Office for National Statistics

Article

Disaggregating UK annual subnational gross value added to lower levels of geography: 1998 to 2021

Breaking down local authority level annual gross value added (GVA) statistics to lower levels of geography. Official statistics in development.

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To be announced

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1 . Main points

- This iteration of gross value added (GVA) official statistics in development has produced granular data for Lower-layer Super Output Area (LSOA), Data Zone (DZ) and Super Output Area (SOA) levels, which we call the building blocks.
- Our UK small area GVA estimates dataset (known as the building blocks dataset) can be aggregated to build larger geographical areas for comparable analysis.
- This iteration has published data tables for new geographical areas: wards, clinical commissioning groups, and new bespoke areas.
- The statistics are based on 2011 Census geography codes because not all input datasets have yet been updated to Census 2021 geography codes.
- The London travel to work area (TTWA) had the highest productivity (GVA per job filled) in 2021, at 42% above the UK average, while the Whitby TTWA had the lowest productivity, at 42% below the UK average.

These are official statistics in development. We advise caution when using the data as the methods are currently under review. We do not recommend comparing the building blocks (LSOA, DZ and SOA) data with each other at the individual level. Read more in Section 5: Data sources and quality.

2 . Overview of measuring gross value added

Gross value added (GVA) is a standard measure of the economic activity taking place in an area. It reflects the value of goods and services produced, less the cost of any inputs used up in that production process.

GVA comprises the majority of gross domestic product (GDP). Adjusting GVA for direct and indirect taxes gives the value of GDP.

UK GVA is measured by the UK National Accounts and is published each year in the annual Blue Book. The GVA is then broken down to individual countries, regions, and local authority districts.

These statistics in development continue the disaggregation of GVA figures to the smallest geographic areas possible, so they can be used as "building blocks" to build any geographical area of interest across the UK for analysis. The small area GVA data are also available on the NOMIS website.

3 . Using the data

We publish the gross value added (GVA) statistics building blocks together with the lookup tables for different geographic areas. The lookup tables (Table 17) can be used to build bespoke geographies for analysis.

To create these bespoke geographies, first map the area you want to analyse. The geography portals for England and Wales, Scotland and Northern Ireland provide useful information for mapping.

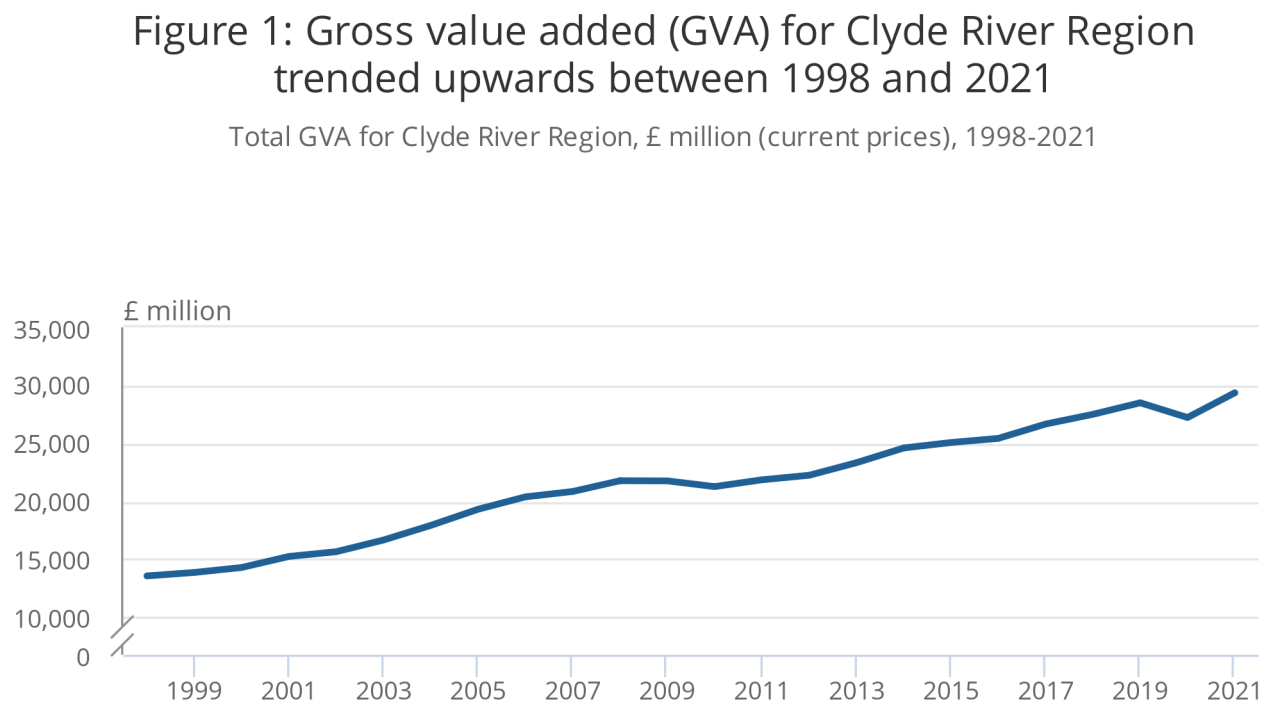
Next, use the lookup tables to select and list the building blocks (Lower-layer Super Output Area (LSOA), Data Zone (DZ), and Super Output Area (SOA)) that fall within the map boundary. More information on aggregation techniques is available in Section 8 of our Disaggregating annual subnational GVA to lower levels of geography: 1998 to 2019 methodology article.

Finally, extract the data series for the listed building blocks and sum up the building blocks data by year to generate annual series for analysis.

Using an example of creating GVA for the Clyde River Region, we sum up GVA for all 762 Data Zones (building blocks) that are located within a mile radius of the River Clyde. We aggregate the GVA data by year to produce the series illustrated in Figure 1.

Figure 1: Gross value added (GVA) for Clyde River Region trended upwards between 1998 and 2021

Total GVA for Clyde River Region, £ million (current prices), 1998-2021



Source: UK small area gross value added from the Office for National Statistics

We also produce gross value added per job filled for travel to work areas (TTWA) for analysis. The definition of TTWA and how the output per job filled is calculated are described in our Disaggregating UK annual subnational gross value added (GVA) to lower levels of geography article, published in January 2023.

We aggregate the building blocks GVA per job filled for each TTWA to produce Figure 2, which compares TTWA GVA per job filled with the UK average.

Figure 2: London Travel to Work Area (TTWA) had the highest gross value added (GVA) per job filled in 2021

GVA per job filled for TTWA, UK, 2009 to 2021

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Our latest Subregional productivity: labour productivity indices by city region dataset shows the smoothed UK average productivity amounted to £58,327.59 in 2021. Comparing with this average, we find that London TTWA had the highest GVA per job filled in 2021, at 42% above the UK average.This was followed by Newbury (38%) and Reading (35%). The lowest levels of productivity are typically found in rural or coastal areas, with Brecon, Bideford and Whitby TTWA having the lowest labour productivity at 47%, 43%, and 42% below the UK average,respectively.

4 . Gross value added data

UK small area GVA statistics
Dataset | Released 31 January 2024
Breaking down gross value added (GVA) to lower-level geographies (building blocks) to improve granularity, which allows the construction of bespoke geographical areas.

UK GVA and productivity statistics for other geographical areas
Dataset | Released 31 January 2024
Estimated gross value added (GVA) for non-census geographical areas, 1998 to 2021.
Gross value added GVA estimates for travel to work areas, towns and cities, health board areas, parliamentary and devolved administrations' constituencies, and highlands and islands area offices.
Productivity estimates are for travel to work areas (TTWA) and towns and cities.

5 . Data sources and quality

The current statistics are based on 2011 Census geography codes. We have not updated to Census 2021 geography codes because some input datasets, such as the Business Register and Employment Survey (BRES) employment data, still reflect the 2011 Census geography codes. We will update to Census 2021 codes ahead of the next release later this year.

Since we released our Disaggregating UK annual subnational gross value added (GVA) to lower levels of geography: 1998 to 2020 article, published on 24 January 2023, we have improved the apportionment of imputed rent by using dwelling stock data. We have also incorporated the Ministry of Defence's (MOD's) UK home armed forces at lower levels of geography.

The balanced local authority gross value added dataset covers the whole period from 1998 to 2021. The main apportioning dataset covers the period 2012 to 2021 (His Majesty's Revenue and Customs (HMRC's) Value Added Tax (VAT) turnover dataset). Because of gaps in the apportioning datasets and the resulting imputations, the statistics for the period 1998 to 2012 should be treated with caution.

We perform quality checks, outlier detection and treatment, and statistical disclosure testing and treatment on the gross value added (GVA) statistics to produce smooth and non-disclosive series at Lower-layer Super Output Area (LSOA), Data Zone (DZ) and Super Output Area (SOA) levels.

We discourage comparisons between data at the most granular (building block) level. This is because at lowest levels, the data are more volatile than for larger aggregated geographies. We advise users to use these building blocks data to construct larger geographies for analysis and comparisons. Our methodology constrains the LSOA, DZ and SOA data to both Middle-layer Super Output Area (MSOA) and local authority GVA totals.

Because of methodological improvements, we advise against comparing the data in our previous release with this one. The data time series published this year should instead be used for analysis.

Value Added Tax turnover data

The Value Added Tax (VAT) turnover dataset is the main basis for apportioning local authority GVA. Revisions and annual updates of the VAT turnover data impact both the local authority and small area GVA statistics. Revisions are applied to the whole time series, which may cause discrepancies when comparing with previous publications.

Managing the perceived risk of statistical disclosure

Granular GVA data at lower levels of geography have a perceived risk of statistical disclosure that arises because of the differences in the distribution of economic activities in small geographical areas, and the economic dominance of some industries or enterprises in local areas. The Office for National Statistics (ONS) complies with regulations governing statistical disclosure of data in line with the statistical disclosure control strategy.

We assess and treat the data for the perceived risk by averaging the GVA of disclosive building blocks in the same Middle-layer Super Output Area (MSOA), Intermediate Zone, or District Electoral Area. Less than 1% of all LSOA, DZ and SOA data between 1998 and 2021 were treated for perceived risk of disclosure.

6 . Future developments

We continue to develop our subnational statistics. We have started working on disaggregating local authority-level gross disposable household income (GDHI) to Lower-layer Super Output Area (LSOA), Data Zone (DZ) and Super Output Area (SOA) levels. Statistics in development will be published in spring 2024.

Next, we will explore developing household final consumption expenditure (HHFCE) estimates at subnational levels. These were last published at International Territorial Level 2 (ITL2) in 2020. We will explore methods for updating this publication and the feasibility of producing these estimates at more detailed or granular levels.

We continue to update and add more indicators to our Subnational indicators explorer with each quarterly iteration. We are continuing the journey towards the creation of an Explore Subnational Statistics service, to improve the way users find and visualise local data on our website.

We encourage feedback from users on whether these statistics meet their needs. You can contact us at subnational@ons.gov.uk.

7 . Related links

Regional gross value added (balanced) by industry: local authorities by ITL1 region
Dataset | Released 25 April 2023
Annual estimates of balanced UK regional gross value added (GVA(B)). Current price estimates for local authority districts, London boroughs, unitary authorities, and Scottish Council areas, with a detailed industry breakdown.

Subnational indicators explorer tool
Interactive tool | Released 20 December 2023
Compare a local authority and the UK average (median) local authority by different indicators. You can also add and compare up to three additional local authorities.

Employees in the UK: provisional results 2022
Bulletin | Released 25 October 2023
Number of employees in the UK, full-time and part-time, by sector, industry, country and English region, from the Business Register and Employment Survey (BRES).

Open Geography Portal: Census Lookups
Portal | Last updated March 2023
The Office for National Statistics (ONS) Open Geography Portal provides free access to our definitive source of geographic products, web applications, story maps, services, and APIs. All content is available under the Open Government Licence version 3.0, unless stated otherwise.

UK small area gross value added estimates
Dataset | Released 31 January 2024
NOMIS hosts official census and labour market statistics.

8 . Cite this article

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