Update on reinstating quarterly regional GDP estimates for England and Wales: July 2026

First update on reinstating quarterly regional gross domestic product (GDP) estimates for England and Wales, including recent data and methods changes to produce seasonally adjusted current price estimates and a new indicative regional dataset and data catalogue. These are official statistics in development.

Contact:
Quarterly Regional Gross Domestic Product (GDP) team
RegionalGDP@ons.gov.uk

Release date:
31 July 2026

Next release:
To be announced

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1 . Overview

This is the first methodology article in a planned series on the reinstatement of quarterly regional gross domestic product (GDP) estimates for England and Wales. These articles are a response to data quality and methods issues identified during our previous quarterly regional GDP publication and the subsequent Economic Statistics Centre of Excellence review. We will provide progress updates twice a year on developments in this series until regular publication is fully reinstated.

The aim of these articles is to help users understand the data and methods changes being implemented, the rationale for those changes, and their expected impact on the estimates. We will publish indicative estimates alongside each article to communicate developments, support transparency and encourage user feedback. These indicative estimates will be revised as data quality improvements and methods changes are implemented, and routine updates and revisions to data sources are made.

These are official statistics in development. Users should avoid making decisions or drawing conclusions about individual regions, industries, or short-term movements until data sources and methods have been finalised.

Once developments have been finalised, these estimates will replace our previously paused experimental quarterly regional GDP estimates. Our previous estimates were published on a chain volume measure (CVM) basis, which is generally regarded as the preferred approach for measuring economic data. The reinstated quarterly regional GDP estimates will then provide our most timely estimate of regional economic activity.

This article summarises the initial data and methods changes implemented to produce seasonally adjusted current price (CP) quarterly regional GDP estimates for England and Wales. It covers:

- data quality improvements to input data sources
- changes to benchmarking, constraining and seasonal adjustment methods
- the introduction of CP estimates
- recommendations for a revisions policy

Users should be reminded that CP estimates are not adjusted for inflation and therefore cannot distinguish between changes in prices and changes in the volume of economic activity.

Future articles will report on further developments, including:

- refining CP methods
- finalising approaches to deflation and chain-linking
- continuing data quality improvements

This update is accompanied by our Quarterly regional GDP, England and Wales dataset. It provides indicative seasonally adjusted CP quarterly regional GDP estimates in millions of British pounds for England and Wales International Territorial Level 1 (ITL1) regions (including extra-regio). The dataset includes UK Standard Industrial Classification 2007 (SIC 2007) industry section detail and covers Quarter 1 (Jan to Mar) 2012 to Quarter 3 (July to Sept) 2025. We have also published a data catalogue that outlines the data sources used to compile the quarterly regional GDP estimates.

2 . Background

We first published experimental quarterly regional GDP estimates in September 2019, as explained in our Introducing GDP for the countries of the UK and the regions of England methodology. These estimates introduced the use of administrative data to provide users with more timely insights into subnational economic activity. They were designed to complement official annual regional accounts (ARA) and quarterly national accounts (QNA).

In July 2023, we paused publication of the estimates after identifying high levels of revisions caused by data quality issues and methods used to benchmark and constrain the estimates to ARA and QNA estimates. These issues were further compounded by the economic shocks of the coronavirus (COVID-19) pandemic and rising energy prices after the start of the Ukraine war.

In March 2025, the Economic Statistics Centre of Excellence completed a review of the data sources and methods used to produce our paused experimental quarterly regional GDP estimates. The review recommended improvements to benchmarking methods used to align the estimates with ARA, communication of a clear revisions policy, and further assessment of the suitability of input data sources.

Following the review, we have started a programme of work to assess and improve the data sources, methods and production systems used to enable the reinstatement of quarterly regional GDP estimates, as outlined in our Plan for Office for National Statistics (ONS) economic statistics. The initial focus is on developing and improving benchmarking, constraining, seasonal adjustment, and revisions methods to produce seasonally adjusted current price (CP) quarterly regional GDP estimates. This will be followed by the development of deflation and chain-linking methods to enable the production and publication of seasonally adjusted chain volume measure (CVM) quarterly regional GDP estimates. Data quality improvements will also continue throughout this programme of work.

We will publish methodological articles twice a year, alongside indicative estimates, in this series until regular publication is fully reinstated. These publications will allow us to communicate developments, support transparency and encourage user feedback to help shape, quality assure, and refine the future development of the estimates.

When fully reinstated, our estimates will provide seasonally adjusted CP and CVM quarterly regional GDP with International Territorial Level 1 (ITL1) and UK Standard Industrial Classification 2007 (SIC 2007) section detail. They will continue to be mainly based on timely and detailed turnover indicators that act as a proxy for regional Gross Value Added (GVA), which is then used as a proxy for GDP in the output approach. More detail on this is available in ourSubnational economic activity statistics: user guide.

We will continue to produce estimates for all UK countries to support our constraining methods. However, we will only publish estimates for the English regions and Wales. Quarterly economic indicators for Northern Ireland and Scotland are separately estimated and published by the Northern Ireland Statistics and Research Agency (NISRA) and the Scottish Government. Estimates for Northern Ireland and Scotland use similar concepts but the data sources, methods and outputs differ.

This work continues our commitment to providing robust subnational statistics, that:

- are consistent with the UK aggregate estimates
- help users understand regional economic activity
- support place-based growth, devolved decision-making, and the evaluation of local economic performance across England and Wales

3 . Data sources

This section outlines the data sources used to produce quarterly regional gross domestic product (GDP) estimates. We mainly use HM Revenue and Customs (HMRC) Value Added Tax (VAT) turnover data and some other data sources. A comprehensive list of data sources can be found in our Quarterly regional GDP, England and Wales: data sources catalogue.

This section also details the data quality improvement work being undertaken in response to issues raised during our previous publication and in the Economic Statistics Centre of Excellence (ESCoE) review. Our data quality improvement work aims to assess the quality and suitability of source data. This work is ongoing and will continue throughout the development and reinstatement of the publication. Therefore, estimates will be revised as data quality improvements are implemented.

Value Added Tax data

VAT data provide the most detailed and reliable quarterly economic indicator for many industries. They hold information on all VAT-registered business in the UK and are available quarterly. VAT data are also an input, for selected industries, into both annual regional accounts (ARA) and quarterly national accounts (QNA) and are subject to routine data quality checks and assurance throughout the processing stages.

For the regional estimates, VAT turnover data for each business are apportioned to region and industry, based on the regional activity and employment share of its local sites from the Inter-Departmental Business Register (IDBR) . Using VAT data for a quarterly series and apportioning to regional levels makes the data more prone to volatility, which is not necessarily the case when using them for annual series or national levels.

Data quality issues can arise when businesses have multiple sites with different types of activity, affecting the regional and industry apportionment. We have conducted detailed investigations into some of these businesses and highlighted several issues that can cause volatility in the regional indicators. These issues include:

- businesses reclassifying their activity from one industry to another
- businesses making changes to their employment where this does not directly link to output
- turnover and employment being attributed to head offices, holding companies or umbrella companies, rather the region and industry where turnover is generated

We have implemented initial data quality improvements for the "Office administrative, office support and other business support activities" industry, which is part of the "Administrative and support service activities" industry section to respond to these data quality issues. We chose this industry as it contains many head offices, umbrella companies and holding companies. It is the main industry within a large industry section and only uses VAT as an indicator.

We will continue to investigate these data quality issues and implement further improvements to this industry. We will then explore how these improvements could be applied to other industries. We will also consider findings from the ONS commissioned ESCoE review into how evolving working arrangements, including umbrella companies and remote or hybrid working, should best be reflected in subnational economic outputs, as outlined in our Office for National Statistics (ONS) surveys and economic statistics improvement plan, quarterly progress update: July 2026 article. We will continue to report updates on VAT data quality improvement work in this article series on reinstating quarterly regional GDP estimates.

Other data sources

We use other data sources for our quarterly regional economic indicators where an industry's economic performance cannot be measured by VAT data. These data sources are described in our data sources catalogue and are subject to data quality checks and assurance. Data are supplied by our other outputs and by other government departments and external organisations. Some data are only available at UK level, which we apportion to regions using indicators such as regional employment proportions from the Inter-Departmental Business Register, turnover from the Annual Business Survey, or another appropriate regional indicator.

As part of our data quality improvement work for other data sources, we plan to work with data suppliers to assess data quality and align methods with ARA and QNA where possible. In this update we have introduced changes for imputed rental – part of the “Real estate activities” industry section, which is one of the largest industry sections in quarterly regional GDP estimates. We have aligned our data sources and methods with ARA and QNA, which means the estimates we produce are less prone to unnecessary revisions.

We will continue to review and improve data sources and processing methods for our external data sources throughout the development phase of the publication.

4 . Methods and revisions

The methodological developments described in this section respond to concerns raised during our assessment of our previously published quarterly regional gross domestic product (GDP) estimates and recommendations from the Economic Statistics Centre of Excellence review. The reviews highlighted the need to improve coherence with annual regional accounts (ARA) and quarterly national accounts (QNA) and to communicate a clear revisions policy.

This update introduces changes to benchmarking, constraining and seasonal adjustment methods, which enable the production of seasonally adjusted current price (CP) estimates, and proposes a clearer, more transparent revisions policy. Further work on deflation and chain-linking, which is required to produce seasonally adjusted chain volume measure (CVM) estimates, will be reported in future updates. This work is ongoing, so indicative estimates will be revised as methods changes are implemented.

Summary of methods changes

The revised methodology changes the order of the main processing stages. We have moved benchmarking and seasonal adjustment to earlier in the process, before constraining to QNA. The following subsections summarise and compare the order of the main steps in our previous and revised methods.

Order of processing stages in previous method

1. Constrain to QNA non-seasonally adjusted CP.
2. Benchmark to annual regional accounts CP.
3. Process CVM.
4. Carry out seasonal adjustment of CVM.
5. Tail constrained to total UK QNA seasonally adjusted CVM.

Order of processing stages in revised method

1. Benchmark to regional accounts CP.

2. Carry out seasonal adjustment of CP.

3. Constrain to QNA seasonally adjusted CP at industry section (the indicative estimates currently published are produced at this stage).

4. Process CVM (requires further development).

Benchmarking and constraining

Benchmarking aligns quarterly regional indicators to the annual regional totals published in ARA. Constraining ensures the quarterly regional indicators remain consistent with UK totals that are published in QNA.

ARA continue to provide the most comprehensive measure of regional economic activity and remain the preferred source to determine regional proportions. However, ARA are published with a substantial lag and are not always consistent with timelier QNA. At the time of publication, ARA data are available up to 2023 and are consistent with Blue Book 2024, while QNA data are available up to Quarter 1 (Jan to Mar) 2026 and have already incorporated Blue Book 2025 changes. This creates a challenge when producing quarterly regional estimates that align with both the latest estimates published in ARA and QNA.

Under the previous method, quarterly regional indicators were benchmarked to ARA up to the latest year available. The periods beyond the latest year available in ARA – the tail – were extended using movements in the quarterly regional data indicators and constrained to seasonally adjusted QNA total industry estimates using an optimisation model. This meant that the benchmarked period and tail period could be consistent with different Blue Book vintages.

The revised method continues to benchmark quarterly regional indicators to ARA CP up to the latest year available and extend the tail using the quarterly path from the quarterly regional indicator. However, both the benchmarked period and the tail period are now constrained to QNA seasonally adjusted CP at an industry-section level. This ensures that quarterly regional GDP estimates will always reflect regional proportions from ARA, while maintaining short-term trends and movements from the quarterly regional indicators. It also ensures quarterly regional GDP estimates are always consistent with QNA, particularly when ARA and QNA are not aligned to the same Blue Book.

Removing the optimisation model previously used to constrain the tail to QNA means we can now constrain using a more transparent method that is easier to quality assure and explain to users. As we now constrain quarterly regional indicators to QNA CP at industry-section level, this provides consistency with QNA at the total industry and industry-section level.

Seasonal adjustment

Seasonal adjustment estimates and removes predictable calendar and seasonal effects from a time series, making underlying movements easier to interpret. Previously, we applied seasonal adjustment to quarterly regional estimates after they had been constrained to QNA. This introduced inconsistencies between the aggregated quarterly regional UK total and the UK total published in QNA. By applying seasonal adjustment before constraining to QNA, coherence with QNA is maintained throughout the process.

We now also apply seasonal adjustment to CP rather than only at CVM, which enables the production of seasonally adjusted CP quarterly regional GDP estimates.

Quarterly current price estimates for regions

The publication of CP quarterly regional GDP estimates is the first stage of our ongoing methods and systems development programme. This release responds to user demand for CP quarterly regional data and provides users with an interim update of estimates while development of CVM quarterly regional estimates continues.

The revised benchmarking, constraining and seasonal adjustment methods enable us to produce and publish CP quarterly regional estimates. We intend to continue publishing CP quarterly regional estimates once our developments are complete.

These estimates cannot be directly compared with estimates based on previous methods, as we only published CVM and did not previously publish CP estimates for regional data. CP estimates are not adjusted for inflation. They do not distinguish between changes in prices and changes in the volume of economic activity. The preferred measure for quarterly regional GDP will be CVM once reinstated.

We have presented indicative findings for CP quarterly regional GDP estimates up to Quarter 3 (July to Sept) 2025, alongside the visualisation in Figure 1, to enable users to explore the estimates. We encourage user feedback on the developments we have implemented to date.

London has seen the largest cumulative nominal growth since 2023, where the industry sections contributing most to regional growth are "Financial and insurance activities", "Real estate activities" and "Information and communication". The North West has seen the second largest cumulative nominal growth since 2023, where the industry sections contributing most to regional growth are "Real estate activities" and "Human health and social work activities". Yorkshire and The Humber, followed by Wales, were the regions with the smallest cumulative nominal growth since 2023.

These indicative estimates will be revised as data quality improvements and methods changes are implemented, and routine updates and revisions to data sources are made. For this reason, we advise caution when using the data.

Figure 1: Indicative seasonally adjusted current price quarterly regional GDP estimates for England and Wales

By country and International Territorial Level (ITL) 1, Quarter 1 (Jan to Mar) 2012 to Quarter 3 (July to Sept) 2025

Notes:

1. The indexed series is shown because it is the most appropriate measure to compare long term trends across regions at seasonally adjusted current prices.

2. This chart shows the quarterly index to one decimal place. There may be instances where a region is showing no change to one decimal place. However, there may be movements in the underlying data.

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Revisions

Revisions are an inevitable consequence of balancing the timeliness and accuracy of economic statistics. As additional data, updated source information, and methodological improvements become available, estimates are revised to provide the best possible measure of regional economic activity. Revisions should therefore be regarded as a normal and positive feature of the statistical process when they are clearly documented and communicated.

Revisions may arise from updates to data sources, including ARA and QNA. While revisions to regional input data are generally small, larger revisions can occur when new ARA regional proportions become available or when changes are introduced within QNA.

Our proposed revisions policy for quarterly regional GDP follows the National Accounts Revisions Policy. We intend to only revise the whole time series once a year, following the introduction of a new Blue Book-consistent QNA. This will incorporate revisions from:

- constraining to the latest Blue Book-consistent QNA estimates
- benchmarking to the latest ARA regional proportions
- updates to our seasonal adjustment parameters resulting from our annual seasonal adjustment review

Other quarterly updates will generally only revise recent periods that have also been revised within the QNA, in line with the National Accounts revisions policy.

The proposed revisions policy reduces the challenges associated with benchmarking and constraining quarterly regional GDP estimates to ARA and QNA that are produced on different timetables. It also aims to incorporate the latest regional and national data while minimising the frequency and scale of revisions. The timing of future ARA releases will influence the frequency and extent of revisions to the whole time series; we will continue to monitor the timing of future ARA releases and how this will affect our proposed revisions policy.

The magnitude of future revisions will mainly depend on new ARA estimates, which can revise the proportions and new QNA estimates that become available and can therefore revise the regional totals. As new or improved data become available, the tail of our estimates are more likely to experience a higher level of revisions. We will continue to monitor and publish information on the scale of revisions as the series develops.

5 . Future developments

The methodological developments described in this article represent the first stage of our programme to reinstate quarterly regional gross domestic product (GDP) estimates. Future updates will focus on developing methods for deflation and chain-linking to enable the production of seasonally adjusted chain volume measure (CVM) estimates, allowing users to assess changes in economic activity after accounting for inflation.

Alongside this, we will continue further work to:

- improve data quality, particularly for Value Added Tax (VAT) and other regional data sources
- refine the methods used to benchmark, constrain and seasonally adjust the estimates

Ongoing systems development will also support the regular production and quality assurance of quarterly regional GDP estimates.

We will publish progress updates twice a year to outline methodological developments and provide indicative estimates until regular quarterly publication is reinstated. These updates will incorporate the latest available source data and will help users understand the impact of ongoing improvements on the estimates.

Feedback will help inform ongoing development work and ensure the estimates continue to meet user needs. To provide feedback on the methods, data and outputs presented in these updates, email regionalGDP@ons.gov.uk.

6 . Definitions

Benchmarking

The statistical process of aligning the sum of higher frequency series to equal that of a lower frequency series, while retaining the movements in the higher frequency data.

Constraining

A statistical process that forces data to be equal with other related data, for example, ensuring all regions add up to a published UK total.

Current prices

Describes time series that include the effects of inflation.

Chain volume measure

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

GDP

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

Gross value added

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

Industry sections

The top-level industries of the UK Standard Industrial Classification 2007 (SIC 2007).

International Territorial Level 1 regions

The International Territorial Levels (ITL) are part of the UK geographies classification system. ITL1 level is used in this release, which measures activity at the broad regions of the UK, for example, North East or North West.

This has superseded the Nomenclature of Units for Territorial Statistics (NUTS) classification system.

Output

The value of goods and services, together with work-in-progress produced.

Regional indicator

A variable at the relevant regional level (in this case, ITL1) that is used to assign proportions of national data to the regional level.

Seasonal adjustment

The process of removing the variations associated with the time of year, or the arrangement of the calendar, from a data time series.

7 . Data on quarterly regional GDP

Quarterly regional GDP, England and Wales
Dataset | Released 31 July 2026
Estimates of quarterly economic activity within England and Wales International Territorial Levels 1 (ITL1) regions (including extra-regio).

Quarterly regional GDP, England and Wales: data sources catalogue
Dataset | Released 31 July 2026
A breakdown of the data sources used to measure quarterly regional gross domestic product (GDP).

GDP - data tables
Dataset | Released 30 June 2026
Annual and quarterly data for UK gross domestic product (GDP) estimates, in chained volume measures and current market prices.

Regional gross value added (balanced) by industry: all ITL regions
Dataset | Released 17 April 2025
Annual estimates of balanced UK regional gross value added (GVA(B)). Current price estimates, chained volume measures and implied deflators for UK countries, ITL1, ITL2 and ITL3 regions, with a detailed industry breakdown.

8 . Related links

GDP quarterly national accounts, UK
Bulletin | Released 30 June 2026
Revised quarterly estimate of gross domestic product (GDP) for the UK. Uses additional data to provide a more precise indication of economic growth than the first estimate.

Regional economic activity by GDP, UK
Bulletin | Released 17 April 2025
Annual estimates of economic activity by UK country, region and local area using gross domestic product (GDP).

9 . Cite this page

Office for National Statistics (ONS), released 31 July 2026, ONS website, supporting methodology article, Update on reinstating quarterly regional GDP estimates for England and Wales: July 2026