what works centre for
local economic growth

# ‘How to’ guide Understanding local economic performance: GVA, productivity, and income

## Introduction

GVA, productivity, and income are all ways of measuring local economic performance. This briefing will help local policymakers understand how to think about the GVA, productivity, and income performance of their local area and develop appropriate policies.

This briefing is part of a series that provides guidance to help policymakers think about local economic performance. It overviews key economic concepts and provides guidance on data and analysis.

# Contents

# GVA, productivity, and income

## What is GVA?

The amount of goods and services produced in an economy is referred to as an economy's 'output'. Gross Value Added (GVA) is a way of measuring this output.

GVA is defined as the value of the goods and services produced minus the value of the intermediate inputs that were used to produce those goods and services. It can be calculated for businesses, sectors, local, and national economies. Using a simple example, the added value of a bakery is the value of the bread, biscuits, and cakes it sells minus the cost of the ingredients (flour, butter, sugar, etc.) and equipment (mixers, ovens, etc.) it uses to produce these.

Subtracting the value of intermediate inputs avoids double-counting and provides the value of output that can be shared out between workers and owners. In the context of local growth, it also helps ensure economic output is allocated across all local areas that contribute, not just the area that produces the end product.

At the local level, GVA is determined by the number of workers and productivity per worker.

Local GVA = Number of workers x Productivity per worker

**The number of workers** – Only people in employment (either as an employee or working for themselves) contribute to the production of goods and services that are included in GVA.[1] The number of workers partly depends on the number of people living in an area and how many of them work (the employment rate). The employment rate will depend on:

- Population structure. For example, older people are less likely to work than younger people. This means less workers in areas with a large proportion of retirees, such as Cornwall or Cumbria.
- Demand for labour. If demand is weak, people who wish to work may not find a job, meaning the employment rates and the number of workers is lower than would otherwise be the case.
- How attractive employment is compared to other options. For example, if childcare costs are high, this may discourage parents from working.

The number of workers also depends on commuting. GVA is the output of workplaces within a local area. It includes the output of local residents who also work within the local area and the output of workers who commute into the area from elsewhere. The output of residents that work outside the area is not included. More information on number of workers is available in our guide to understanding skills performance.

**Productivity per worker** – The higher the value of the goods and services produced by the average worker in an area, the higher the GVA. Productivity is discussed in more detail below.

## What is productivity?

Productivity measures how efficiently inputs are converted into outputs. For example, when buying a car, an important consideration for most consumers is the productivity of the engine measured, for example, by 'miles per gallon', the ratio between output (miles) and input (gallons of fuel).

1 Goods and services can also be produced in home – for example, a parent or other relative undertaking childcare or preparing food (referred to as 'household production'). These are not included in GVA, which only includes market production.

When measuring economic productivity, the outputs are the goods and services produced (normally measured using GVA) and the inputs are the 'factors of production' – the human capital (labour and skills), physical capital (such as buildings and machines), and intangible capital (such as design, branding, research and development (R&D), and software) used to produce these goods and services. As high-value tradeable service sectors have become more important to the UK economy, skills and intangibles have become more significant drivers of productivity.

Anything that increases the amount of capital per worker (human, physical or intangible capital) will increase output per worker. Organisational change and innovation can improve the efficiency with which all inputs are used and increase overall productivity (of all inputs). Examples include:

- Upskilling workers.
- Increasing the amount of machinery or technology available to each worker.
- Purchasing new, more efficient machinery or technology.
- Improving the motivation of managers and workers.
- Improving how work is organised.
- Developing new higher-value goods and services that can be produced using existing inputs.

Productivity can also be increased through increases in public capital as a result of public investment, for example, into transport infrastructure or R&D.

## What is income?

Income is the money received by an individual or household in a given period of time (for example, a week, month or year) including wages, income from self-employment, investment income, pensions, and benefits.

Some elements of income reflect the performance of the local economy such as wages of local residents employed in the area and profits accruing to owners of local businesses. Other elements of income are less strongly linked to the local economy. For example, local residents may work or own businesses outside of the local area or may draw income from other assets. National policy decisions such as state pension, benefit, and national living wage rates also affect income levels.

As wages, which depend on local productivity, are only one component of income and benefits and the national living wage are set nationally, there is generally less variation in incomes between areas than in GVA and productivity.

## Why is productivity important for local economic performance?

Higher productivity tends to mean higher wages. All else equal, if for every hour worked a worker produces goods or services worth £100, their employer can pay them more than if what they produce is worth £20. However, the relationship between productivity and wages is complicated by the fact that money from selling outputs has to be shared across all inputs. If the worker producing higher output per hour is using more technology or machinery or is producing a good that required extensive R&D to develop, then money must also go to those inputs leaving less money for wages.

As wages are an important source of income, higher productivity also tends to mean higher incomes. The link between incomes and productivity at the local level is complicated by the fact that some workers commute across areas (so their income depends on the productivity where they work) and owners of other inputs (for example, owners of commercial buildings rented by local businesses) may live in areas different to where the input is used.

Productivity is key for growth and long-term prosperity. Higher productivity means more output is produced for a given set of inputs and it encourages people to invest in skills, helps businesses win business, and supports investment in capital and innovation. These feedback loops help explain why some areas grow while others do not. In a market economy, competition between businesses is an important way in which inputs get put to more productive use. If there are two businesses producing the same good, but one can produce it with less inputs (for example, it takes two hours of staff time to produce rather than three), then this business will be able to make more profit, while charging less for the good than the other business, and consumers will switch to the lower cost supplier. Ultimately, this can lead to the less productive business going out of business or having to downsize, with the loss of jobs. At an economy level, having productive businesses helps ensure existing jobs are sustained and new jobs are created.

### Questions to understand local GVA, productivity, and income performance

Start by establishing the questions to be answered. Throughout the briefing, key questions are set out at the end of introduction to each section.

## Analysing data

Data analysis should reflect the questions to be answered, rather than being undertaken for its own sake. When selecting from multiple datasets and measures, consider which most closely aligns with the question. Also consider available geographies, frequency (one-off, biennial, annual, quarterly, monthly), and timeliness (i.e. the lag between collection and publication).

Most economic data relates to either:

- **Stocks** – which measure the quantity that exists at a specific point in time. Examples include the amount of labour, skills, machinery or infrastructure available in a local economy, or the overall size of the local economy.
- **Flows** – which measure changes over time. Examples include investment, or numbers gaining qualifications in a specific topic.

Data can be analysed in multiple ways, with a clearly defined research question setting the parameters (for example, by indicating that a comparison across areas or time is required).

Most analysis starts by looking at the **current position**. It is possible to look at the current position for both stocks and flows.

**Comparison across areas** allows benchmarking. It is important to select comparison areas carefully to ensure benchmarking is useful.

**Comparison over time** looks at how things are changing. It is good practice to pick a neutral time period (such as five or 10 years) but in some cases analysis will look at performance since a notable event (such as recession or election). It is possible to compare over time for both stocks and flows.

**Analysing breakdowns** can provide additional insights. For example, comparing different geographic areas or different groups within a population.

**Combining data** can provide additional insights. For example, combining data on productivity and income helps illustrate whether local people are benefiting from high productivity.

This briefing provides **examples** and is not intended to be exhaustive. Only publicly available datasets are suggested. For some questions, commercially provided datasets may be available and provide useful insights. Not all questions will be answerable using existing (secondary) data. In these cases, and where resources allow, primary data collection (for example, a survey of local employers) may be required.

## Geography

This briefing uses five local authorities in the South West of England as an illustration.

- Bath and North East Somerset, Bristol, and South Gloucestershire are the local authorities within the West of England Combined Authority (WECA) area. Bristol is the largest city in the South West.
- Swindon is a city between London and Bristol on M4 corridor, with a diverse business base.
- Wiltshire is a large rural area.

These areas have been selected to illustrate the differences in GVA, productivity, and income between different types of area and sectoral mix.

Comparing performance against other geographies can provide additional insights. The main options are to benchmark against higher-level geographies or against other similar areas. For this guide, England and the South West have been selected as higher level geographies. London has also been included as a comparator, as it is the UK's best performing region.

## Overall position

### GVA

As outlined earlier, GVA is the value of the goods and services produced minus the value of the intermediate inputs that were used to produce those goods and services. It is a measure of the output of a local economy.

Whilst it can be interesting to know the GVA of a local economy, it is not particularly helpful for local policymaking. It is generally more useful to think about GVA per capita, as this matters more for incomes and allows comparisons to be made between areas of different sizes.[2]

An alternative measure of output – gross domestic product (GDP) – is also available. GDP is GVA plus taxes minus subsidies. GVA is preferable to GDP at the local level as it allows comparison to businesses and sectors.

#### Key questions

- How does the output of the local economy compare to other areas?
- How is output changing over time?

2 For information purposes, a chart showing GVA for the selected geographies is given in the Annex.

## How does the output of the local economy compare to other areas?

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| What to look for? | • What is the output of the local economy?<br>• How does the output of the local economy compare to other areas? |
| What might affect performance? | • Output depends on the number of workers and productivity.<br>• The number of workers is affected by population structure, demand for labour, the attractiveness of employment compared to other options, and commuting patterns.<br>• Productivity is affected by the amount of capital (human, tangible, and intangible) available and how these are organised. |
| Other things to be aware of | • Data at sub-national level is subject to a large time lag. For example, GVA data for 2023 was initially published in April 2025.<br>• Use caution when using the most recent data as it is subject to revision as more data becomes available.<br>• Always ensure you are using the most recent version of data. ONS calculates GVA based on combination of administrative and survey data, aligned with internationally agreed standards. However, as the economy is complex, occasional errors can occur, with ONS revising data as these are identified.<br>• GVA can be calculated using two approaches – income and production, referred to as GVA(I) and GVA(P) respectively. As both approaches have disadvantages, ONS combines them to generate a single estimate – GVA (balanced) or GVA(B). This is calculated as a weighted average of GVA(I) and GVA(P), with the weighting based on the quality of data of different components of GVA(I) and GVA(P). Currently, ONS only publishes GVA(B) at the local level. Should this change (or if looking at previous data), GVA(B) is generally the preferred option. When using national comparators, use data from within same dataset or check it is GVA(B).<br>• GVA per capita is often mistaken for a measure of productivity. It measures output. Measures of productivity are discussed later. |
| Suggested dataset | • Regional gross domestic product (ONS)<br>• Separate spreadsheets are available for different geographies (all ITL geographies, local authorities, city and enterprise regions).[3] Data for UK, England, Scotland, Wales, Northern Ireland, and English regions is available in ITL geographies spreadsheet. |

3 ITLs are International Territorial Levels, a statistical geography defined by the Office for National Statistics. Across the UK, there are 12 ITL 1 geographies (Scotland, Wales, Northern Ireland and 9 English regions), 46 ITL 2 geographies, and 182 ITL 3 geographies. They are intended to be stable set of geographies and will only be amended periodically. More information on ITL geographies is available here.

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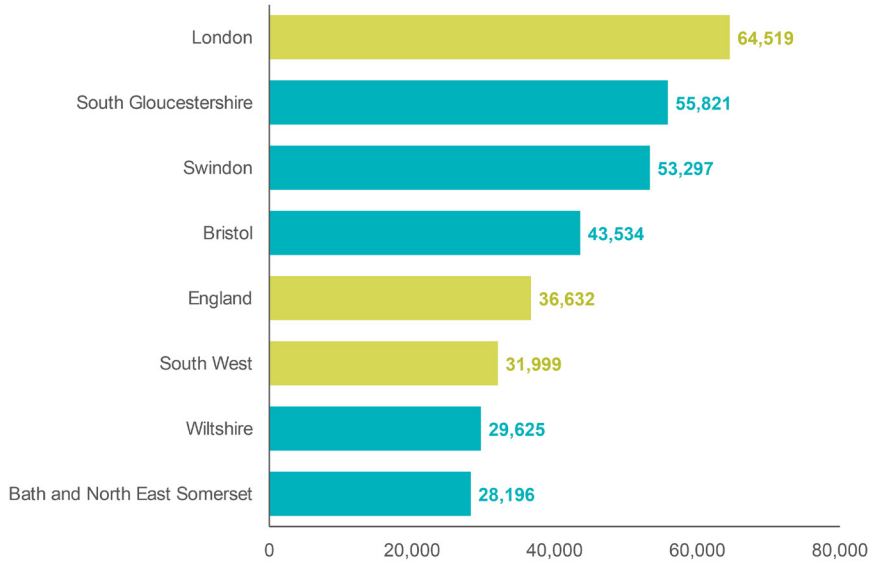
| Suggested measure | • GVA per capita (£).<br>• GVA per capita can be calculated by dividing 'Gross value added (balanced) at current basic prices, £ millions' by 'Total resident population' (both within dataset). |
| How good a match to the question is the available data? | • GVA is main measure of output (value of goods and services minus intermediate inputs).<br>• GVA is preferable to GDP (contained in same dataset) as it excludes the effect of taxes and subsidies and is comparable to sectoral and business-level data.<br>• GVA per capita is used for comparison rather than GVA, as GVA reflects population size, and UK administrative geographies vary in size. For example, the largest local authority, Birmingham, has a population of over 1.1 million, whilst the smallest mainland local authority (excluding City of London Corporation) is Rutland, with population of around 40,000. |
| What other questions can this dataset help answer? | • How is output changing over time? |

Figure 1: **GVA per capita (£, current prices), selected geographies, 2023**




Source: Regional gross domestic product (ONS)

GVA per capita for the South West local authorities ranges from £28,196 in Bath and North East Somerset to £55,821 in South Gloucestershire. All have a lower GVA per capita than London.

Generally, the urban areas (Bristol and Swindon) have higher levels of GVA per capita than rural areas (Wiltshire). South Gloucestershire's strong performance reflects its sectoral composition.

## Policy implications

- GVA per capita provides a headline indicator of local economic performance.
- Where GVA per capita is low, further analysis is needed into the reasons for this and potential policy responses. Start by looking at the number of workers and productivity rates.
- Low GVA per capita is not always a concern in need of policy intervention. For example, output is low in residential neighbourhoods because people commute to other areas for work.

**How is output changing over time?**

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| What to look for? | • How is output changing over time? |
| What might affect performance? | • Changes in number of workers, productivity or both.<br>• Changes in output will normally be a combination of changes in the quantity and value of goods and services produced. Areas with a larger proportion of businesses in high-growth sectors are more likely to experience GVA per capita growth. |
| Other things to be aware of | • GVA data is published in current prices – i.e. 2023 output is published in 2023 prices, 2022 output is published in 2022 prices, etc. Inflation can lead to output appearing to increase, even if output stayed stable or decreased. To allow users to adjust for inflation, ONS publishes deflators in the same dataset. There is a separate deflator for each local area and the deflators are updated with each annual release. It is important to apply the correct deflator.<br>• Use caution when using the most recent data as it is subject to revision. This can be a particular issue when looking at change over time. It can be useful to look at change over multiple time periods. Avoid drawing strong conclusions from change over a single time period. |
| Suggested dataset | • Regional gross domestic product (ONS)<br>• Separate spreadsheets are available for different geographies (all ITL geographies, local authorities, city and enterprise regions). Data for UK, England, Scotland, Wales, Northern Ireland, and English regions is available in ITL geographies spreadsheet. |
| Suggested measure | • GVA per capita (£, constant prices).<br>• Calculated by adjusting 'Gross value added (balanced) at current basic prices, £ millions' by 'Whole economy GDP implied deflator' and divided by 'Total resident population' (all within dataset). |

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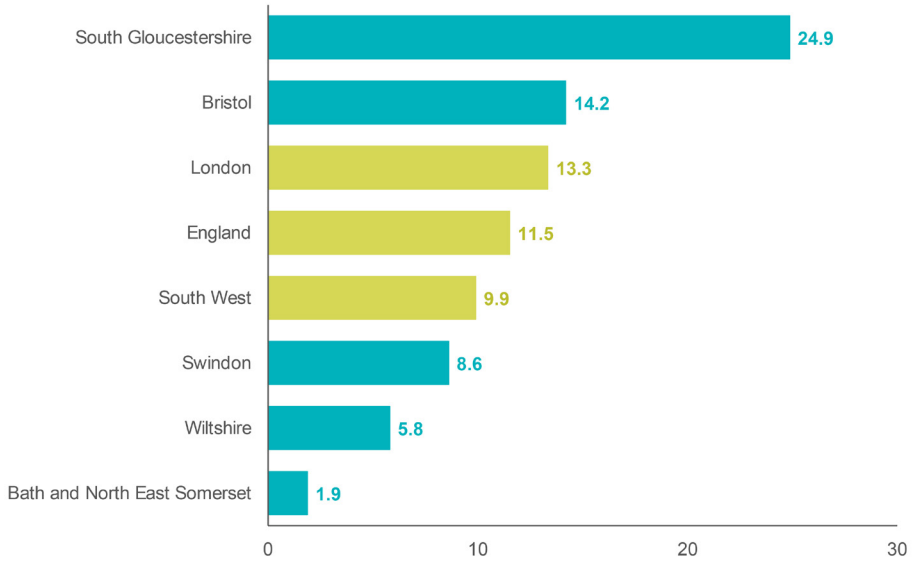
| How good a match to the question is the available data? | • See earlier assessment of GVA per capita.<br>• It is possible to analyse change over time for either GVA or GVA per capita. Using GVA per capita means changes in population size are stripped out. |
| What other questions can this dataset help answer? | • What is the output of the local economy?<br>• How does the output of the local economy compare to other areas? |

Figure 2: **% change in GVA per capita (2022 prices), selected geographies, 2013 to 2023**




South Gloucestershire and Bristol have experienced the largest growth in GVA per capital over the last 10 years, with higher growth than England as a whole and London.

The analysis uses constant (2022) prices. If current prices had been used instead, the increases would have been in the range of 50 to 80 percent due to inflation.

Source: Regional gross domestic product (ONS)

## Policy implications

- Policy implications will depend on whether GVA growth is high or low, and what is underpinning performance.
- Avoid making policy decisions based on change over a single time period. Longer term trends and looking at changes alongside the current position can provide a fuller picture for policymaking.

## Additional topics to explore

Other analysis that may be useful to undertake includes:

- Considering alternative comparator areas.
- Analysing GVA for other geographies (such as travel to work areas or parliamentary constituencies) or custom geographies using UK small area GVA estimates from ONS and Nomis.[4]

4 ONS recommends that the small area GVA building blocks (lower layer super output areas, data zones, and super output areas) are not directly compared. They have been published to enable users the flexibility to build their own geographies for analysis.

- Looking at change over different time periods, for example, comparing each five-year period over the last 20 years.
- Analysing GVA by sector (see later section).

## Productivity

As outlined earlier, productivity measures how efficiently inputs are converted into outputs. For local economies, the outputs are the goods and services produced locally (i.e. GVA) and the inputs are the factors of production employed locally (i.e. human, physical, and intangible capital). Anything that increases the amount of capital per worker will tend to increase output per worker. Organisational change and innovation can improve the efficiency with which all inputs are used and increase overall productivity. Public capital – such as transport or digital infrastructure – is another form of tangible capital, supporting productivity across the economy.

Different measures of productivity are available – but the only measures available at the local level relate to labour productivity – i.e. the amount of output produced per worker or per hour worked.[5] These are easy to understand and calculate as data is available but they only provide a partial picture as the value produced by other inputs is included in output but not accounted for in the measure of inputs (which only counts workers or hours worked).

Output and productivity are hard to value in the public sector. This will be a more important factor in local areas with high public sector employment.

### Key questions

- How does the productivity of the local economy compare to other areas?
- How is productivity changing over time?

5 For example, ONS publishes annual and quarterly data on multi-factor productivity at the UK level.

## How does the productivity of the local economy compare to other areas?

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| What to look for? | • How productive is the local economy?<br>• How does the productivity of the local economy compare to other areas? |
| What might affect performance? | • Labour productivity is affected by the amount of capital used by workers. Areas with more capital should have higher productivity. This could be:<br>  • Human capital (skills).<br>  • Tangible capital (e.g. buildings and machinery).<br>  • Intangible capital (e.g. software, design, branding, R&D).<br>• How capital is organised is also important.<br>  • At the business-level, management and leadership skills and innovation can increase productivity.<br>  • At the area-level, there can be agglomeration benefits from the location of businesses and other resources near to each other. |
| Other things to be aware of | • ONS publishes both 'unsmoothed' or 'smoothed' (i.e. averaged over time) data. Smoothed data is provided as it is possible that year-to-year changes are volatile due to sampling and non-sampling errors. This can be particularly an issue for smaller geographic areas.<br>• As the most recent data is for 2023, the smoothed data includes the Covid-19 period, where both GVA and labour inputs experienced large changes.<br>• Only smoothed data is available for local authorities. Many ITL 3 geographies are the same as local authorities, meaning unsmoothed data can often be accessed for local authorities from the ITL dataset. Where this is not the case, the alternative options are to either use the nearest ITL 3 region or to use the smoothed data. In the below example, the former has been chosen, with the 'Bath and North East Somerset' and 'South Gloucestershire' local authorities being replaced by the ITL 3 geography 'Bath and North East Somerset and South Gloucestershire' that includes both local authorities.[6] |
| Suggested dataset | • Regional and sub-regional productivity (ONS).<br>• Separate spreadsheets are available for different geographies (ITL 2 and ITL 3 geographies, combined authorities and economic enterprise regions, and local authority districts). Data for UK, England, Scotland, Wales, Northern Ireland, and English regions is available in ITL geographies spreadsheet. |

6 See footnote 3 for more information on ITLs.

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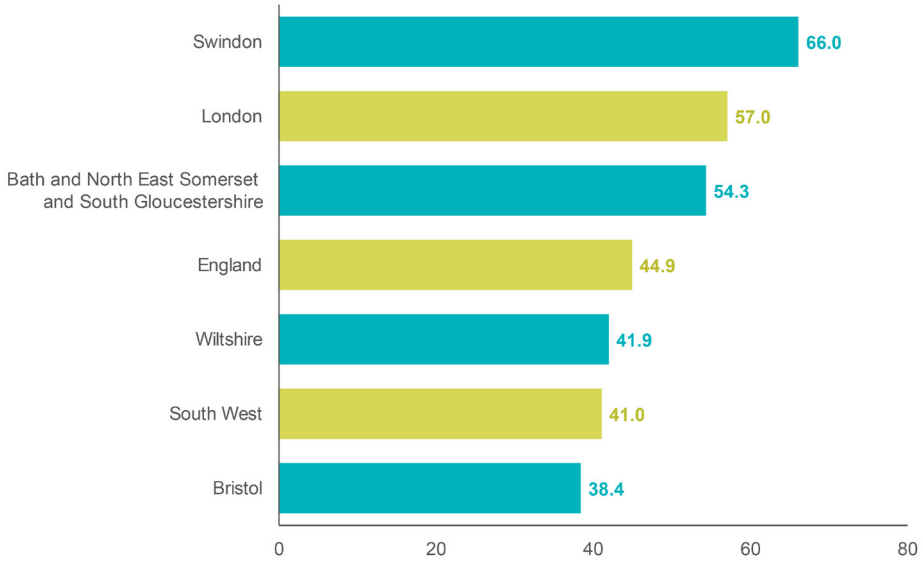
| Suggested measure | • Two options:<br>  • GVA per hour worked ('Current Price (unsmoothed) GVA (B) per hour worked (£)').<br>  • GVA per filled job ('Current price (unsmoothed) GVA (B) per filled job (£)').<br>• Both measures are useful, and many analyses will present both. GVA per hour worked provides a finer measure of labour productivity than GVA per filled job, as the latter is also affected by the number of hours worked. The number of hours worked varies across sectors and population characteristics, and these also vary across areas. They also fluctuate across the economic cycle. For example, during the Covid-19 pandemic, the number of hours worked dropped more dramatically than the number of filled jobs. However, as a finer measure and because of the methodology used to calculate local productivity, it is more subject to 'noise' than GVA per filled job. GVA per filled job is less volatile than GVA per hour worked. |
| How good a match to the question is the available data? | • Both GVA per hour and GVA per filled job are measures of labour productivity – i.e. they measure output per unit of labour input (hour worked or filled job). Ideally, it would be good to have a measure that included all inputs but this is not available at the local level.<br>• ONS has noted that because of issues with declining sample sizes, data from the 2023 Annual Population Survey (APS) were of reduced quality compared with previous years. Whilst the APS is not the main input to the labour market inputs it does form part of the calculation and is likely to have contributed to higher volatility than usual. They also flag that the data will be revised once APS has been re-weighted to match the 2021 Census population.<br>• Centre for Cities has recently raised concerns that changes in how individuals are responding to the LFS questions on self-employment has also impacted on the labour input component of productivity estimates. They suggest exercising caution in using the most recent productivity data until the issue becomes clearer. |
| What other questions can this dataset help answer? | • How is productivity changing over time? |

## Figure 3: **GVA per hour worked (£, current prices, unsmoothed), selected geographies, 2023**



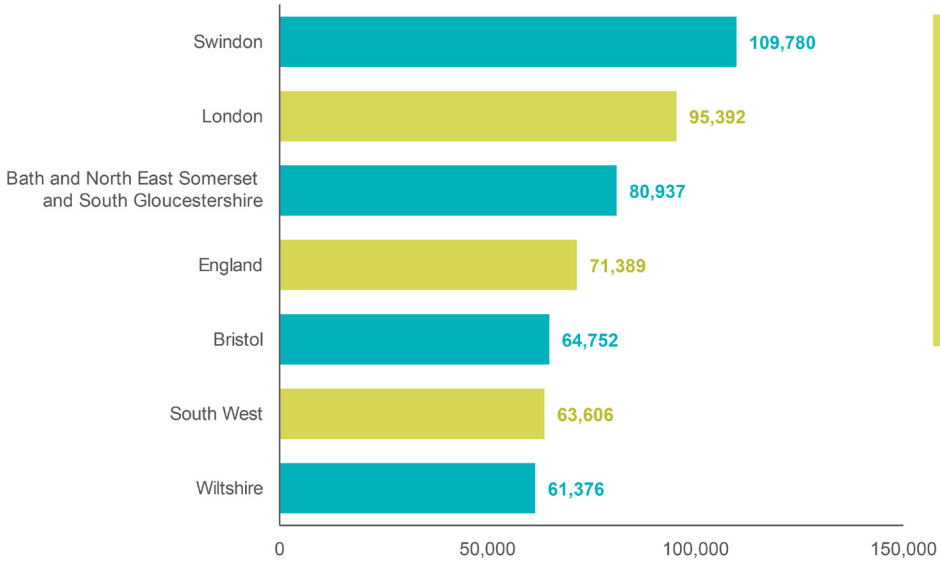

Source: Regional and sub-regional productivity (ONS).

Notes: Bath and North East Somerset and South Gloucestershire local authorities are not available, so ITL 3 geography 'Bath and North East Somerset and South Gloucestershire' that covers both is used instead

Bristol has the lowest GVA per hour worked at £38.40. This is surprising as cities tend to have higher productivity levels.

It is also in contrast to the GVA per capita, where Bristol was one of the better performing areas. This suggests high levels of in-commuting into Bristol (as is common across many cities). The in-commuters contribute to Bristol's GVA and are included in hours worked but are not included in the population figures.

## Figure 4: **GVA per job filled (£, current prices, unsmoothed), selected geographies, 2023**




Source: Regional and sub-regional productivity (ONS).

Notes: Bath and North East Somerset and South Gloucestershire local authorities are not available, so ITL 3 geography 'Bath and North East Somerset and South Gloucestershire' that covers both is used instead.

Swindon has the highest GVA per job filled, with each worker producing goods and services worth almost £110,000. This is the amount available to share between workers, other factors of production, and owners.

## Policy implications

- Areas benefit from high productivity. Policymakers should explore what underpins their productivity performance. For example, if the cause is low levels of innovation, understanding the reasons for this will help determine whether R&D grants or tax credits, or another approach such as encouraging greater university-business cooperation would be most appropriate.
- Other 'how to guides' in this series (for example, on skills and investment) provide insights on the drivers of productivity.

## How is productivity changing over time?

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| What to look for? | • How is productivity changing over time? |
| What might affect performance? | • Increasing the amount of capital used by each worker or how factors of production are organised can increase labour productivity. Examples include:<br>  • Improving skills.<br>  • Investing in new machinery or software.<br>  • Introducing more efficient workflows.<br>  • Innovating to develop a higher-value good or service. |
| Other things to be aware of | • Unsmoothed data must be used when undertaking analysis of change over short time periods (as each year's smoothed data is already a weighted average of a number of different years – normally t-2 to t+2).<br>• Regional and sub-regional productivity data is published in current prices, which includes inflation. ONS also publishes chained-volume measure (CVM) indices for ITLs (but not local authorities) that are in constant prices (i.e. inflation is stripped out). Whilst this allows comparison over time, it does not provide the monetary values (£) of GVA per hour worked or GVA per filled job and should not be used for comparison between areas.[7]<br>• Use caution when using the most recent data as it is subject to revisions as more data becomes available. This can be a particular issue when looking at change over time.<br>• As outlined earlier, year-to-year changes can be volatile due to sampling and non-sampling errors. This means that start and end points chosen for analysing change over time will be particularly important. It can be useful to look at multiple time periods. Analysing long-term trends will tend to be more useful.<br>• It can be helpful to understand the components of change – i.e. whether increasing productivity reflects increasing GVA, decreasing labour input or both. This can be particularly helpful in scenarios where there has been a large change (relative to longer-term trend or other areas). |

7 Whilst ONS does not provide monetary values, they can be calculated by deflating 'Gross value added (balanced) at current basic prices, £ millions' by 'Whole economy GDP implied deflator', both available in Regional gross domestic product (ONS) and dividing by 'Productivity Jobs' or 'Productivity Hours' from Regional and sub-regional productivity (ONS).

| | |
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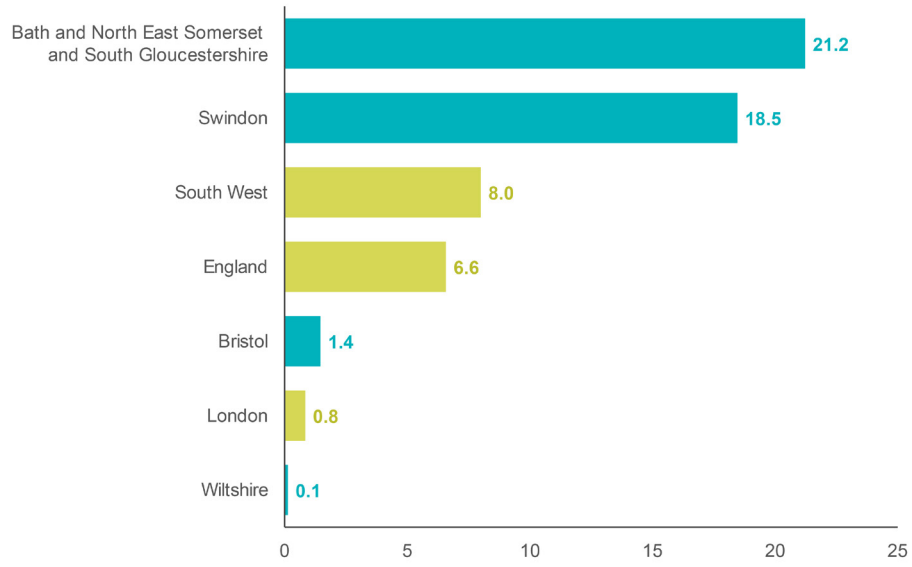
| Suggested dataset | • Regional and sub-regional productivity (ONS).<br>• Separate spreadsheets are available for different geographies (ITL 2 and ITL 3 geographies, combined authorities and economic enterprise regions, and local authority districts). Data for UK, England, Scotland, Wales, Northern Ireland, and English regions is available in ITL geographies spreadsheet. |
| Suggested measure | • Percentage change in GVA per hour (constant prices).<br>• Percentage change in GVA per filled job (constant prices). |
| How good a match to the question is the available data? | • Both GVA per hour and GVA per filled job are measures of labour productivity.<br>• As outlined earlier, Centre for Cities have recently identified an issue with the labour input component of productivity data and suggest exercising caution until the issue becomes clearer. Given this issue reflects changes in survey responses post-Covid, this is particularly important when analysing change over time. |
| What other questions can this dataset help answer? | • How productive is the local economy?<br>• How does the productivity of the local economy compare to other areas? |

Figure 5: **% change in GVA per hour (2022 prices), selected geographies, 2013 to 2023**




Between 2013 and 2023, the largest increases in GVA per hour have been in Bath and North East Somerset and South Gloucestershire and Swindon. In contrast, GVA per hour has barely changed in Bristol, London and Wiltshire.

As both of these geographies had high productivity in 2013, this is not a 'catching-up' but continuation of strong economic performance.

Source: Regional and sub-regional productivity (ONS)

Notes: Bath and North East Somerset and South Gloucestershire local authorities are not available, so ITL 3 geography 'Bath and North East Somerset and South Gloucestershire' that covers both is used instead.

Similar analysis can be undertaken for GVA per filled job.

## Policy implications

- Over the long-term, the productivity of developed economies has grown by around 2.0 to 2.5 percent per annum but the trend rate of productivity growth has been much lower than this in the UK since the global financial crisis.
- Understanding productivity growth at the local level provides insights into how well a local economy is performing. This analysis is most useful when used alongside data on current productivity levels and analysis of the drivers of productivity. Other 'how to guides' in this series (for example, on skills and investment) can assist.
- Avoid making policy decisions based on change over a single time period. Longer term trends and looking at changes alongside the current position can provide a fuller picture for policymaking.

## Additional topics to explore

Other analysis that may be useful to undertake includes:

- Considering alternative comparator areas.
- Looking at change over different time periods, for example, comparing recent trends to long-term trends.
- Analysing productivity by sector (see later section).
- Exploring what is driving current productivity performance (for example, skills levels, capital available to workers, innovation levels, etc.).

# Income

GVA and productivity provide important information about the performance of the local economy but as they relate to workplaces they provide only partial insights into the extent to which local residents are benefiting from this activity. Looking at income and wages provides additional insights.

As outlined earlier, income is the money received by an individual or household in a given period of time. Individuals and households have diverse sources of income, including wages from employment, income from self-employment, incomes arising from savings and investments, pensions (state and private), and benefits. Incomes tell us the amount of money residents have available for spending and saving.

## Key questions

- How does income compare to other areas?
- How do wages compare to other areas?

## How does income compare to other areas?

| | |
|---|---|
| What to look for? | • How does income compare to other areas? |
| What might affect performance? | • Performance is influenced by wide range of factors, including performance of the local economy, wider economic performance, and national policy decisions (for example, about national living wage levels).<br>• It will also be affected by composition of population. For example, an area with a larger population aged under 18 or over 65 will generally have lower income levels. |
| Other things to be aware of | • The suggested dataset (gross disposable household income) calculates income as 'resources' minus 'uses'.<br>  • Resources include wages, income from self-employment, rental income, income arising from ownership of assets (e.g. dividends), pensions, and benefits. For owner occupiers, imputed rent (i.e. the rent they would have to pay if they did not own their home) is also included.<br>  • Uses include income taxes, social security contributions, mortgage interest, and rent paid on land.<br>• The suggested dataset (regional gross disposable household income) relates to all individuals within an area – not the average household. |
| Suggested dataset | • Regional gross disposable household income (GDHI) (Nomis). |
| Suggested measure | • GDHI per head (£). |
| How good a match to the question is the available data? | • GDHI is the amount of money that individuals have available for spending or saving after income distribution measures such as taxes. As it includes all income received by individuals directly and indirectly (e.g. employer pension contributions). It is a much broader measure than wages.[8] |
| What other questions can this dataset help answer? | • How is income changing over time?[9]<br>• What is income by category (wages, self-employment, benefits)? |

8 In non-technical settings, discretionary income – i.e. spend after fixed expenses such as housing, utilities, food, and transport – is sometimes referred to as disposable income. Note that this is different to what is described here.

9 GDHI is published in current prices, meaning changes reflect both changes in income and changes in price levels (inflation). GDHI can be deflated using the Household Final Consumption Implied Deflator (HFCID), available from Consumer Trends (ONS). This is only available at the UK level.

Figure 6: **Gross disposable household income (GDHI) per head (£), selected geographies, 2023**


GDHI per head is highest in London, followed by Bath and North East Somerset and Wiltshire. It is lowest in Swindon.

This is very different profile to GVA and productivity, highlighting that residents do not always fully benefit from strong local GVA and productivity.

Source: Regional gross disposable household income (GDHI) (Nomis)

## Policy implications

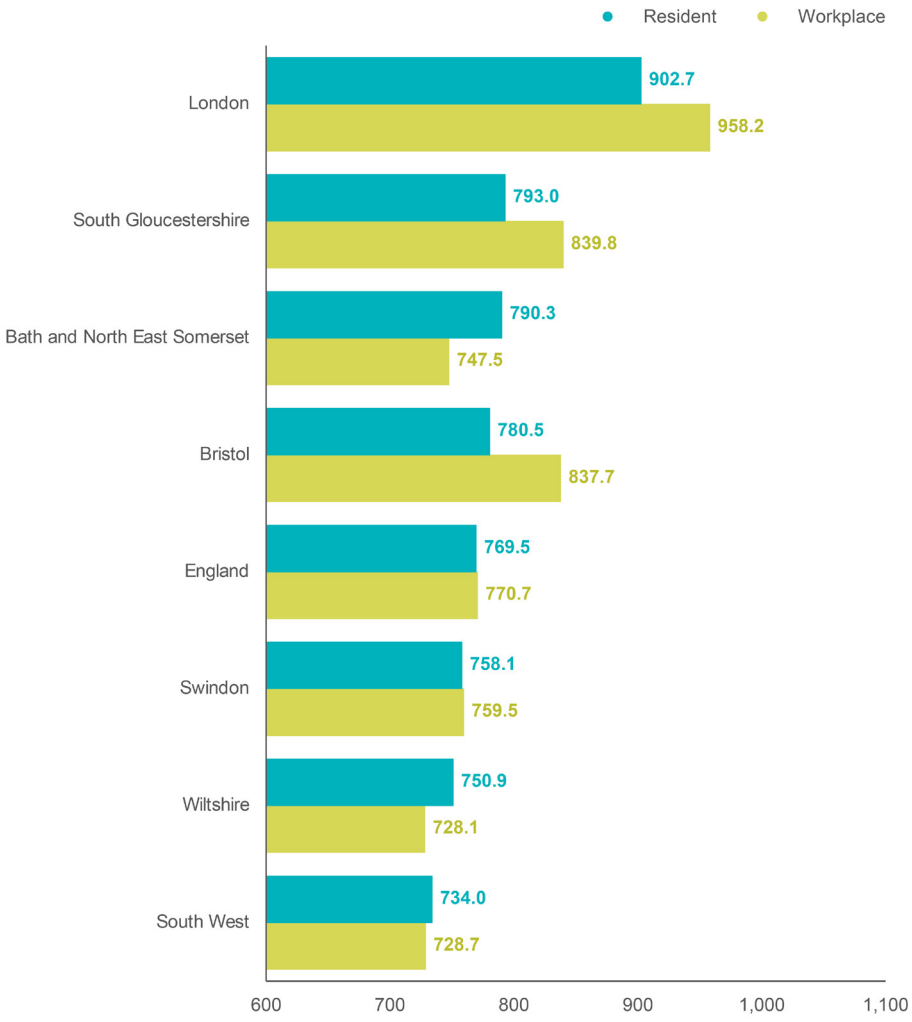
- Income provides insights into the money residents have for spending and saving.
- Analysing income can provide different insights to GVA and productivity data.
- Where areas have high GVA or productivity but low income consideration should be given to whether and how to increase benefits to local residents, for example, through upskilling, transport improvements or other measures that connect local workers with available jobs.

## How do wages compare to other areas?

| | |
|---|---|
| What to look for? | • How do wages compare to other areas?<br>• How do wages of residents compare to wages in local workplaces? |
| What might affect performance? | • Wages reflect demand and supply for labour – both within local labour market and within specific industries and occupation.<br>• Higher productivity underpins higher wages but not all high productivity jobs have high wages as returns need to be shared between factors of production. For example, if high productivity manufacturing facility relies on expensive machinery or is producing a good that required extensive R&D to develop, less resources will be available for wages.<br>• Other factors that influence wages include national living wage (and real living wage commitments) and the size of businesses (larger businesses generally pay higher wages).<br>• Some roles pay annual salary, while others are paid on hourly basis. For the latter, the number of hours worked will also determine wage levels. |
| Other things to be aware of | • Whether data is for residents or workplaces within an area. Comparing rates for residents and workplaces can provide useful insights.<br>• A number of options are available including mean, median or percentile; full-time, part-time or total; basic, overtime, or gross pay; female, male or total.<br>  ◦ Median is preferable to mean as a small proportion of very large earners in an area can increase the mean.<br>  ◦ Areas can have different proportions of full-time and part-time workers, meaning it is not possible to disentangle difference in wage rates from differences in hours worked when these are combined.<br>• Data is available for hourly, weekly or annual wages.<br>• Data looks at wages earned by individuals – but financial wellbeing is determined by household income (i.e. wages of all members of household plus non-wage incomes). |
| Suggested dataset | • Annual Survey of Hours and Earnings (ASHE) (Nomis). |
| Suggested measure | • Gross median weekly wages of full-time workers (£) of residents.<br>• Gross median weekly wages of full-time workers (£) of workplaces. |

| | |
|---|---|
| How good a match to the question is the available data? | • Based on survey of employers undertaken in April each year. The sample is based on HMRC PAYE records so only employee jobs are included (i.e. it does not include self-employed). It also does not include employees not paid during the reference period. |
| What other questions can this dataset help answer? | • How are wages changing over time?<br>• How many hours are worked? |

Figure 7: **Gross median weekly wages of full-time workers (£, current prices), selected geographies, 2023**




South Gloucestershire has the highest resident and workplace wages of the South West local authorities analysed. Workplace wages are over £46 higher than resident wages, suggesting some highly-paid jobs in South Gloucestershire are taken by those living in other areas.

Other areas where workplace wages are higher than resident wages are London and Bristol. This is common for cities. In contrast, resident wages are higher than workplace wages in Bath and North East Somerset and Wiltshire, suggesting residents are commuting to better paid jobs in other local authority areas.

Source: Annual Survey of Hours and Earnings (ASHE) (Nomis)

### Policy implications

- If wages in local workplaces are low, policy options could include:
  - Supporting businesses to invest in tangible and intangible capital.
  - Upskilling workers.
  - Improving management and leadership.
  - Encouraging businesses to innovate.
  - Encouraging business start-up.
  - Attracting higher productivity jobs to area.
- If wages are lower for local residents, policy options could include:
  - Improving skills of residents (for example, through training).
  - Improving transport connections to employment sites.

### Additional topics to explore

Other analysis that may be useful includes:

- Analysing how income and wages are changing over time.
- Analysing breakdown of different sources of income (wages, self-employment income, benefits (private and public).
- Analysing wages for different groups (e.g. by gender, full or part-time workers).
- Analysing wages at different levels (e.g. 90th percentile, percentage earning national living wage, etc.). ONS has published a guide to its income and earnings statistics.

## Sectoral analysis

As some sectors have higher GVA and productivity than others, the sectoral composition of the local economy matters. For example, financial and insurance activities are high productivity, allowing workers to be paid high wages, and this has a positive impact on the London, Edinburgh and Leeds economies which have concentrations of employment in this sector.

Whilst some sectors have higher productivity levels than others, it is also important to understand the role that a place plays in the value chain. For example, many manufacturing businesses operate across more than one site. R&D, engineering, design, and head office functions have the highest value added and productivity and, as a result, pay the highest wages, whilst a site that assembles products will have lower value added, productivity and lower wages. The impact of attracting the employer will therefore depend on the functions located in the local area. The method used by ONS to allocate GVA of multi-site businesses to local areas does not differentiate between different activities.

Currently, data on incomes and wages by sector is not publicly available at the local level.[10] Commercial datasets may be available. However, it can be useful to look at national data for the sectors that have been identified as important to the local economy through analysis of GVA and employment.

10 Regional data is available in Earnings and employment from Pay As You Earn Real Time Information, seasonally adjusted (ONS).

## Key questions

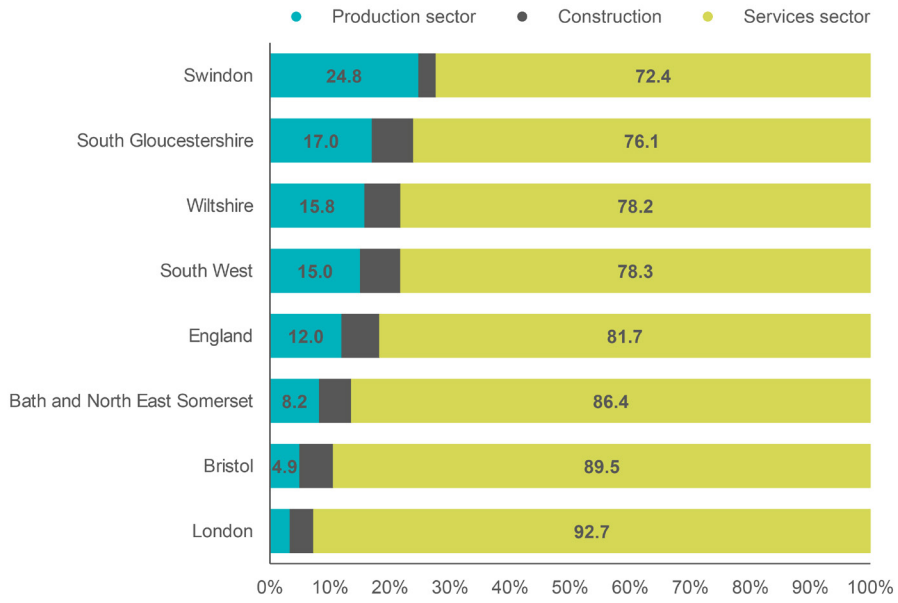
- How does GVA vary across sectors within the local economy?
- How does productivity vary across sectors within the local economy?

### How does GVA vary across sectors within the local economy?

| | |
|---|---|
| What to look for? | • How does GVA vary across sectors within the local economy? |
| What might affect performance? | • Sectoral GVA depends on the number of workers and productivity per worker in the sector.<br>• Sectoral composition will reflect a combination of factors including historic specialisms and competitive advantages.<br>• Some sectors – such as health, education, public administration and defence, and retail – will be present in all local economies. |
| Other things to be aware of | • GVA data at the sub-national level is subject to a large time lag.<br>• Use caution when using the most recent data. GVA by sector is more volatile and more likely to be subject to revision than GVA as a whole, given the underpinning methodology. This is particularly true for smaller geographies and sectors. There can also be minor discrepancies, for example, when deflator is applied.<br>• When examining growth in GVA in a specific sector, comparing to a benchmark (for example, UK or a group of similar local authority areas) can help differentiate between growth that reflects broader national or international trends versus growth due to the area's competitive advantages. Growth at a similar rate to UK is likely to reflect broader trends, whilst higher growth may reflect a competitive advantage. |
| Suggested dataset | • Regional gross value added (balanced) by industry (ONS).<br>• Separate spreadsheets are available for different geographies (all ITL geographies, city and enterprise regions, and local authorities). |
| Suggested measure | • Breakdown of GVA by sector (percentage of total GVA).<br>• Sector GVA as percentage of total GVA.<br>• GVA (£) of sector.<br>• Location quotient (see 'Understanding local economic performance: Skills' for more information). |

| | |
|---|---|
| How good a match to the question is the available data? | • GVA is a main measure of output.<br>• Data is available for both broad sectors (e.g. manufacturing, construction, financial and insurance services) and some sub-sectors (e.g. civil engineering, manufacturing of electrical products and machinery, legal and accountancy activities). A more detailed breakdown is available in the ITL geography breakdown than for local authorities. |
| What other questions can this dataset help answer? | • Percentage change in GVA by sector over time. |

Figure 8: **Breakdown of GVA by broad sector (% of total GVA), selected geographies, 2023**




Even using the broadest categorisation of sectors, it is possible to see the variation across areas. Service sectors account for 89.5 percent of Bristol's GVA but only 72.4 percent of Swindon's. Production – which includes agriculture, forestry and fishing, manufacturing, and electricity and water – accounts for almost a quarter of Swindon's GVA.

Source: Regional gross value added (balanced) by industry (ONS)

## Figure 9: **Professional, scientific and technical activities GVA as % of total GVA, selected geographies, 2023**


Professional, scientific and technical activities account for 14.4 percent of GVA in Bristol, compared to just 4.6 percent in South Gloucestershire. This sector accounts for a larger proportion of GVA in Bristol than in London.

Source: Regional gross value added (balanced) by industry (ONS).

## Figure 10: **GVA (£ millions) and location quotients of GVA within professional, scientific and technical activities, Bristol benchmarked against England, 2023**

| | GVA | Location quotient |
|---|---|---|
| Professional, scientific and technical activities | 3,038 | 1.64 |
| • Legal and accounting activities | 2,065 | 3.02 |
| • Head offices and management consultancy | 28 | 0.09 |
| • Architectural and engineering activities | 334 | 1.39 |
| • Other professional, scientific and technical activities | 611 | 1.01 |

Professional, scientific and technical activities are overrepresented in Bristol, compared to England, with a location quotient of 1.64.

The sub-sector that is most overrepresented is legal and accounting activities with a location quotient of 3.02. This is also the largest sub-sector, contributing over £2 billion to Bristol's GVA.

In contrast, head offices and management consultancy are underrepresented compared to England.

Source: Regional gross value added (balanced) by industry (ONS)

Note: Location quotients are a way of understanding specialism within a local economy. They compare local shares in an industry to national shares in that industry. If a local area had the same proportion of total GVA in a sector as the national share it will have a location quotient of 1. If the sector accounts for twice the proportion of GVA in the local area than the national share, it will have a location quotient of 2.

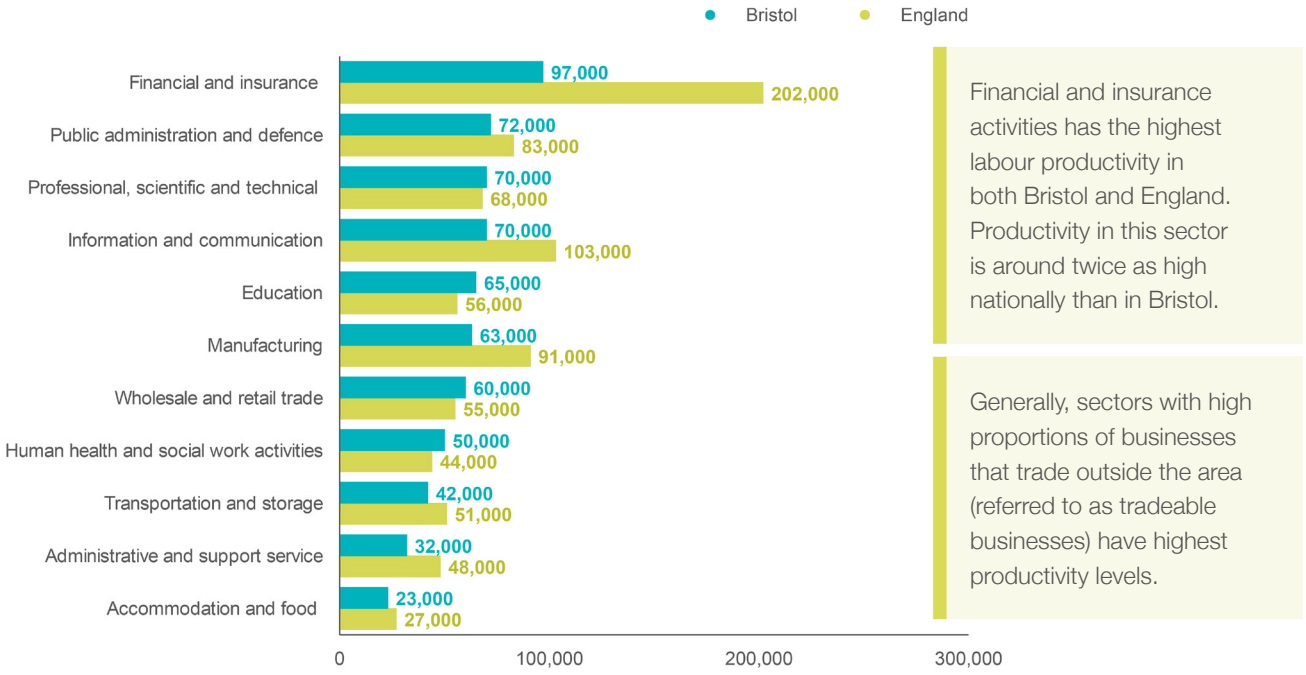
## Policy implications

- Examining GVA by sector can provide insights into which sectors are most important to local economic performance. Local policymakers may want to focus on supporting its most important sectors, strengthening sectors that are underrepresented or both.
- Benchmarking growth against other areas can help policymakers understand whether growth reflects broader economic trends or the area's competitive advantages.

## How does productivity vary across sectors within the local economy?

| | |
|---|---|
| What to look for? | • How does productivity vary across sectors within the local economy |
| What might affect performance? | • Sectoral productivity reflects the value of the goods and services produced (output), the factors of production and how they are organised (inputs). For example, pharmaceutic manufacturing relies on high levels of human (skills), tangible (machinery) and intangible (R&D) capital. It will tend to have higher productivity than sectors such as food and accommodation that require lower levels of capital. |
| Other things to be aware of | • ONS does not currently publish data on sectoral productivity at the sub-national level. It is possible to calculate a rough estimate, but its limitations mean it should be treated with caution. |
| Suggested dataset | • Regional gross value added (balanced) by industry (ONS) and Business Register and Employment Survey (BRES) (Nomis). |
| Suggested measure | • GVA per filled job by sector (£, rounded to nearest thousand)<br>• Calculated by dividing GVA from Regional gross value added (balanced) by Industry (ONS) by employment from BRES (Nomis) for each sector of interest. |
| How good a match to the question is the available data? | • BRES does not include self-employed people that have not registered for VAT or PAYE, HM Forces, and government-supported trainees. This means it does not capture all jobs.<br>  • As these categories vary across areas, this will affect geographic comparisons.<br>  • Self-employment varies across sectors (for example, construction has a high self-employment rate, whilst manufacturing has a low rate). Estimates will be more accurate if self-employment is low in the sector.<br>• Both GVA and employment data is available at different levels of sectoral granularity. Given uncertainty involved in data, we recommend only undertaking this calculation for broad sectors.<br>• Given that this estimate is based on a different denominator (i.e. measure of jobs) than 'Regional and sub-regional productivity (ONS)', or national estimates of sectoral productivity (Output per job, UK (ONS)), data generated through this method should not be compared to data from other datasets. |
| What other questions can this dataset help answer? | • How has sectoral productivity changed over time? |

Figure 11: **GVA per filled job by sector (£, rounded to nearest thousand), Bristol and England, 2023**




Source: Regional gross value added (balanced) by industry (ONS) and Business Register and Employment Survey (BRES) (Nomis).

Note: Agriculture, forestry and fishing; mining and quarrying; electricity, gas, steam and air conditioning supply; water supply, sewerage and waste management; construction; real estate activities; arts, entertainment and recreation; other service activities; and activities of households are excluded from this analysis either because data is not available or because there is risk of misleading findings (for example, if the sector has a large self-employed workforce that are not included in BRES).

## Policy implications

- Local policymakers may want to focus on supporting its most productive sectors, increasing the productivity of sectors that are underperforming or both.

## Additional topics to explore

Other analysis that may be useful to undertake includes:

- Considering alternative comparator areas.
- Looking at change over time.
- Comparing GVA by sector to employment by sector (using BRES from Nomis) will help identify whether the sectors that contribute most to local GVA are also major employers.

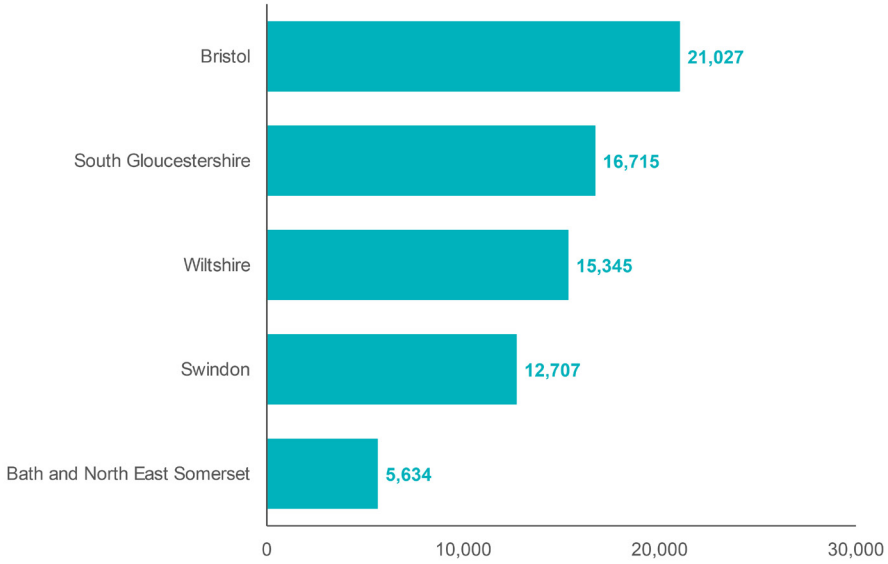
# Next steps

The guide provides suggestions about data that may be useful to explore to understand GVA, productivity and income performance. To get started with analysis:

- Consider what questions to answer. This will help determine the data to analyse and how best to analyse it.
- Establish what data and measures are available. ONS and Nomis are the main sources of data.
- Select the dataset and measure. The main consideration should be which dataset and measure most closely aligns with the question being answered. Other considerations include geographies available, frequency, and timeliness of data.
- Consider what geography and comparator areas to use.
- Consider whether analysis should look at current position, change over time or both.
- When analysing change over time, consider what time periods to use. When looking at change over time, the main options are a neutral time period (for example, five or 10 years) or from a point of interest (for example, since policy introduced).

# Annex

Figure A.1: **Gross value added (£ millions, current prices), selected local authorities in South West England, 2023**




The GVA of the South West local authorities considered in this analysis ranges from £5.6 billion in Bath and North East Somerset to just over £21 billion in Bristol.

Source: Regional gross domestic product (ONS)

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