into force on 1 January 2018. The NUTS provides a single uniform breakdown for the production of regional statistics for the EU. In the UK the areas are:

- NUTS1: Wales, Scotland, Northern Ireland and the nine English regions
- NUTS2: 41 subregions - mainly groups of counties and unitary authorities
- NUTS3: 179 local areas - principally individual counties and unitary authorities
- LAU1: 382 local authority or local council areas
- the term Extra-Regio is applied to economic activity that cannot be assigned to any specific region within a country

Local authority data for the UK have also been published alongside the NUTS1, NUTS2 and NUTS3 estimates of gross domestic product (GDP). Although there are 392 areas listed at the LAU1 level, these include a further division of Scottish Council areas to enable aggregation to NUTS3 local areas. The local authority estimates can be aggregated to form other geographic breakdowns such as combined authorities, local enterprise partnerships (LEPs), city regions and other economic and enterprise regions, which are available to download from the "View all data used in this release" button.

## Methodology

Various [guidance and methodology](#) documents relating to regional gross value added: balanced (GVA(B)), income (GVA(I)) and production (GVA(P)) are available. The [regional accounts methodology guide](#) provides an overview of the methodology used to compile regional accounts outputs.

More quality and methodology information on strengths, limitations, appropriate uses, and how the data were created is available in the [Regional gross value added \(balanced\) QMI](#).

Other historical guidance, methodology and update documents are also available.

Regional GVA(B) has been produced using a ground-breaking method. To the best of our knowledge, nobody has ever used weighted quality metrics to inform an automated balancing process before. The improvement in the reliability and stability of regional GVA estimates underpins an expansion in the level of industrial detail for which we can provide estimates. As a by-product of this development, we have also improved by one year the timeliness of our provision of "real" GVA indices with the effect of price inflation removed. Further details on the methods used to produce GVA(B) are included in [Development of a balanced measure of regional gross value added](#) (PDF, 267KB).

Regional GVA(B) is a workplace-based measure. The GVA(I) and GVA(P) estimates that feed into it are compiled using a "top-down" approach. National accounts [supply and use tables \(SUT\)](#) provide national totals for 112 industry components. Regional indicator datasets are used to calculate regional proportions for each industry. These proportions are then used to allocate the UK total output and UK total intermediate consumption for each industry, before the calculation of regional GVA(P) for each industry. For GVA(I), similarly to GVA(P), regional proportions are used to allocate the UK total for each industry, but in this case for the income components of GVA and for a reduced set of aggregated industries.

The balanced GVA estimates use a matrix of paired quality metrics for each region, by industry, by year. These quality metrics are compiled by assessing the quality of each component that feeds into either of the two measures and multiplying it by the weight that component represents in the GVA estimate. They provide a simple way to compare the relative quality of the GVA(I) and GVA(P) estimates. The two quality metrics are used to calculate a weighted arithmetic mean of the income and production estimates to produce a single regional GVA estimate. The UK totals are consistent with the [UK National Accounts, The Blue Book: 2019](#).

Constant price GVA(B) is derived by deflating the current price estimates for each of the 112 industries using national industry deflators obtained from the UK gross domestic product (output) system. These deflators are consistent with the [UK National Accounts, The Blue Book: 2019](#) and they are used because no regional price indices are currently available.

The [Eurostat Manual on Regional Accounts \(2013\)](#) recommends that in the absence of regional prices the use of national deflators is acceptable, provided that deflation occurs at a minimum level of 38 industries. Greater industrial detail allows the deflation to take account of regional variation in industrial, and hence product, composition. The one exception to this is in the real estate industry, where we have regional rental prices for NUTS1 countries and regions from the experimental [Index of Private Housing Rental Prices](#).

Once deflation has taken place, the resulting time series are constrained so that they sum to the corresponding national figures in constant prices. In this way we ensure that the regional estimates take account of the expenditure-based deflation that occurs nationally, rather than rely solely on output-based deflation, which can produce a different trend over time. The current price and constant price estimates are both used to aggregate industries together to produce chained volume measures (CVM), which are presented as indices referenced to 2016 equals 100.

One additional benefit of producing both current price and constant price estimates is that we can use them to derive aggregate level deflators for each region and for each industry within each region. These "implied" deflators are not true regional price indices, since they are based mostly on national prices, but they do reflect regional differences in the products contributing to GVA. We have included an extra table presenting these implied deflators in the datasets published with this bulletin.

## Revisions

GVA(B) estimates show revisions for the period 1998 to 2017.

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 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, which allows the statistical error of previous estimates to be reduced.

Only rarely are there avoidable errors such as human or system errors and such mistakes are made clear when they are discovered and corrected.

We have published revisions triangles for GVA(B):

- [Revisions triangles: regional gross value added \(balanced\) in current basic prices](#)
- [Revisions triangles: regional gross value added \(balanced\) in chained volume measures](#)

## 8 . Strengths and limitations

These data are designated as [National Statistics](#).

Figures for 2018 are provisional as national estimates have not been through supply and use balancing at the time of this publication. Regional industry estimates for the components of income and production in 2018 have been calculated by applying growth in gross domestic product (output) industry figures and then constraining these to sum to the income and production component totals. The figures used in this process are consistent with those published in the [UK National Accounts, The Blue Book: 2019](#).

The statistical discrepancy shown in gross value added income (GVA(I)) is the difference between the sum of the national income components and the definitive national estimate of GVA. For 2018, this national estimate is a simple average (mean) of the three measures: income, output and expenditure. For the balanced measure of GVA (GVA(B)), we have aligned to this average national total and have subsumed the statistical discrepancy, except where it is needed to maintain the additivity of the detailed income components.

Since the balancing process uses quality measures to assess the relative quality of the income and production estimates, we are able to share these as an indication of how good the two measures are before they are balanced, and therefore how good the balanced estimate might be. We have published the [aggregate quality metrics](#) that are used to inform the weighted arithmetic mean of the two estimates in balanced regional GVA.

As part of the [assessment of regional GVA](#) (PDF, 308KB), we carried out an analysis of the [extent of modelling and estimation in regional GVA estimates](#). This provides users with a breakdown of the GVA(I) and gross value added production (GVA(P)) data into data collected directly on a regional basis, data estimated using standard sampling and weighting techniques, and data modelled using apportionment of higher-level aggregates or other proxy measures. The analysis presents results for NUTS1 countries and regions with an industry breakdown by [Standard Industrial Classification \(SIC\)](#) section.

## 9 . Related links

### [Regional and sub-regional productivity](#)

Article | Released 6 February 2019

Estimates for measures of labour productivity produced by the Office for National Statistics.

### [GDP, UK regions and countries](#)

Bulletin | Released 30 October 2019

Quarterly economic activity within the countries of the UK (England, Wales, Scotland and Northern Ireland) and the nine English regions produced by the Office for National Statistics.

### [Gross domestic product for Scotland](#)

Bulletin | Released 30 October 2019

Chained volume measures of gross value added at basic prices are produced by the Scottish Government.

### [Northern Ireland Composite Economic Index \(NICEI\)](#)

Bulletin | Released 10 October 2019

An experimental quarterly measure published by the Northern Ireland Statistics and Research Agency (NISRA).

### [Short-term output indicators](#)

Bulletin | Released 16 October 2019

Data showing the short-term movements in the output of industries in the production, construction and market services sectors produced by the Welsh Government.

### [Regional gross disposable household income \(GDHI\)](#)

Bulletin | Released 22 May 2019

Annual estimates of regional gross disposable household income (GDHI) produced by the Office for National Statistics.

### [Regional household final consumption expenditure](#)

Article | Released 26 September 2018

Experimental regional estimates of household spending produced by the Office for National Statistics.

### [UK National Accounts, The Blue Book: 2019](#)

Compendium | Released 31 October 2019

National accounts statistics including national and sector accounts, industrial analyses and environmental accounts published by the Office for National Statistics.