

WEST OF ENGLAND LOCAL INDUSTRIAL STRATEGY

BUSINESS ENVIRONMENT
EVIDENCE REPORT
AUGUST 2019

Introduction

This document collates evidence about the business environment in the West of England and supports the West of England Local Industrial Strategy. For more information on the strategy and other related evidence, please visit the [West of England Combined Authority website](#).

Geography

The document refers to the West of England region. This is taken to mean the West of England Local Enterprise Partnership area, which is made up of four unitary authorities:

- Bath and North East Somerset
- Bristol
- North Somerset
- South Gloucestershire

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SUMMARY

Summary

This section summarises results from the rest of the report.

Business demography

- **The West of England has slightly fewer businesses per head than the UK overall at 395 per 100,000 residents in 2018.**
- **Businesses start and end more slowly in the region** and the business population is growing slowly at 0.1% growth in 2017.
- **Long term survival rates are higher in the West of England** than comparator combined authorities, with 46% of businesses started in 2012 surviving for 5 years.
- **Levels and trends of self-employment in the region are similar to the rest of the UK** with 10% of the working-age population being self-employed.

Productivity

- **Productivity in the West of England is slightly greater than the UK overall at £33.72 GVA per hour worked.** However, recent growth is at the same rate as the rest of the UK: **the region is also subject to the productivity puzzle.**
- **The region has a large number of low-productivity firms** as demonstrated by analysis of firm-level productivity.
- **The West of England is home to a number of initiatives that nurture high-productivity firms**, e.g. enterprise zones, incubators and accelerators such as SETsquared.

Summary

Productivity (continued)

Possible factors contributing to productivity:

- **Trade:** Levels of trade are relatively low in the region. Goods exports are valued at only 16% of GVA and services at 9.8%, compared to 18% and 15% respectively for the UK.
- **Management Practices:** Research from a local university has shown that management practices such as talent development, performance monitoring and staff engagement are important in addressing productivity.
- **Technology Uptake:** Similarly, research highlights adoption of technology as a key factor in productivity.
- **Workforce Diversity:** Indicators suggest the region has a more diverse workforce than the UK overall, but there is room for improvement. Research has found that workplace diversity can increase productivity.

Scale-Ups

Scale-up businesses, i.e. those that are expanding quickly, are on average 42% more productive than their peers:

- **The West of England has the sixth-highest number of scale-ups of all Local Enterprise Partnership areas**, at 63 per 100,000 people.
- **The region has strong scale-up growth compared to comparator areas** at 5.4 new scale-ups per 100,000 people per year.
- **Common scale-up sectors include *business & professional services* and *built environment & infrastructure*.**
- **Scale-ups report facing challenges** in areas such as Research and Development investment, finance, workspace and skills.

Summary

Sectors

- The West of England has a diverse mix of sectors that mirrors the wider UK. Large employing sectors include retail trade and vehicle repair, healthcare, education and professional, scientific and technical work.
- The region is specialised in finance, insurance and information & communication when compared to the UK.

The Local Industrial Strategy identifies distinct clusters of employment in three innovative sectors:

Advanced engineering and aerospace includes cutting-edge design, engineering and aerospace activity:

- The region is home to the UK's largest aerospace/defence cluster.
- Examples include Airbus and Rolls Royce.

Creative, cultural & digital industries include businesses ranging from software publishing to motion picture production:

- Employment in this sector grew by **28%** between 2015 and 2017.
- Examples include Aardman Animations and Graphcore.

Financial, business and legal services include professional services businesses, which often make use of new technological innovations:

- The sector employs **58,000** people in the West of England, which is **9.6%** of total employment in the region.
- Examples include DAS and Osborne Clarke.

BUSINESS DEMOGRAPHY

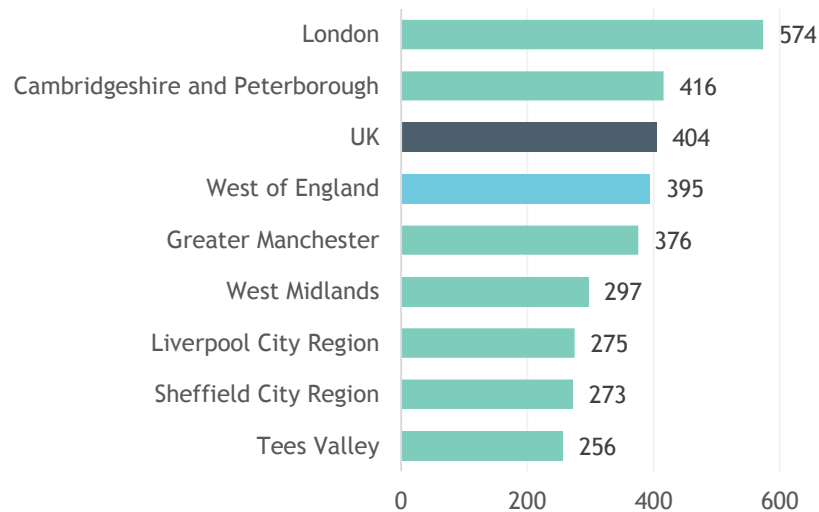
Business demography

This section outlines the characteristics of the West of England's business population.

Business concentration

There are **45,005** businesses in the West of England. That is **395** businesses per 10,000 residents. This is below the UK average and in the middle of comparator areas.

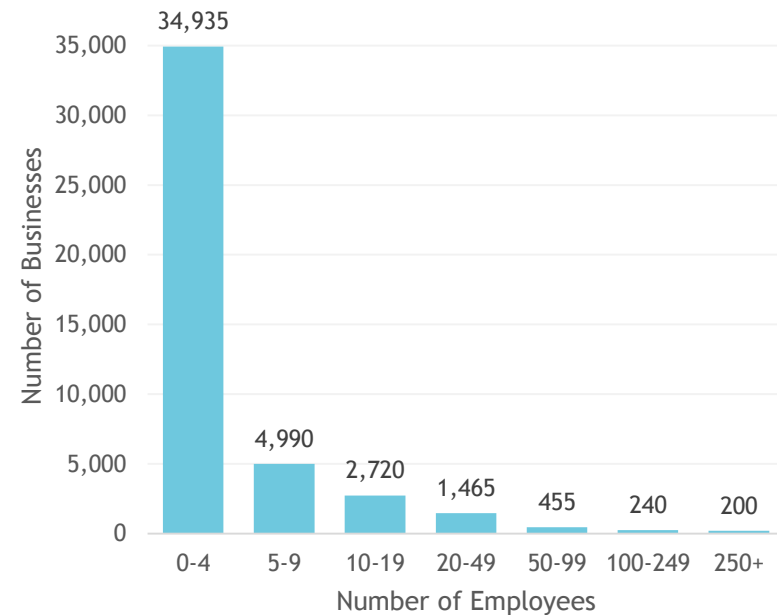
Figure 1: Number of businesses per 10,000 people (2018)



Business size

78% of businesses in the West of England have fewer than five employees. The results below are similar to those for the UK overall.

Figure 2: Employee size of businesses in the West of England (2018)

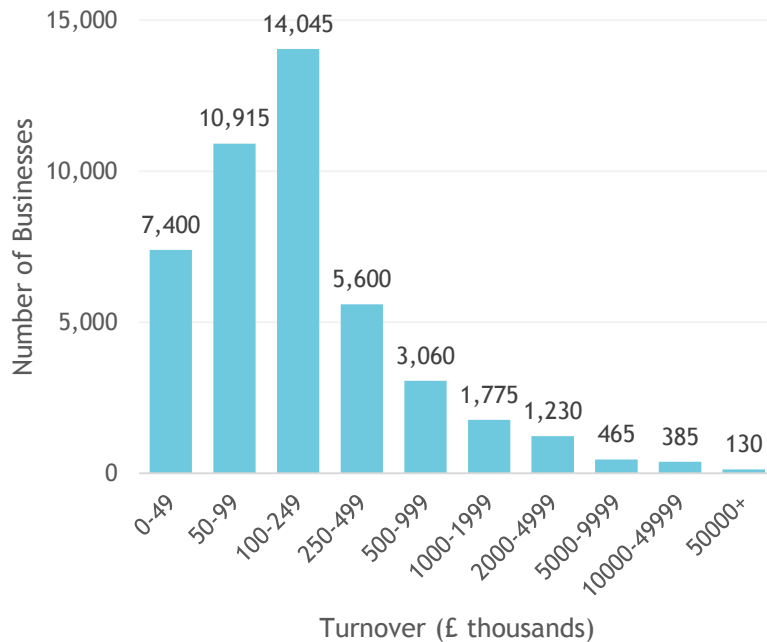


Business demography

Business turnover

72% of businesses in the West of England have turnover of £249,000 or less. The results below are again similar to those for the UK overall.

Figure 3: Turnover of businesses in the West of England (2018)



Business lifecycle

The **business start rate** is the number of new businesses as a proportion of the existing business population. The **closure rate** is similarly defined for businesses that close. The UK had the following rates in 2016:

- Business start rate: **14.6%**
- Business closure rate: **10.2%**

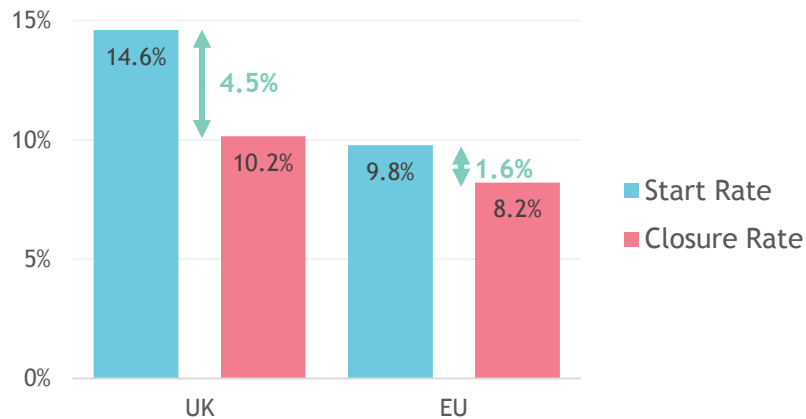
The difference between these rates is the **net growth rate**, i.e. the rate at which the business population is growing. The UK's net business growth rate for 2016 was **4.5%**.

Figure 4 on the following page compares these rates with those for the EU overall, with the green figures indicating net growth rate. It shows that the UK had higher business start, closure and net growth rates than the EU overall in 2016.

Business demography

Business lifecycle (continued)

Figure 4: Business start & closure rates (2016)



In 2017, the West of England had the following rates:

- Business start rate: **11.2%**
- Business closure rate: **11.1%**

The region has lower business birth and closure rates than other areas and the UK overall.

Figure 5: Business start rate (2017)

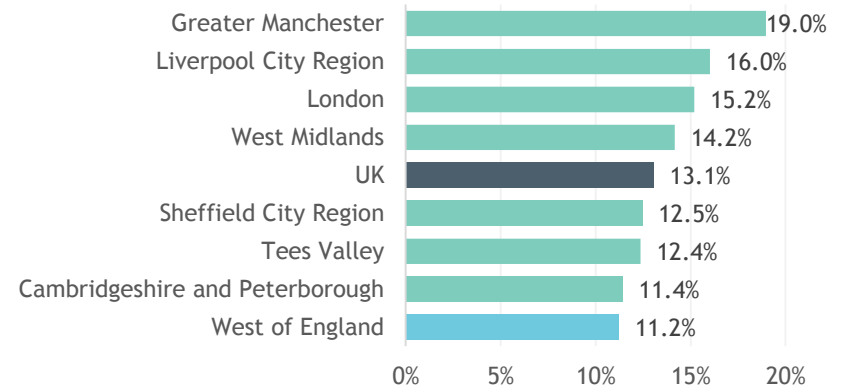
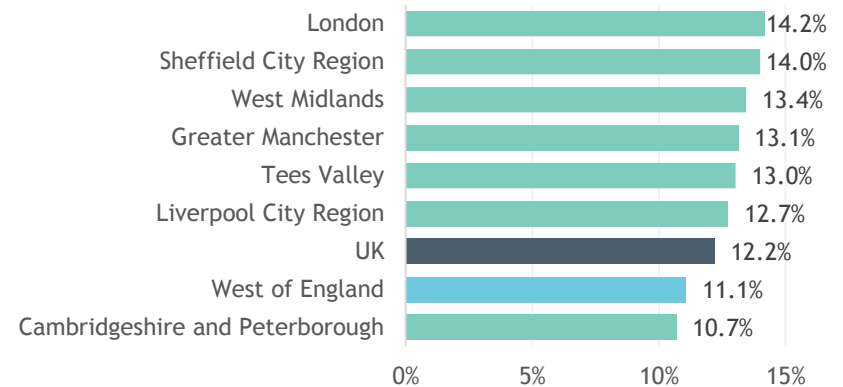


Figure 6: Business closure rate (2017)



Business demography

Business lifecycle (continued)

The West of England has a net business growth rate of **0.1%**. That is, businesses are starting at a slightly faster rate than they are closing. Although this rate is positive, it is lower than other areas and the UK overall.

Figure 7: Business net growth rate (2017)

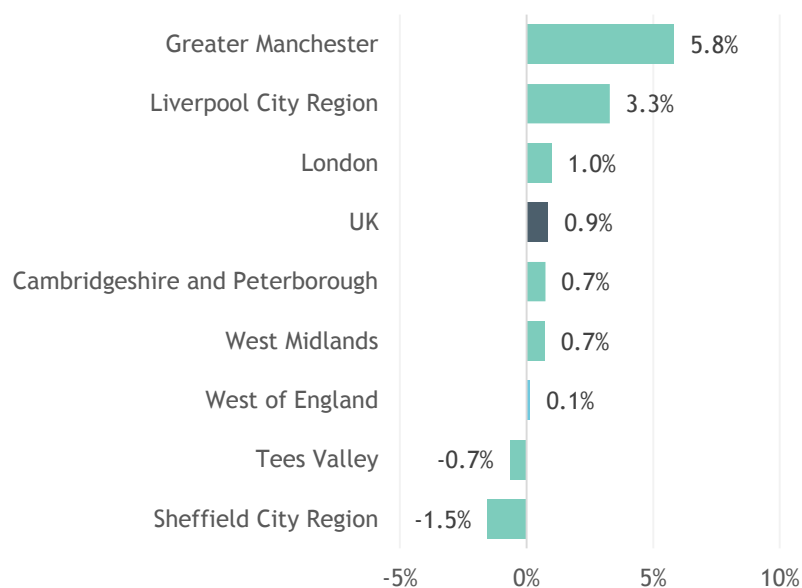
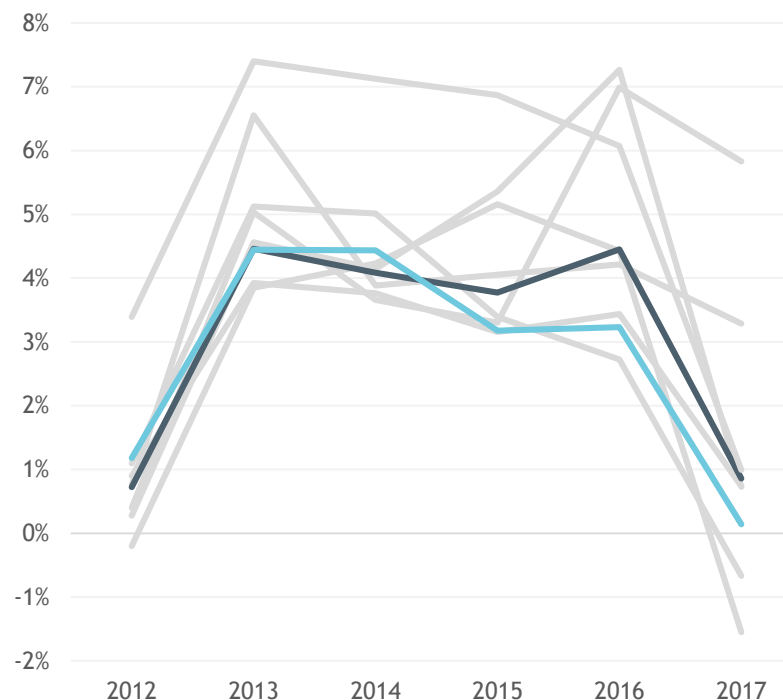


Figure 8: Business net growth rate over time for comparator areas including the West of England and the UK



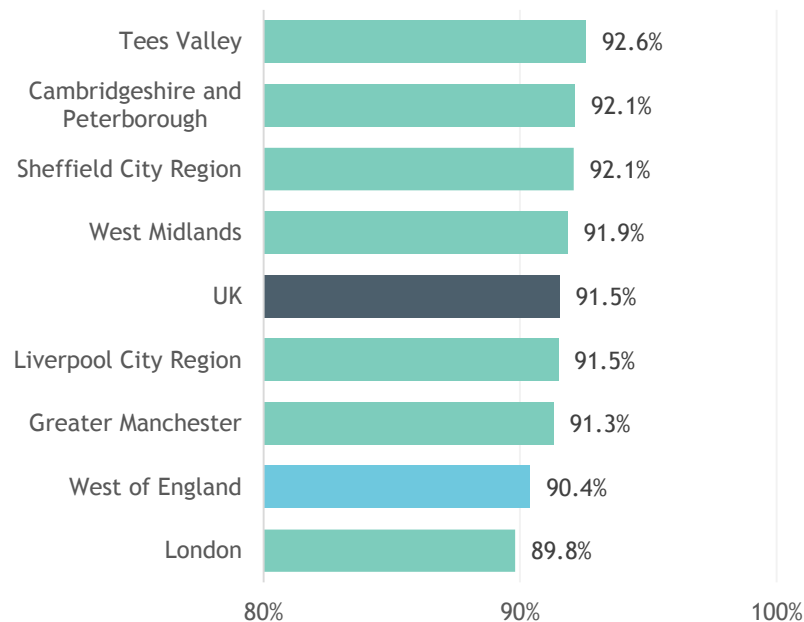
The net growth rate decreased for all areas in 2017, with the West of England experiencing a similar decrease to the UK overall.

Business demography

Business lifecycle (continued)

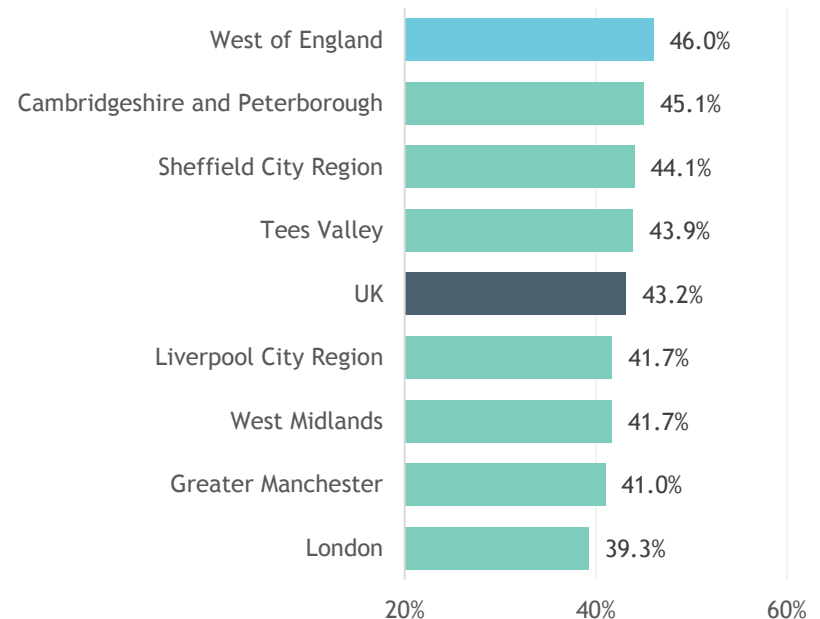
The latest figures on the survival of businesses are for those started in 2016. Of these, **90.4%** survived for one year in the West of England. This is lower than most other areas.

Figure 9: 1 Year survival rates for businesses started in 2016



Longer-term results are available for businesses started in 2012.

Figure 10: 5 Year survival rates for businesses started in 2012



46% of businesses started in 2012 in the West of England survived for 5 years. This is more than in any comparator area.

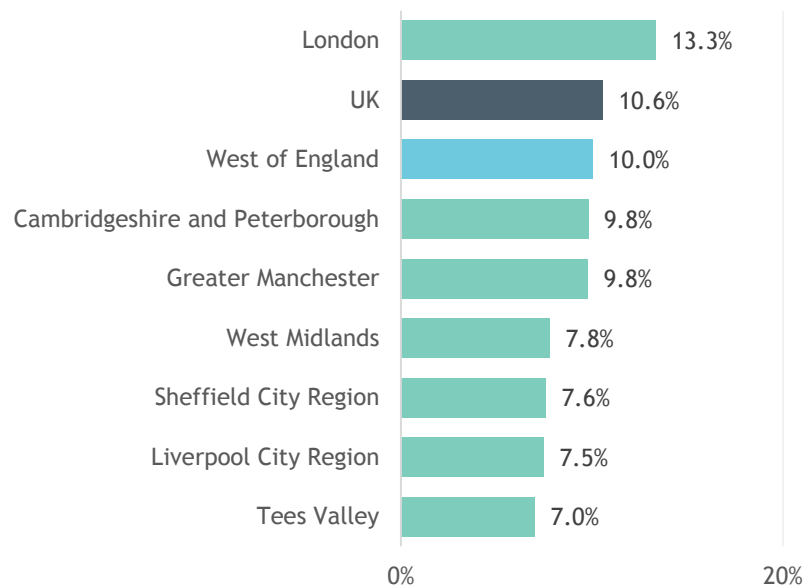
Business demography



Self-employment

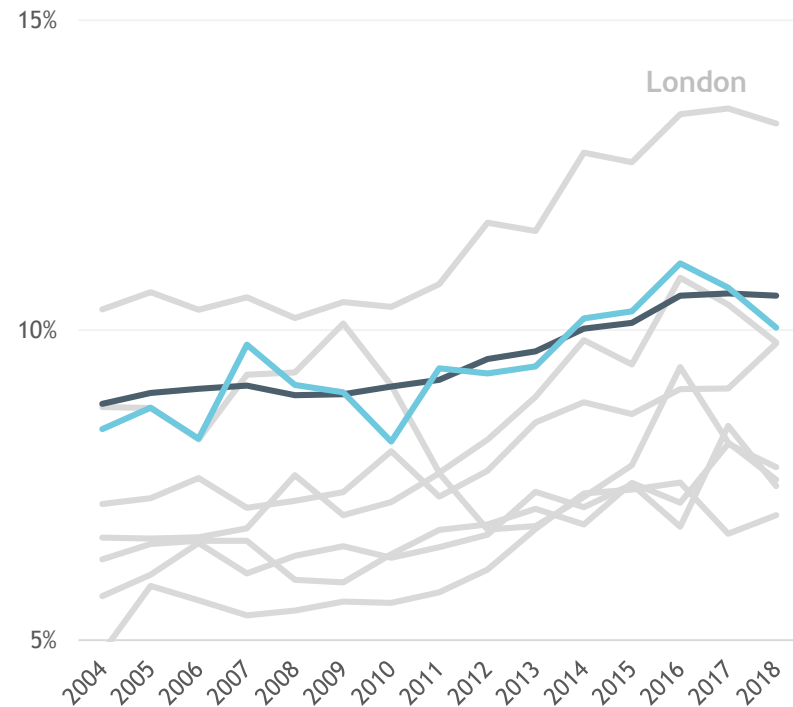
10% of the working age population in the West of England are self-employed. This is a little below the UK overall but higher than most comparator areas.

Figure 11: % of Working-age population who are self-employed (2018)



Self-employment has increased in the West of England in line with the UK overall.

Figure 12: % of Working-age population who are self-employed over time for comparator areas including the West of England and the UK



PRODUCTIVITY

Productivity

This section explores the productivity challenge facing the West of England.

National productivity

UK growth in productivity has been slow in recent years:

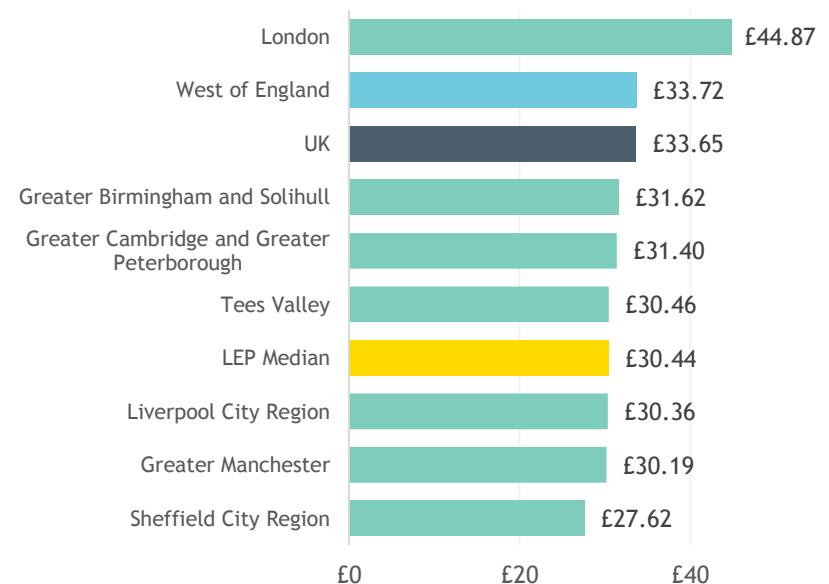
- The latest figure from the Office for National Statistics shows that labour productivity for 2019 Q1¹, decreased by **0.2%** compared with the same quarter in the previous year.
- This contrasts with the positive growth rate observed before 2008.

Productivity growth has remained slow since 2010, a situation often described as the UK's 'productivity puzzle'. The problem is not unique to the UK, as other European countries have also experienced weak productivity growth in recent years. The UK's level of productivity, however, is lower than the average for European Union countries.

Regional productivity

The latest regional productivity figures estimate Gross Value Added (GVA) per hour worked in the West of England at **£33.72** for 2017. This is a smoothed estimate which accounts for volatility when measuring smaller areas.

Figure 13: GVA per hour worked (£) (2017)



Sources: [ONS Labour Productivity Bulletin](#) (UK Productivity); [ONS Productivity Puzzle Article](#) (Wider Commentary); [ONS Sub-regional Labour Productivity Indices](#) (Regional Productivity)

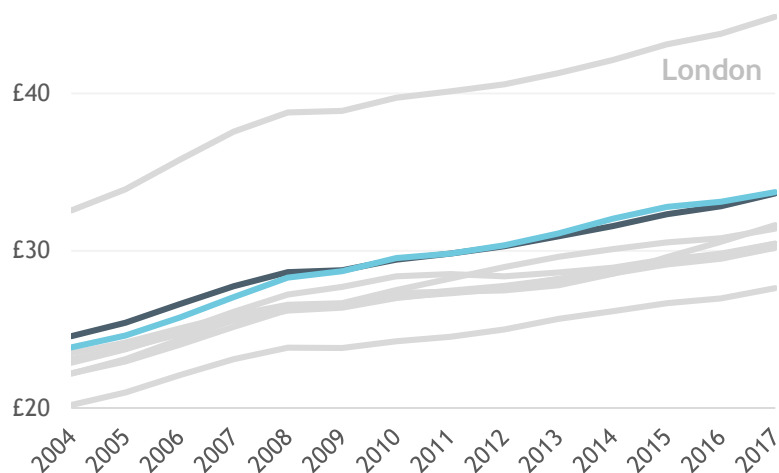
1. As measured by output (GVA) per hour.

Productivity

Regional productivity (continued)

The West of England's productivity is above the median for Local Enterprise Partnership (LEP) areas and just above the UK value. In general it compares well to other LEP areas.

Figure 14: GVA per hour worked over time (£) (nominal) for comparator areas including the West of England and the UK



The figures are nominal, i.e. not adjusted for inflation.

Productivity in the West of England has risen at a similar rate to the UK and other LEP areas. Therefore the region is also subject to the 'productivity puzzle'.

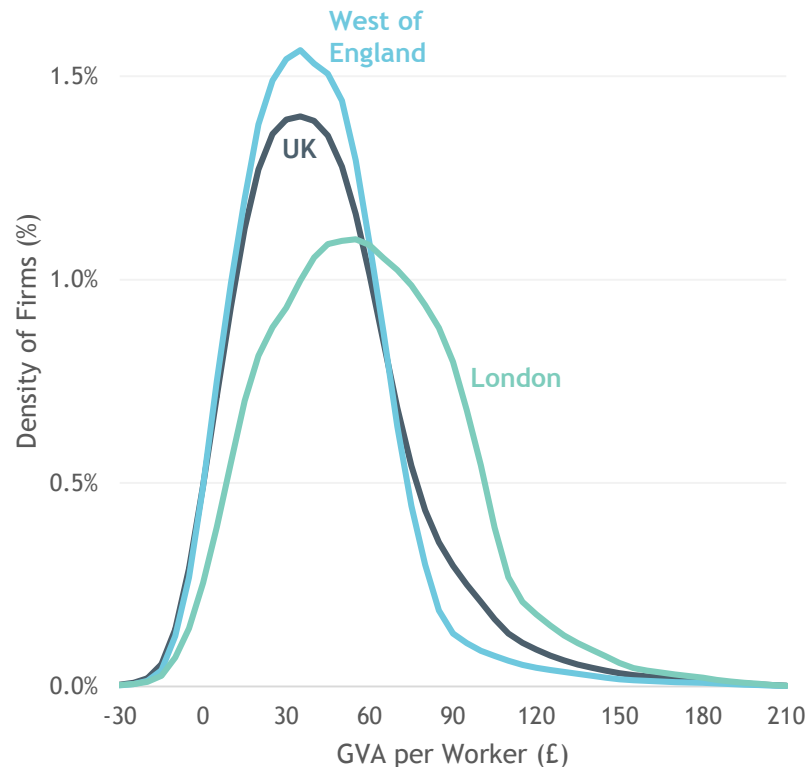
To understand productivity at a more granular level, the Office for National Statistics has published firm-level distributions of productivity, which are shown on the following page.

These refer to 2014 (the latest data available), and cover only the non-financial business economy. That is, they exclude the agricultural and financial sectors as well as some small firms, the self-employed and the public sector. As such, the results represent approximately two-thirds of the UK economy in terms of gross value added.

Productivity

Regional productivity (continued)

Figure 15: Firm-level distribution of productivity (2014)



The chart shows that:

- The UK has a high proportion of firms with lower productivity, i.e. the peak at around £35-£40.
- The UK has a ‘long tail’, i.e. a low proportion of firms with high productivity.

For the West of England, this problem is more pronounced:

- The region has a larger proportion of firms at the low-productivity peak.
- The region also has a smaller proportion of firms with higher productivity.

Productivity

Regional productivity (continued)

The West of England has a number of initiatives that seek to nurture high-productivity businesses.

Firstly, the region is home to a network of Enterprise Zones and Areas. They free up key development sites, consolidate infrastructure, attract business and create jobs. These areas deliver long-term, sustainable growth based on cutting-edge technology and enterprise.

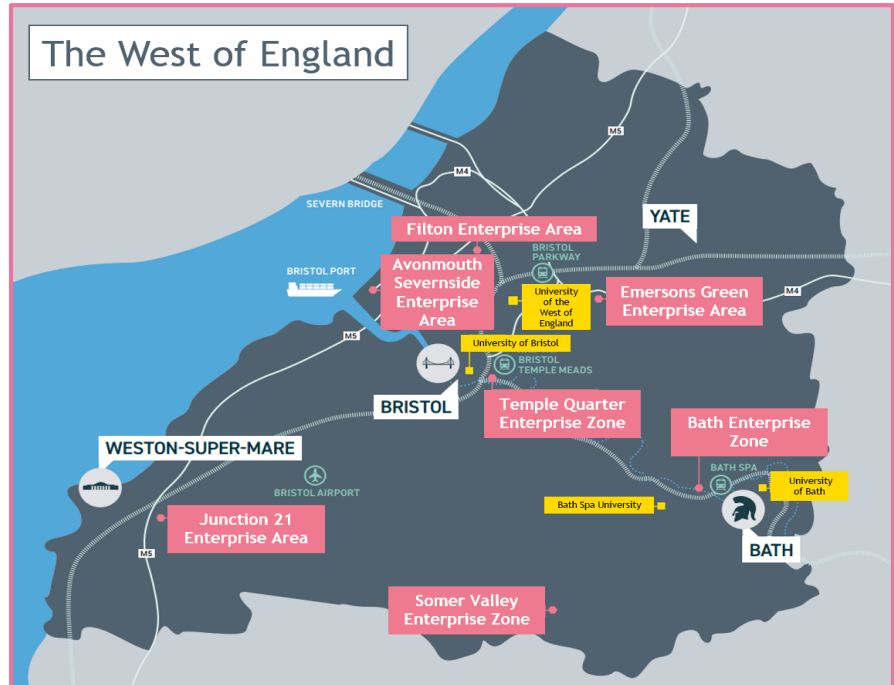
Figure 16 shows the locations of these zones.

Innovative projects within the zones include:

- The UK's largest aerospace cluster, with plans for a new aerospace park.
- The Bristol and Bath Science Park, home to innovation and technology businesses such as the National Composites Centre.

- Foodworks™, a significant food and drink development centre under development.

Figure 16: Enterprise Zone and Area locations in the West of England



Productivity

Regional productivity (continued)

The region is also home to a number of businesses incubators and accelerators: innovation spaces which provide employment space and support to growing businesses. These are often based within the enterprise zones and areas themselves.

Examples include:

Engine Shed

Engine Shed is a unique hub where businesses, entrepreneurs, academics, social innovators, and corporates collaborate. Phase 2 will provide additional space and grow-on capacity for fast growing firms.

Future Space

Future Space supports businesses working in high-tech areas including robotics, digital and creative technologies, health tech and biosciences. It is estimated that it will bring an economic boost of £85m over the next 10 years.

SETsquared

SETsquared supports entrepreneurs, start-up and scale-up companies across a range of high-tech and high-growth areas of activity including sustainable technologies, digital platforms, advanced engineering and social enterprise. It has helped over 1,000 start-ups to raise more than £1bn of investment.

Unit DX

Unit DX is a science incubator based in Bristol city centre, providing specialist laboratory facilities and science-focussed business support. It was established in 2017 and has rapidly grown to house 32 businesses.

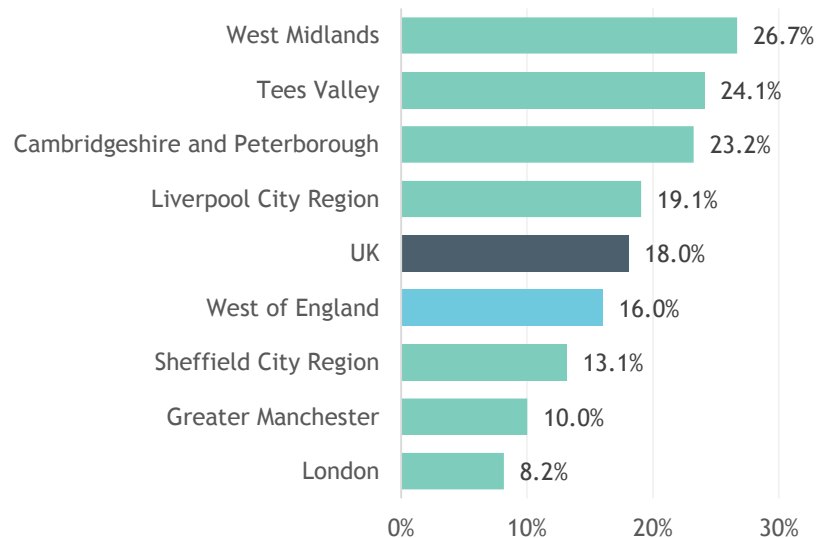
Productivity: possible contributing factors

Here we examine factors that may contribute to productivity levels in the region.

Trade in goods

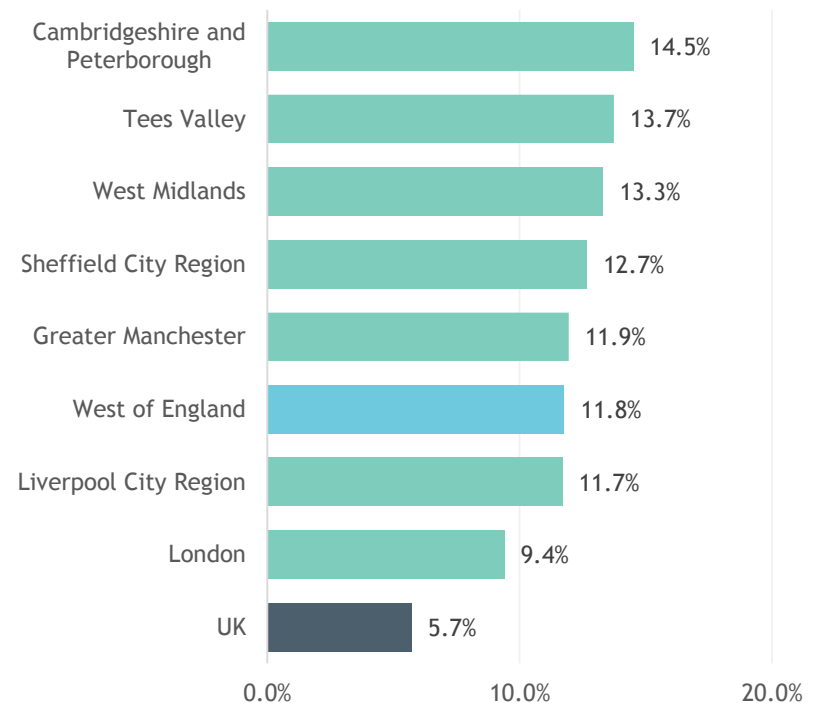
In 2017, the West of England exported **£5.4 billion** of goods, equivalent to **16%** of GVA. This is less than the UK overall and some other areas.

Figure 17: Value of goods exports as a % of GVA (2017)



In the same year, **11.8%** of businesses in the region were involved in exporting goods. This is higher than the UK overall but lower than several other areas.

Figure 18: % of Businesses involved in exporting goods (2017)

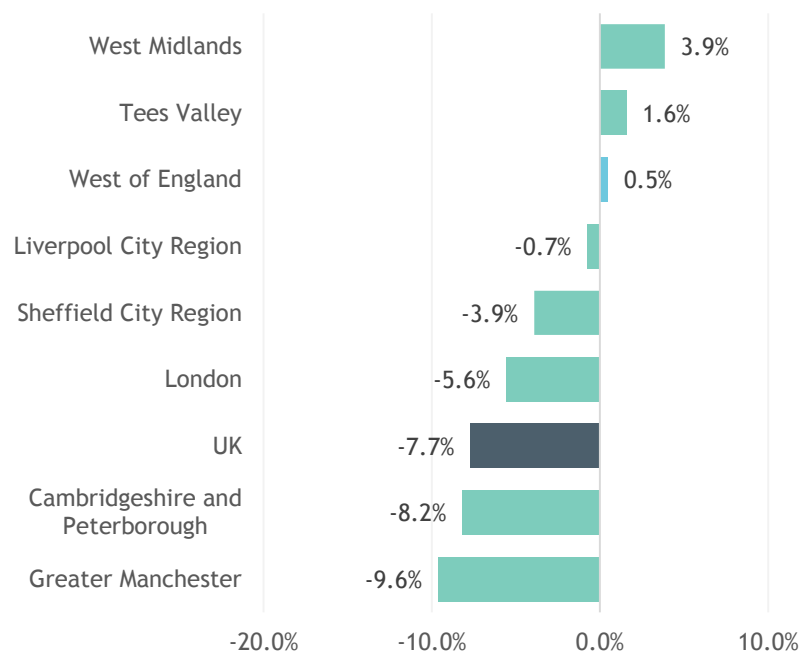


Productivity: possible contributing factors

Trade in goods (continued)

In 2017, the West of England saw a surplus in trade of goods of 0.5% of GVA. The UK and most comparator areas saw a deficit in trade of goods.

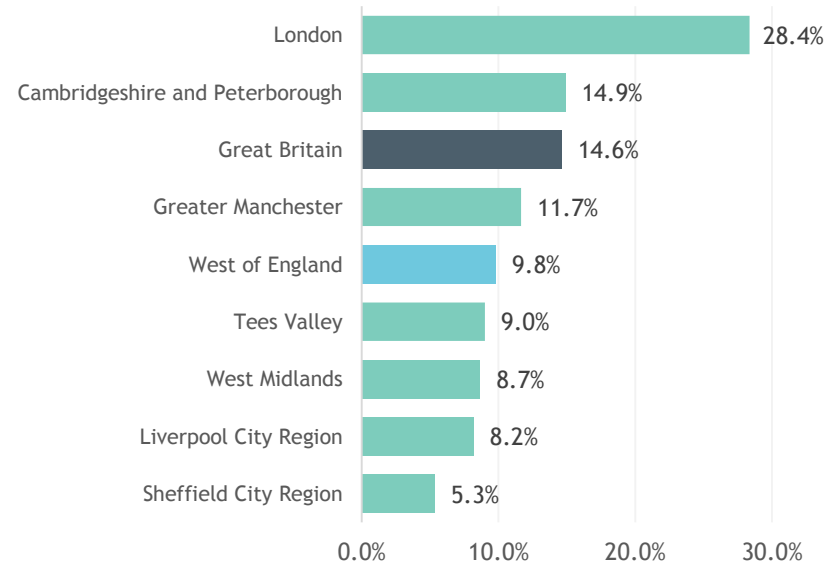
Figure 19: Net services exports as a % of GVA (2017)



Trade in services

In 2016, the West of England is estimated to have exported **£3.2 billion** of services, equivalent to **10%** of GVA. Again, this is below the UK and some other areas.

Figure 20: Estimated value of services exports as a % of GVA (2016)



Productivity: possible contributing factors

Trade in services (continued)

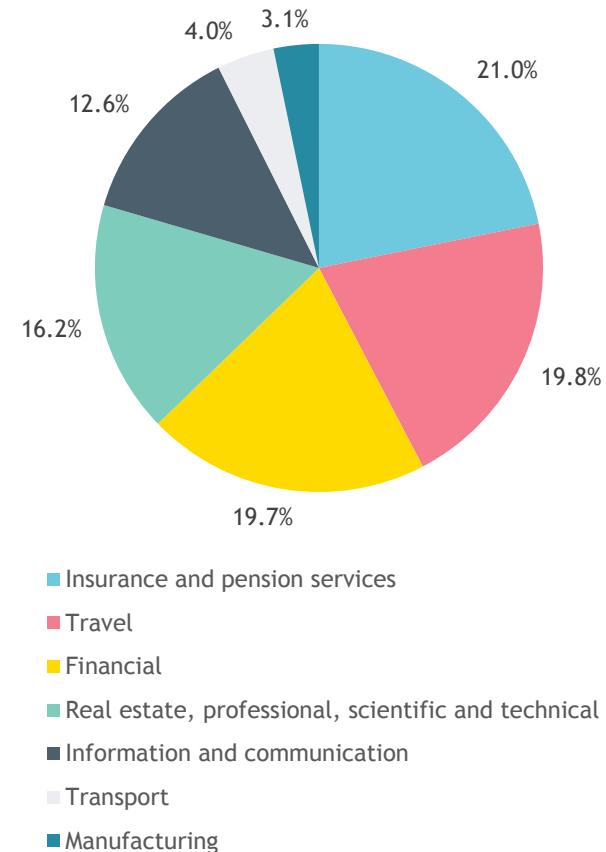
Figure 21 shows the types of services exported by the West of England in 2016. Those with the largest values are:

- *Insurance and pension services* (total exports of **£596 million**)
- *Travel* (**£560 million**)
- *Financial* (**£558 million**)

Travel and *insurance & pensions* services make up larger proportions of the region's exports than they do for any comparator area.

Taking the trade results as a whole, they show a relatively low volume of trade taking place in the West of England. This is one factor which may influence poor productivity in the region. Note statistics on trade have only recently been published at this geographical level. Therefore, we cannot examine trends in trade over time.

Figure 21: Estimated services exports by category (% of total) (2016)



Productivity: possible contributing factors

Management and leadership practices

One factor which may influence productivity in the region and beyond is the prevalence of effective management practices, i.e. the methods used by leaders to empower and improve the effectiveness of their staff and systems.

Examples of such practices include:

- Improved performance monitoring and discussion, such as regular reviews and incentives for high performance
- Training in management and leadership
- Talent development schemes
- Agile project management
- Fostering useful relationships with peer businesses and supply chains

Such practices can reduce costs, improve outputs and make businesses more efficient.

Various research has discussed the importance of management practices in productivity:

- **McKinsey** have studied 14,000 organizations in more than 30 countries. Their research suggests ‘a significant potential for management-led productivity improvements in every country on Earth’.
- The **Office for National Statistics** recently demonstrated a strong link between management practices and labour productivity in the UK.
- The **University of the West of England** recently published research finding that ‘best management practices are a crucial but neglected element in explaining firm productivity’.

Sources:

[McKinsey, Why management matters for productivity, 2014;](#)

[ONS Management Practices and Productivity Research;](#)

[Nisar et al., Effect of best management practices on the performance and productivity of small firms, 2019](#) (University of the West of England Research)

Productivity: possible contributing factors

Management and leadership practices (continued)

Research has also been conducted on the particular factors that affect productivity:

- A study of work-related training on workers' productivity found that participation in a training programme led to a 9 percent increase in productivity.
- Research using employee survey data found that employee engagement was important.

Notably, there is research focussed on SMEs. Bryson and Forth examined the association between management practices and SME performance in Britain over 2011-2015. They concluded the following:

- SMEs are less likely to use formal management practices than larger firms.

- Management practices appear to have demonstrable benefits for those SMEs who use them, being positively associated with firm survival, growth and productivity.

Sources:

[De Grip and Sauermann, The effects of training on own and co-worker productivity: Evidence from a field experiment, 2011](#) (Work-Related Training);
[Brown et al., Workplace Performance, Worker Commitment, and Loyalty, 2011](#) (Employee Engagement);
[Bryson and Forth, The Impact of Management Practices on SME Performance, 2018](#) (SMEs)

Productivity: possible contributing factors

Adoption of technology

Another possible factor affecting productivity is the degree to which businesses make the most of new and innovative technologies. Examples of technology that can increase productivity include:

- Increased use of **data**, e.g. in monitoring and decision-making.
- **Website analytics** to understand user preferences.
- **Automated processes**, e.g. in manufacturing.
- **Cloud computing solutions** to enable mobile working.
- **Digital communication** between employees.

The Confederation of British Industry believes that increasing technology adoption is a key part of solving the UK's productivity puzzle. They argue the following points:

- The UK lags behind many European economies in adoption of digital technology.
- Increasing business adoption of key technologies and management practices could unlock **£100 billion** for the UK economy.
- Greater take-up of innovation could lead to a **5%** reduction in income inequality.

Productivity: possible contributing factors

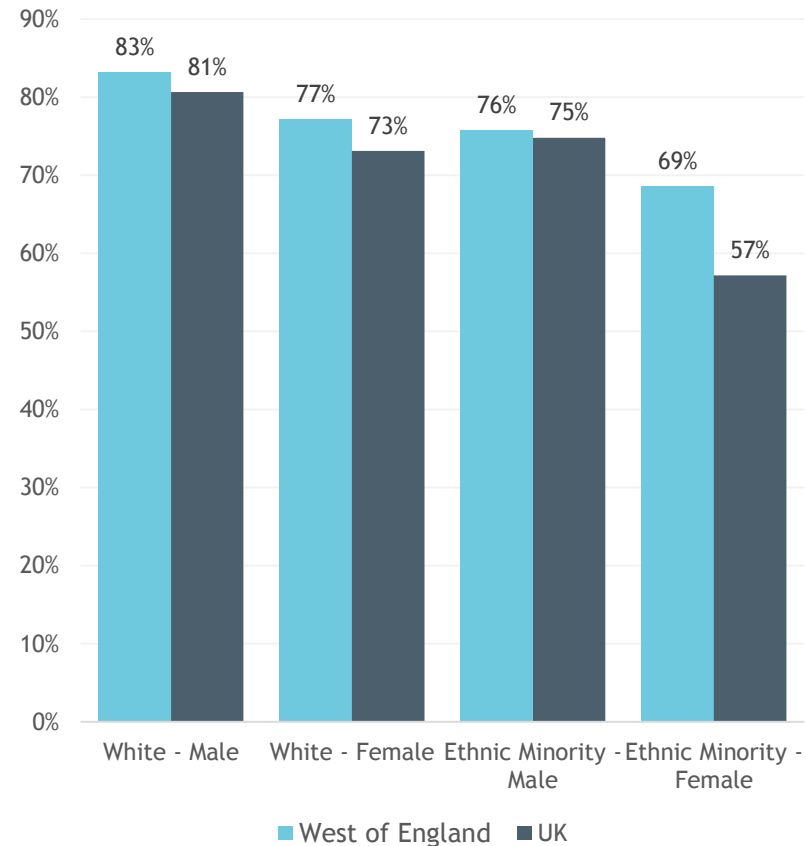
Workforce diversity

Research by McKinsey has shown that companies with a more diverse workplace are more likely to produce strong financial results, suggesting increased diversity as a positive factor in improving productivity.

Figure 22 shows employment rate by ethnicity and gender, for the West of England and the UK. It shows that:

- Ethnic minority employment rates in the West of England are **higher** than in the UK overall.
- Female employment rates in the West of England are **higher** than in the UK overall.
- There are still **disparities** in employment in the West of England in terms of gender and ethnicity.

Figure 22: Percentage point difference between overall and ethnic minority employment rates (2018)



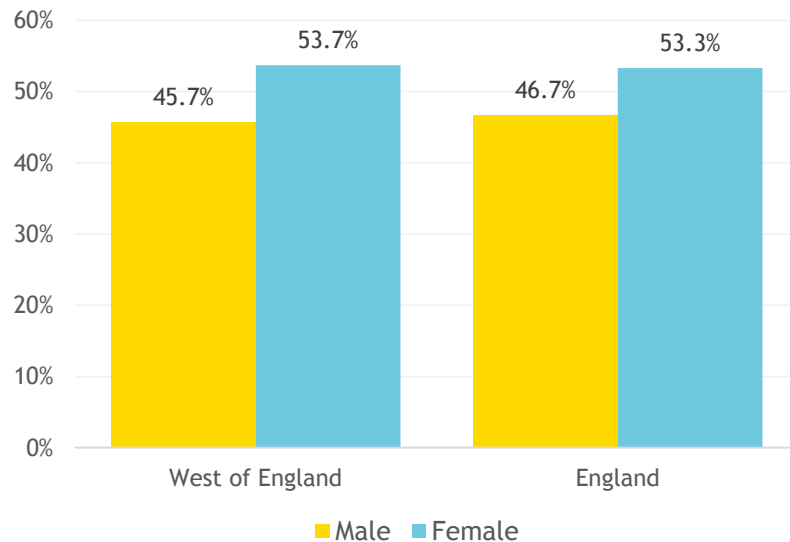
Productivity: possible contributing factors

Workforce diversity (continued)

Apprenticeships also give an indication of diversity in the workforce.

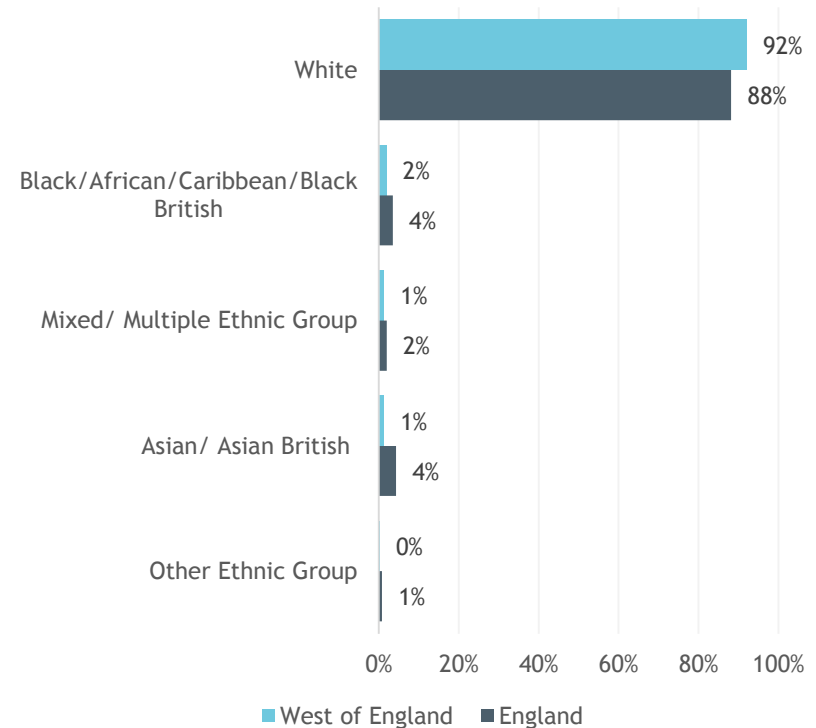
The gender split of students completing apprenticeships in the West of England is slightly more even than in England overall.

Figure 23: Apprentices by gender (% of total) (2017-18)



However, apprentices in the region have a less diverse ethnic make-up compared to those in England overall.

Figure 24: Apprentices by ethnicity (% of total) (2017-18)



Productivity

Centre for Cities analysis

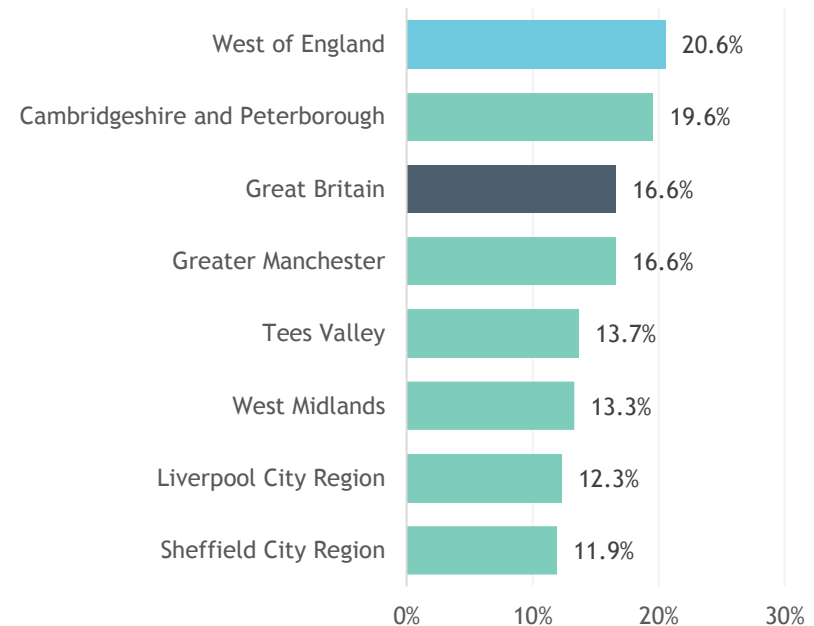
Analysis published by the Centre for Cities suggests that some firms have more potential to increase their productivity than others. It defines three types of businesses:

- **‘Local Services’** businesses do not have the potential to sell beyond their local market.
- **‘Low-Skilled Exporter’** businesses either sell beyond their local market or have the potential to do so, and require low-skill work.
- **‘High-Skilled Exporter’** businesses either sell beyond their local market or have the potential to do so, and require high-skill work.

High-skilled exporter businesses have the greatest potential to increase their productivity.

Compared to other areas, the West of England has the greatest proportion of businesses in the ‘high-skilled exporter’ category, suggesting that the region has high potential to increase productivity.

Figure 25: % of Businesses in ‘high-skilled exporter’ category (2017)



SCALE-UPS

Scale-ups

This section considers **scale-up businesses**, i.e. those that are expanding quickly with high turnover or employment growth.

On average they are **42%** more productive than their peers.

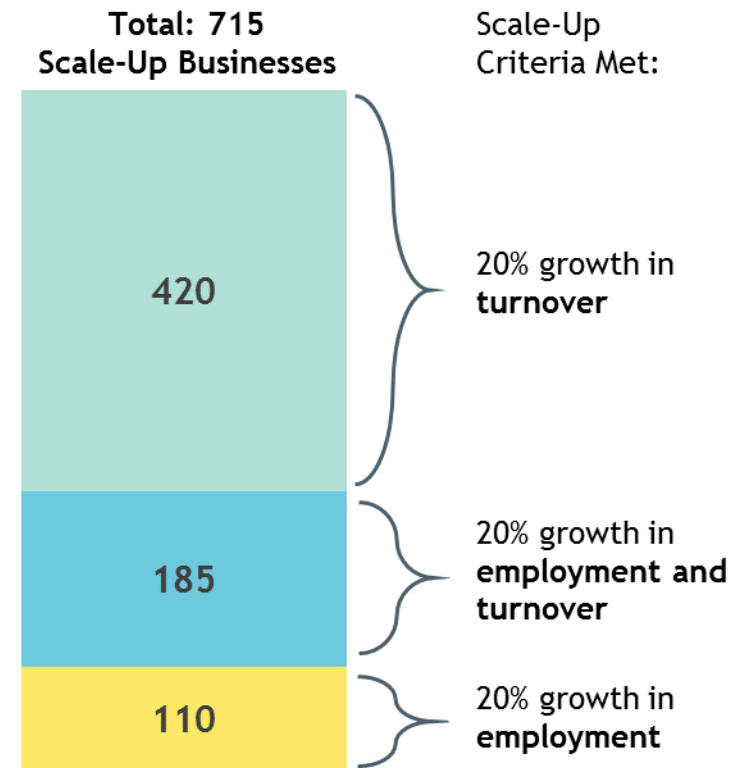
Scale-up population

The Organisation for Economic Co-operation and Development defines a scale-up as:

An enterprise with average annual growth in employees or turnover greater than 20 per cent per annum over a three year period, and with more than 10 employees at the beginning of the period.

Using this definition, the West of England was home to a total of 715 scale-ups in 2016. This equates to 63 scale-ups per 100,000 people, which is the sixth-highest value out of all Local Enterprise Partnership areas.

Figure 26: Scale-up population in the West of England (2016)



Scale-ups

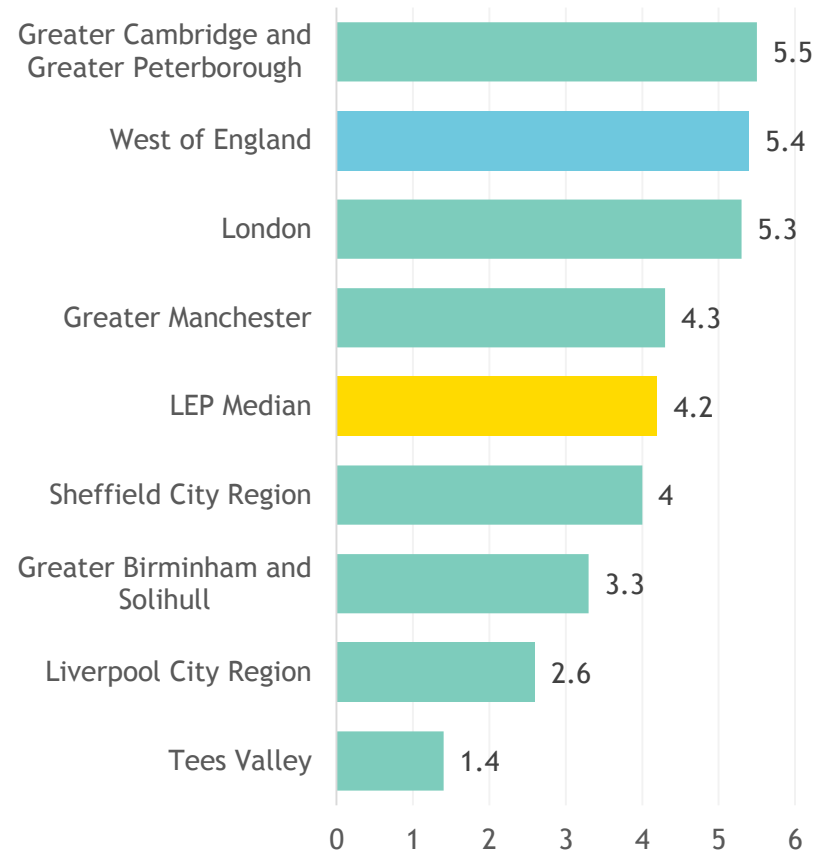
Scale-up growth

Between 2014 and 2017, the West of England saw an average increase of **5.4** new scale-ups per 100,000 people per year.

This scale-up growth rate is higher than the median for Local Enterprise Areas and higher than almost all comparator areas. Given that the region's overall birth rate is lower than comparator areas, this suggests that a high proportion of new businesses in the West of England meet the scale-up criteria.

However, recent scale-up growth does represent a small decrease on the average growth rate between 2013 and 2016 of **6.0**. This highlights the need to support scale-ups to continue to thrive in the region.

Figure 27: Average annual number of new scale-ups per 100,000 People (2014 - 2017)



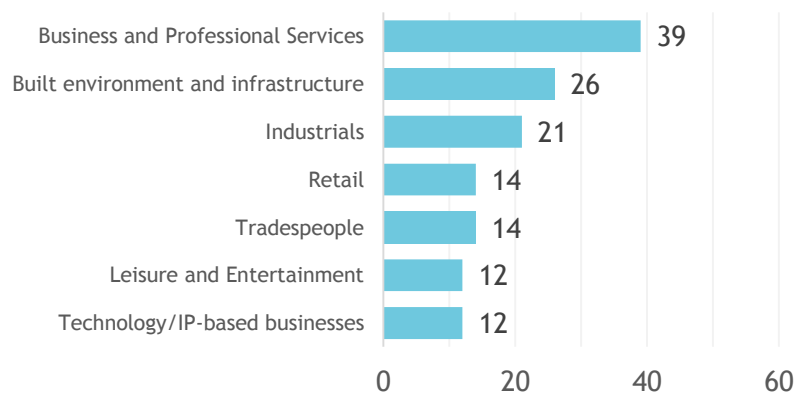
Scale-ups

Scale-up sectors

This page displays initial analysis on the nature of scale-up businesses conducted using data from Beauhurst.

The data identify a total of **102** scale-ups¹ within the West of England, and include descriptions of their sectors according to Beauhurst's own classification. Note that businesses can be classed under more than one sector.

Figure 28: Number of scale-ups by sector (2019) (only sectors with at least 10 businesses)



The data also include more detailed sectors, of which the most common are:

- *Property/land development and construction* (19 scale-ups)
- *Other business and professional services for businesses* (10)

Finally, the data identify buzzwords, i.e. terms associated with a business. Of these, the following are applicable to scale-ups in the West of England:

- *Omni-channel retailing*
- *Biomass and biofuels*
- *FinTech*

We plan to do more with this data source in future work.

1. Beauhurst use the OECD definition of scale-up businesses.

Scale-ups

Scale-up challenges

Despite the large and fast-growing scale-up population in the West of England, scale-ups still report challenges to business growth as identified in our Innovation Evidence Base:

- **Investment in Research and Development:** Spending on R&D by higher education and business is below the median for Local Enterprise Areas (Smart Specialisation Hub LEP Profile).
- **Finance:** There is perceived to be under-investment in some sectors, including Artificial Intelligence, creative and digital.
- **Workspaces:** There is a shortage of flexible and affordable workspaces, particularly affecting businesses that wish to grow. This was reported for the life sciences and composites sectors, amongst others.
- **Skills:** There is a mismatch between skills available in the region and skills required by some sectors, such as in science, technology, engineering and mathematics.
- **Strategic approach:** Some sectors felt the need for coordination and leadership at a sectoral level across private, public & civil society organisations. This would aid external funding bids and help to raise the region's international profile. Clean energy and fintech reported this challenge amongst other sectors.

SECTOR ANALYSIS

Sector analysis

This section explores the sectors that make up the West of England's business environment.

This analysis uses standard industrial classifications for sectors.

Sector make-up

Figure 29 on the next page shows the West of England's sector split by employment. The largest employing sectors are:

- *Wholesale and retail trade; repair of motor vehicles and motorcycles* (85,000 jobs; 14% of all jobs in the region)
- *Human health and social work activities* (78,000 jobs; 13% of all jobs in the region)
- *Education* (56,000 jobs; 9% of all jobs in the region)

- *Professional, scientific and technical activities* (56,000 jobs; 9% of all jobs in the region)
- *Administrative and support service activities* (52,000 jobs; 9% of all jobs in the region.)

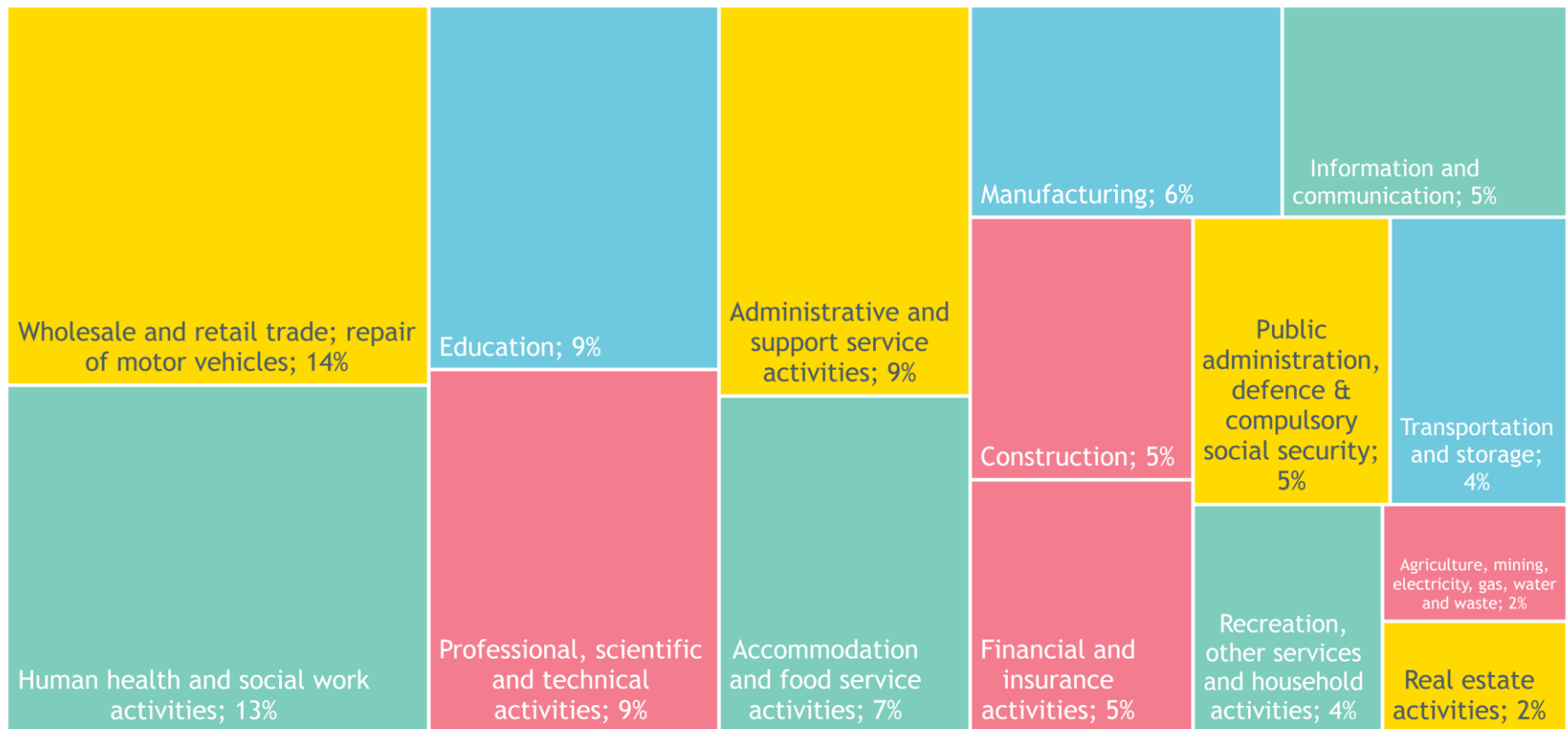
Figure 30 on the following page shows the West of England's sector split by employment alongside Great Britain's. The region has a broad range of sectors, in line with wider Great Britain.

Note that some sectors are grouped together in this chart to enable easy visualisation.

Sector analysis

Sector make-up (continued)

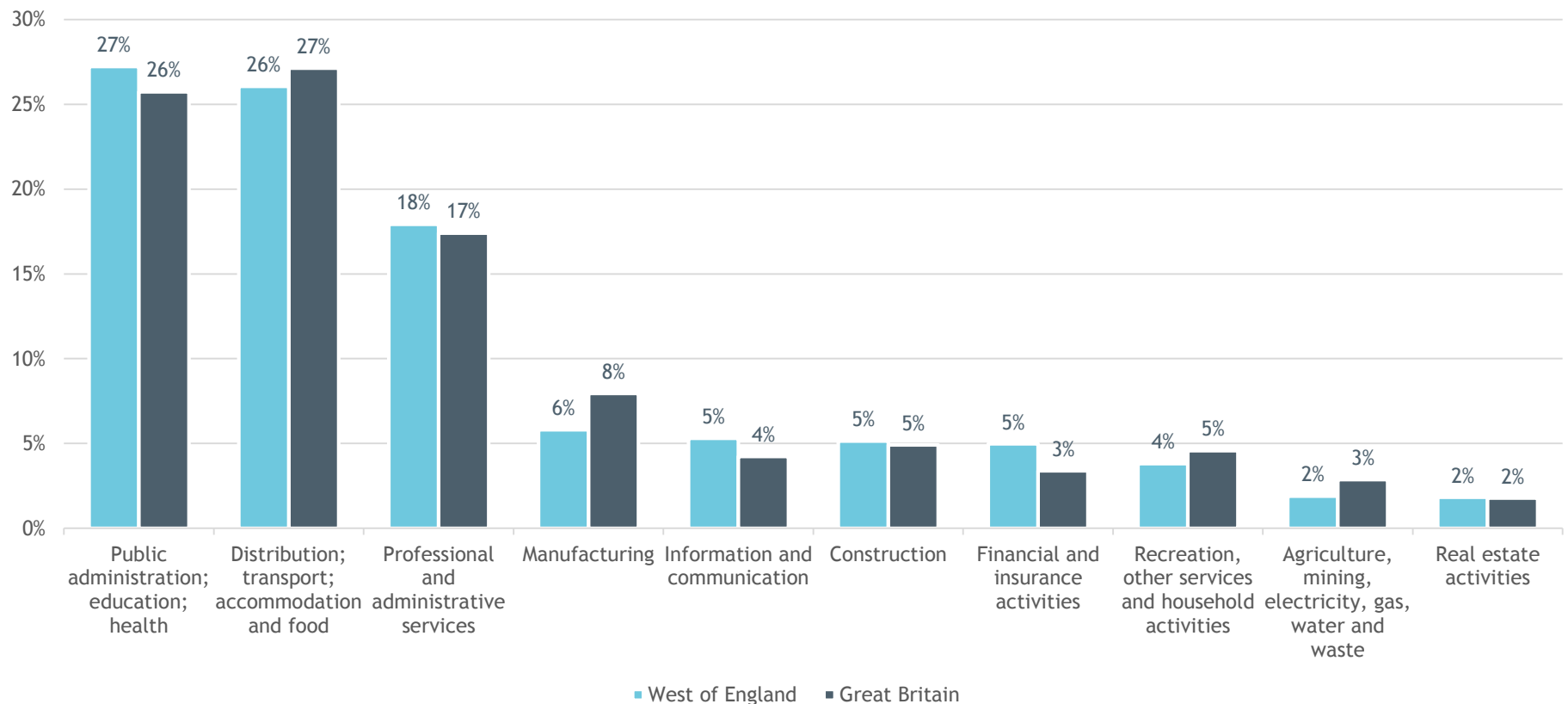
Figure 29: Employment by sector (% of total) (2017)



Sector analysis

Sector make-up (continued)

Figure 30: % of total employment by sector (2017)



Sector analysis

Employment specialisation

On the previous page we considered the proportion of total employment accounted for by each sector, e.g. *manufacturing accounts for 6% of employment in the West of England*.

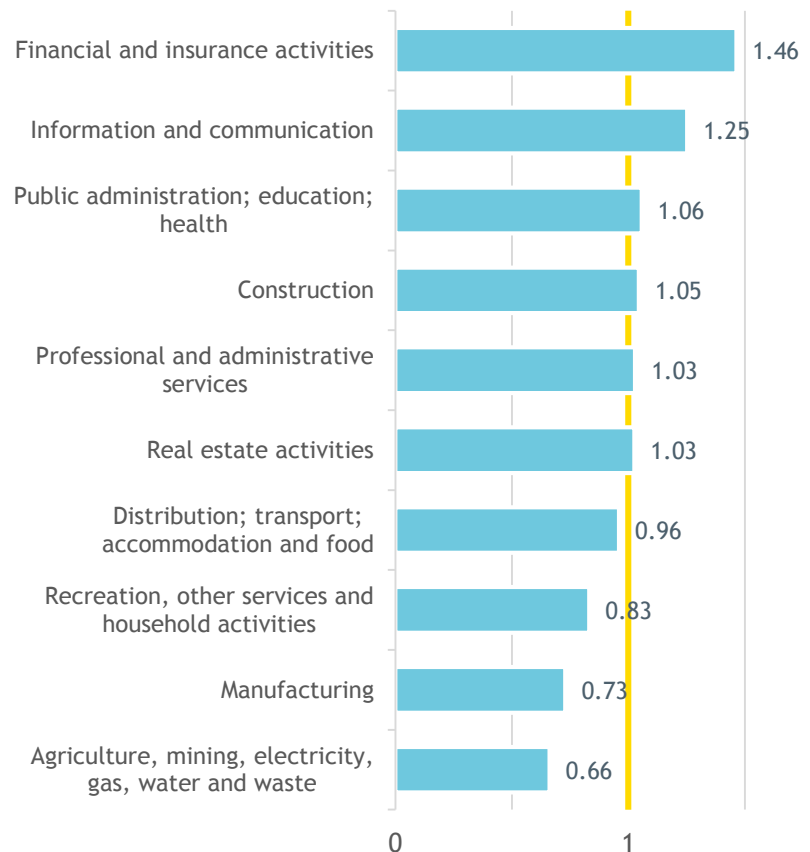
To compare this value with Great Britain we use **location quotients**, which measure the region's sector specialisations.

If the value is larger than 1, the region is specialised in the sector, i.e. the sector is a larger part of employment in the region than it is in Great Britain.

The results show that the region is particularly specialised in the following sectors when compared to Great Britain:

- *Financial and insurance activities (LQ = 1.46)*
- *Information and communication (LQ = 1.25)*

Figure 31: Location quotients by sector for the West of England (2017)



Sector analysis

Employment specialisation (continued)

Figure 32 on the following page maps each sector as a circle and shows several important features:

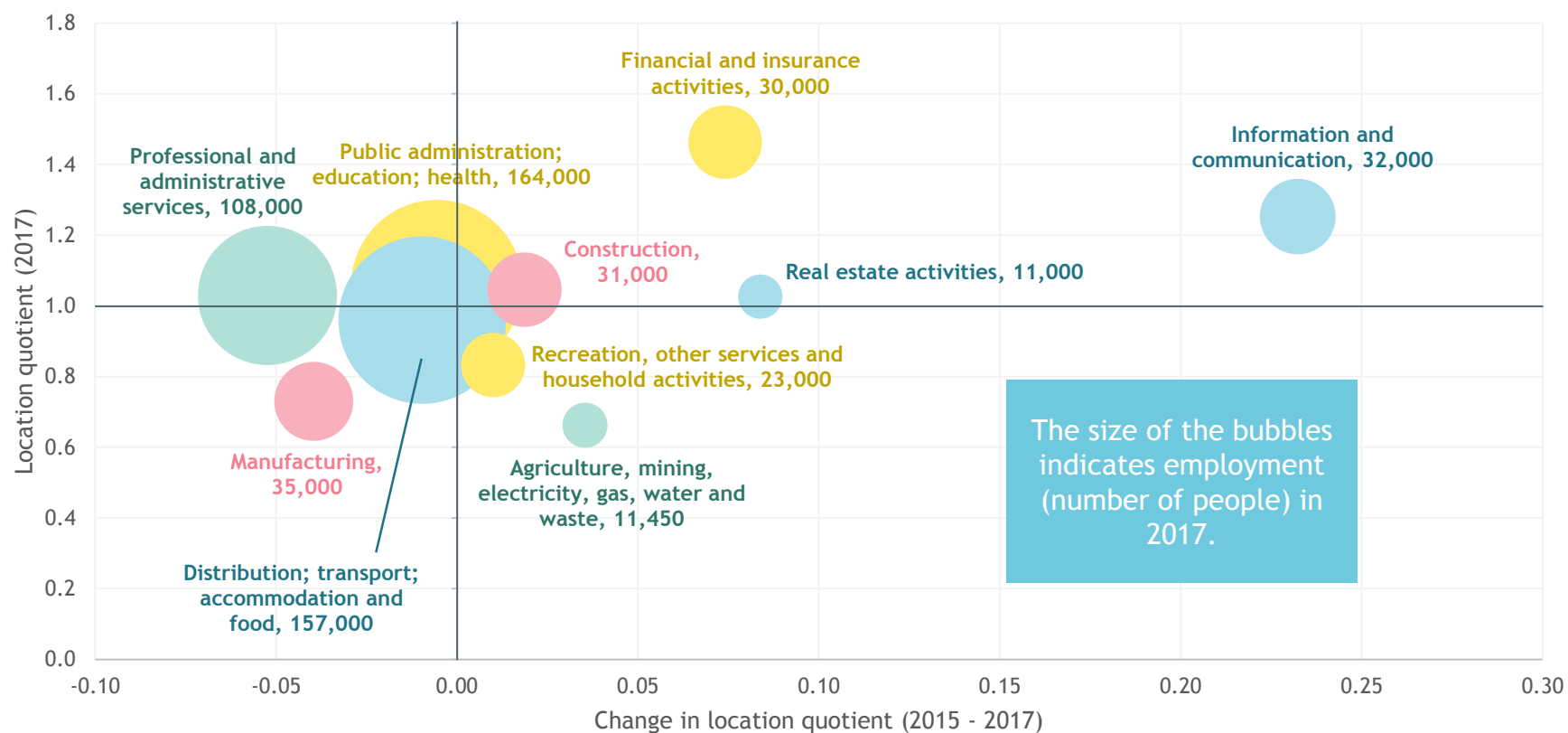
- The y-axis shows the sector's **current location quotient**¹, as discussed on the previous page.
 - The x-axis shows the **change in location quotient** for the sector between 2015 and 2017.
 - The size of the circle shows **current employment** (number of people) in the sector.
- The chart illustrates that:
- The two largest employing sectors, *public administration; education; health and distribution; transport; accommodation & food*, have location quotients close to 1 and have not seen significant changes since 2015.
 - The third largest employing sector, professional and administrative services, has reduced in specialisation since 2015.
 - The fourth largest employing sector, *manufacturing*, has also reduced in specialisation since 2015.
 - The two sectors in which the region is most specialised, *financial & insurance activities* and *information & communication*, have both seen increases in specialisation since 2015. They employ a moderately large number of people.
 - The other sectors which have increased in specialisation, *real estate activities* and *agriculture, mining, electricity, gas, water & waste*, employ fewer people.

1. Location quotients are explained on page 39.

Sector analysis

Employment specialisation (continued)

Figure 32: Current location quotient¹, change in location quotient & employment by sector for the West of England



1. Location quotients are explained on page 39.

Sector analysis

Productivity

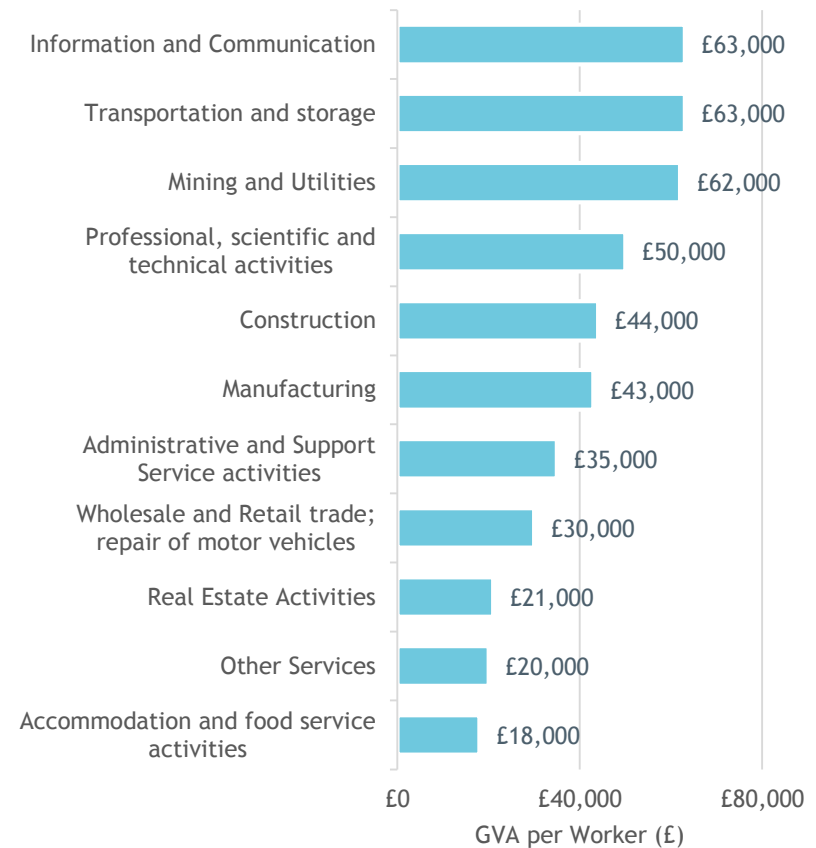
Returning to productivity, this subsection explores how it varies at a sectoral level.

The Office for National Statistics publish estimates of regional productivity for broad sectors. As with earlier productivity estimates, these include only the non-financial business economy. See page 16 for a full explanation of this.

The results show that:

- All sectors are estimated to have median productivity **between £18,000 and £63,000** per worker in the West of England.
- The region has three **most productive** sectors: *information and communication*, *transportation & storage* and *mining & utilities*.
- Meanwhile *accommodation and food service activities* is the **least productive** sector.

Figure 33: Median regional productivity estimates for the West of England (2014)



Sector analysis

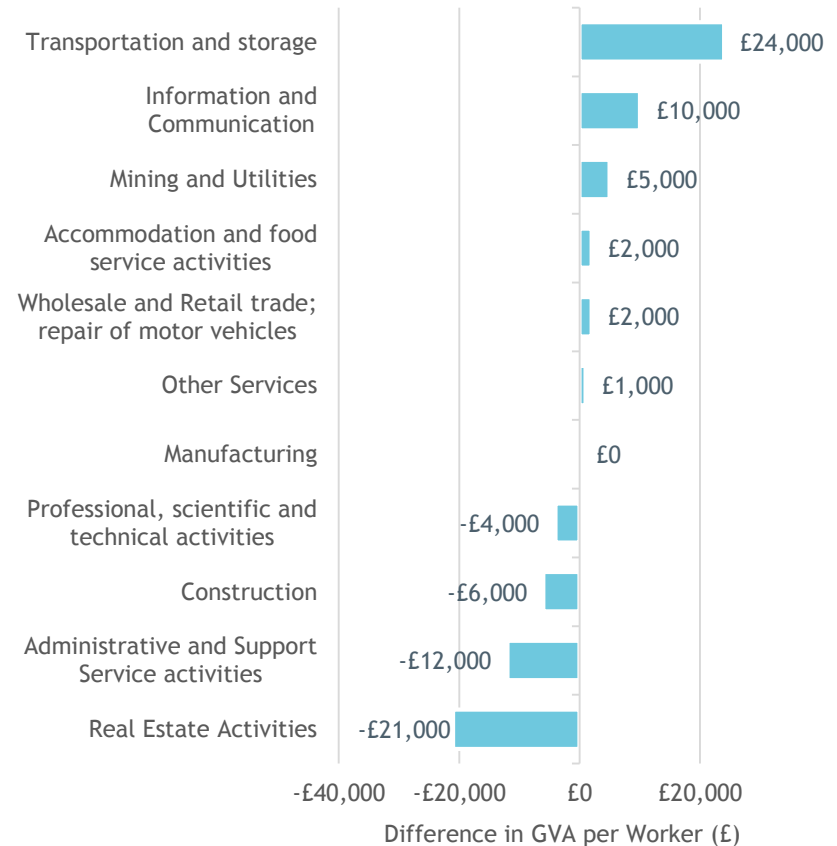
Productivity (continued)

Estimates of sectoral productivity are also available for Great Britain. Figure 34 shows the difference between estimated productivity between the West of England and Great Britain by sector, where positive values represent greater productivity in the West of England.

The estimates show that:

- The West of England is **more productive** than Great Britain in six sectors, particularly *transportation and storage*.
- The West of England is **less productive** than Great Britain in five sectors, particularly *real estate* and *administrative and support services*.
- The West of England is **as productive** as Great Britain in *manufacturing*.

Figure 34: Difference in median regional productivity estimates between the West of England and Great Britain (2014)



Sector analysis

Innovation sectors

In developing the Innovation theme of our Local Industrial Strategy, we have identified three distinct clusters of employment in innovative sectors. They reflect findings in SQW's 'Bristol-Bath Innovation Cluster' report and the South West England and South East Wales Science and Innovation Audit.

Advanced engineering and aerospace

- Includes cutting-edge design, engineering and aerospace activity.
- Employs **28,710** people in the West of England, which is **4.8%** of total employment in the region.

Creative, cultural & digital industries

- Includes businesses ranging from software publishing to motion picture production.
- Saw an increase of **9,525 jobs (28.0%)** between 2015 and 2017, surpassing growth elsewhere in England.

Financial, business and legal services

- Includes professional services businesses, which often make use of new technological innovations.
- Employs **58,000** people in the West of England, which is **9.6%** of total employment in the region.

Sector analysis

Advanced engineering and aerospace

This sector encompasses cutting-edge design and engineering, including the region's established aerospace cluster.

Activity in the West of England and beyond demonstrates the importance of this sector:

- The government's **sector deal** recognises aerospace as a key sector and one that is important for increasing future exports.
- The West of England boasts the **UK's largest aerospace/defence cluster**, and one of the largest such concentrations in Europe.
- **Airbus** has invested **£27 million** to develop a new Advanced Wing Integration Centre based at Filton, to focus on improving the UK's capability around the design and testing of wings.

- The **National Composites Centre** opened in Bristol in 2011 as part of Innovate UK's High Value Manufacturing Catapult.

The West of England benefits from the presence of many international and local businesses in the sector, such as:

- **Airbus**
- **BAE Systems**
- **GKN Aerospace**
- **Honeywell**
- **National Composites Centre**
- **Rolls Royce**

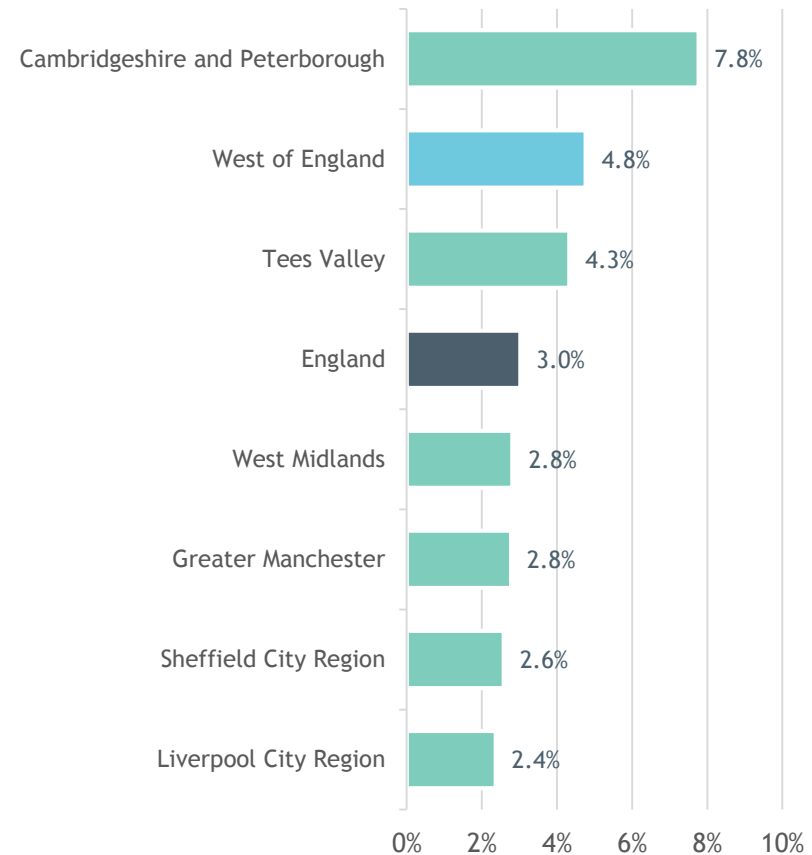
Sector analysis

Advanced engineering and aerospace (continued)

Key statistics:

- Advanced engineering and aerospace employs **28,710** people in the West of England.
- The sector accounts for **4.8%** of total employment in the region. This is the second highest value when compared to comparator areas and is above England overall.
- There are **1,960** advanced engineering and aerospace businesses in the West of England (**4.4%** of all businesses in the region).
- Between 2015 and 2017, employment in the sector decreased by **1,685** jobs (**5.5%**) in the West of England. However, the previous page demonstrated that there has been investment in this sector since 2017. This may lead to an increase in future jobs.

Figure 35: Advanced engineering and aerospace as a % of total employment (2017)



Sector analysis

Advanced engineering and aerospace (continued)

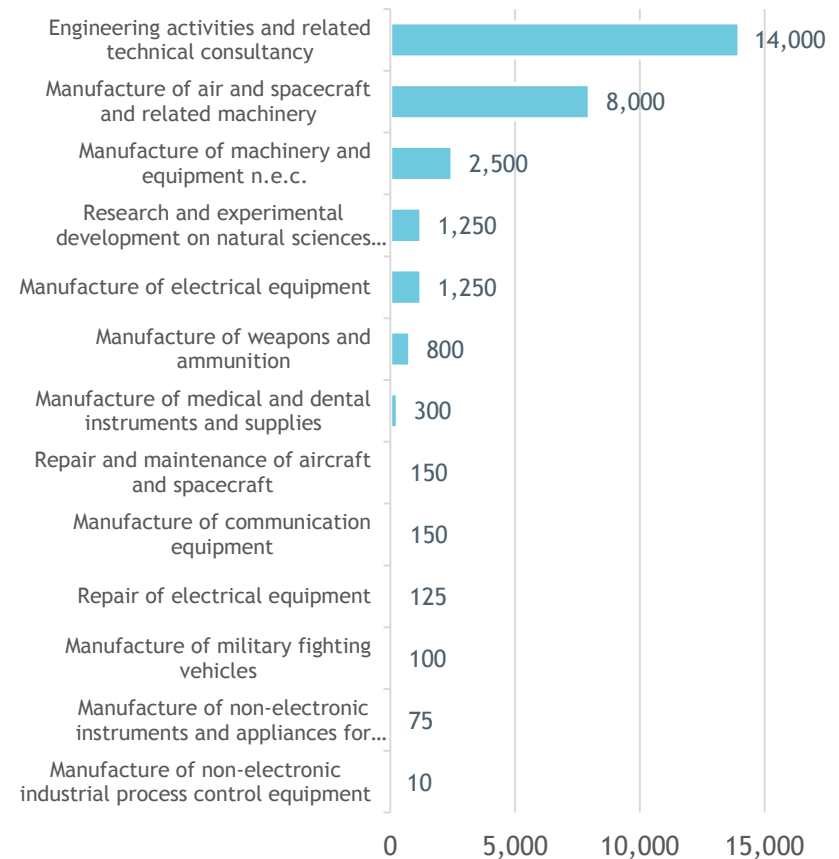
Subsectors:

Within the sector, there is most employment in the following subsectors:

- *Engineering activities and related technical consultancy (49% of employment in the sector)*
- *Manufacture of air and spacecraft and related machinery (28%)*
- *Manufacture of machinery and equipment n.e.c. (9%)*

The prevalence of *manufacture of air and spacecraft and related machinery* reflects the role of the aerospace cluster in this sector.

Figure 36: Advanced engineering and aerospace employment by subsector in the West of England (2017)



Sector analysis

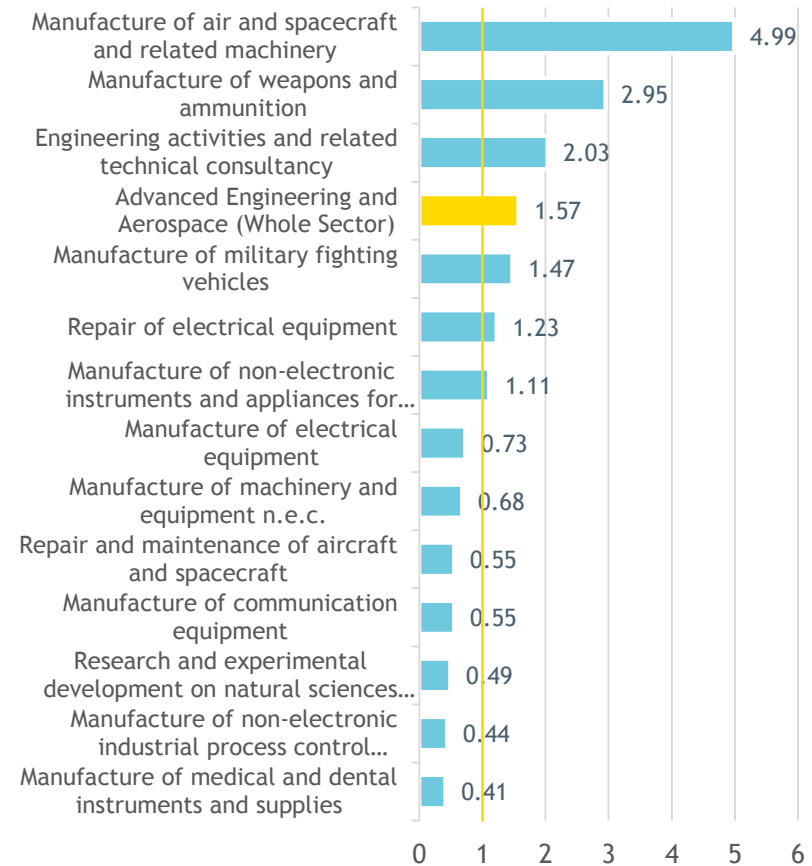
Advanced engineering and aerospace (continued)

Subsectors can also be compared to England by calculating location quotients¹. The results show that:

- The West of England is specialised in high value design and engineering as a whole compared to England.
- The region is particularly specialised in **aerospace** compared to England.
- The region is also particularly specialised in *manufacture of weapons & ammunition* and *engineering activities & related technical consultancy* compared to England.

These results reflect our understanding of the region playing a key part in the country's development of advanced engineering and aerospace.

Figure 37: Advanced engineering and aerospace location quotients by subsector in the West of England (2017)



1. Location quotients are explained on page 39.

Sector analysis

Creative, cultural and digital industries

This sector encompasses businesses which provide a range of services including:

- advertising
- broadcasting activities
- computer consultancy and repair
- data processing
- manufacture of technology
- media services
- motion picture production
- software publishing

In recent years this sector has been the fastest-growing of the three super-sectors.

Recent events showcase the West of England as a distinctive creative hub:

- The government's creative industries sector deal recognises the region's '**globally-significant, high-growth creative cluster**'.
- As part of the sector deal, government committed to investing **£21 million** to support digital companies and start-ups across the UK via a series of support hubs; two of these will be based in Bath and Bristol.
- Bristol is a member of the **UNESCO Global Creative Cities Network**, demonstrating its success in the creative industries.
- **Channel 4** recently chose Bristol's Finzels Reach as the home of its new Creative Hub.

Sector analysis

Creative, cultural and digital industries (continued)

The region is also a centre of significant digital and technology activity:

- The Data City's recent **Digital Tech Census** ranked Bristol as having the fourth largest number of digital technology organisations of any UK city.
- Tech City UK (2017) cited Bristol and Bath as the **most productive tech cluster** in the UK; with **£8.1 billion** digital tech turnover.

The range of businesses in the region indicates both creative and digital activity, with businesses often combining the two:

- **Aardman Animations**
- **BBC**
- **Five AI**
- **Future Publishing**
- **Graphcore**
- **HP**
- **IBM**
- **ITV**
- **Silverback Films**
- **Toshiba Research Europe**
- **Ultrahaptics**
- **Yogscast**

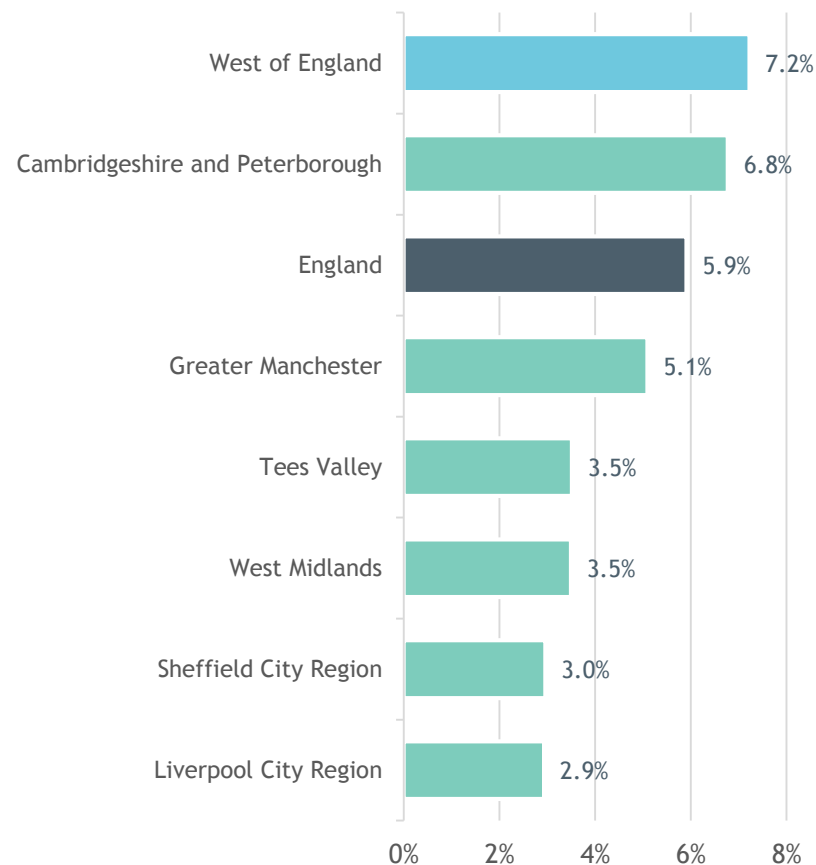
Sector analysis

Creative, cultural and digital industries (continued)

Key statistics:

- Creative, cultural and digital industries employ **43,580** people in the West of England.
- The sector accounts for **7.2%** of total employment in the region. This is the highest value of comparator areas and is above England overall.
- There are **6,520** creative, cultural and digital businesses in the West of England (**14.5%** of all businesses in the region).
- Between 2015 and 2017, employment in the sector increased by **9,525** jobs (**28.0%**) in the West of England. In the same period, employment in the sector grew by only **3.5%** in England.

Figure 38: Creative, cultural and digital industries as a % of total employment (2017)



Sector analysis

Creative, cultural and digital industries (continued)

Subsectors:

The following pages show employment by subsector for creative, cultural and digital industries and also location quotients¹, as for the previous innovation sector.

The largest subsectors are digitally focussed: *computer consultancy activities* accounts for 21% of employment in the sector and *computer programming activities* accounts for 14%.

The remaining sectors are a mix of creative and digital subsectors:

- *Other telecommunications activities* (8% of employment in the sector)
- *Other information technology and computer service activities* (8%)

- *Advertising* (8%)
- *Data processing, hosting and related activities* (7%)
- *Architectural activities* (6%)

The location quotients show that:

- The West of England is specialised in creative, cultural and digital industries as a whole compared to England.
- The region is most specialised in *data processing, hosting and related activities*.
- Other particular areas of specialisation are mixed and include computer manufacture and repair, and publishing of journals and periodicals.

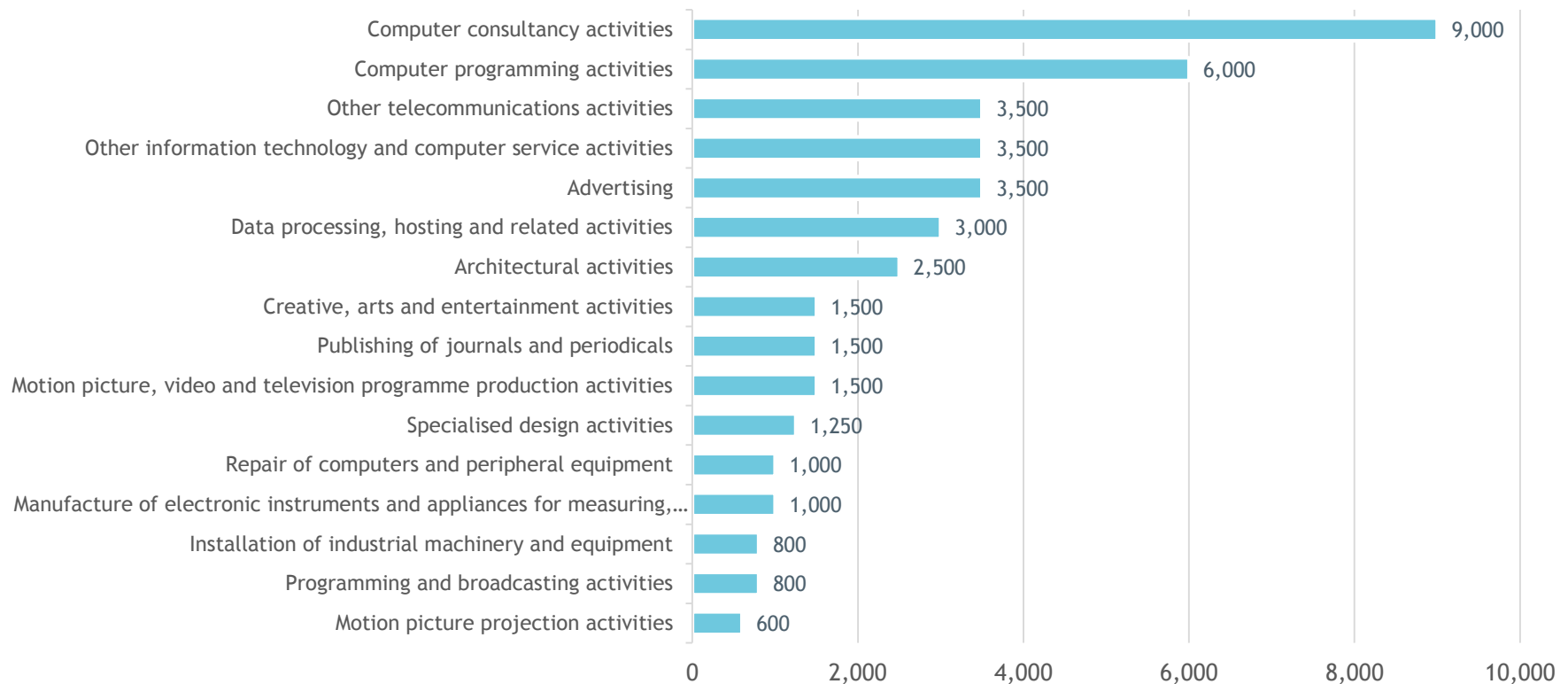
These results mirror the region's specialisation in the *information and communication* sector, as noted earlier in the report.

1. Location quotients are explained on page 39.

Sector analysis

Creative, cultural and digital industries (continued)

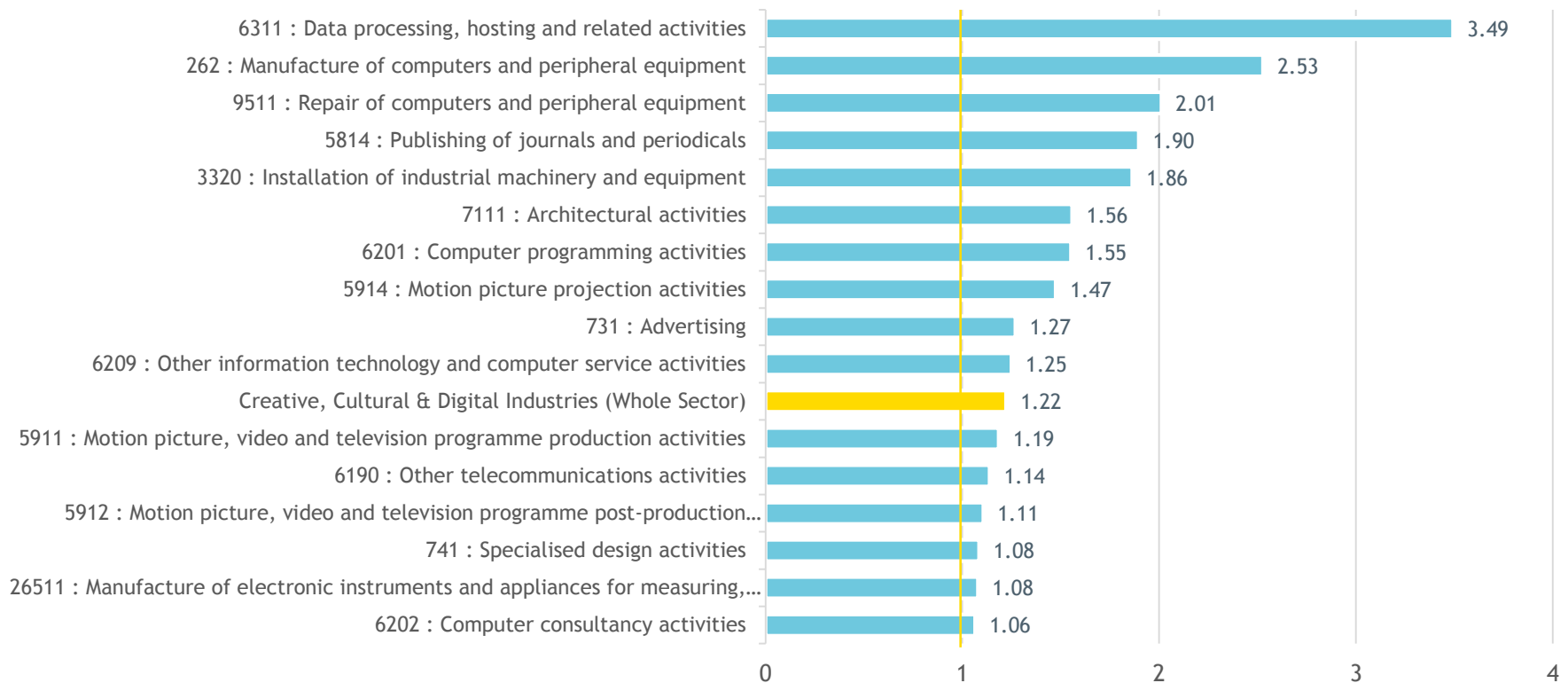
Figure 39: Creative, cultural and digital industries employment by subsector in the West of England (2017) (only subsectors employing over 500 People)



Sector analysis

Creative, cultural and digital industries (continued)

Figure 40: Creative, cultural and digital industries location quotients¹ by subsector in the West of England (2017) (only location quotients greater than 1)



1. Location quotients are explained on page 39.

Sector analysis

Financial, business and legal ‘tech’ services

This sector encompasses professional services including:

- financial services
- insurance
- legal
- accounting
- market research

It includes businesses making use of innovations in the sector, such as those enabled by technology. The West of England hosts a range of innovative activities in this sector:

- Bristol is home to UK headquarters of Triodos Bank, a leading **sustainable bank**.

- **Digital innovations** being applied in this sector in the West of England include:

- blockchain
- chain technology for recruitment
- specialist marketing
- data visualisation

A number of companies operate in the region:

- [Borges Salmon](#)
- [DAS](#)
- [Deloitte](#)
- [Ernst & Young](#)
- [Hargreaves Lansdown](#)
- [Osborne Clarke](#)
- [PwC](#)

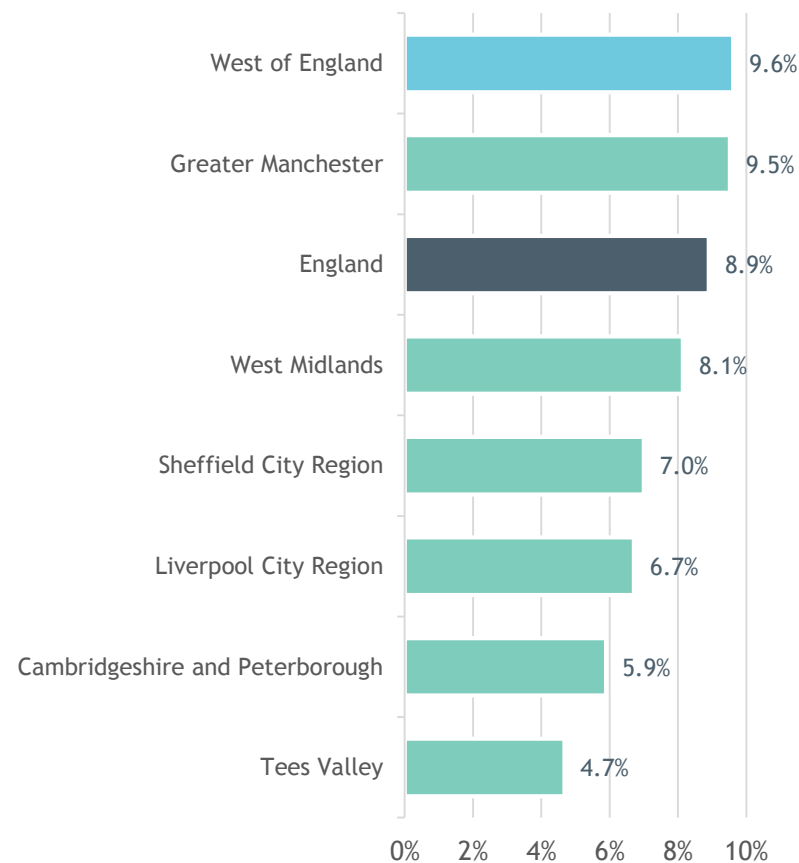
Sector analysis

Financial, business and legal 'tech' services (continued)

Key statistics:

- Financial, business and legal 'tech' services employ **58,000** people in the West of England.
- The sector accounts for **9.6%** of total employment in the region. This is the highest value of comparator areas and is above England overall.
- There are **5,975** financial, business and legal 'tech' services businesses in the West of England (**13.3%** of all businesses in the region).
- Between 2015 and 2017, employment in the sector increased by **1,050** jobs (**1.8%**) in the West of England. In the same period, employment in the sector grew by only **0.7%** in England.

Figure 41: Financial, business and legal 'tech' services as a % of total employment (2017)



Sector analysis

Financial, business and legal ‘tech’ services (continued)

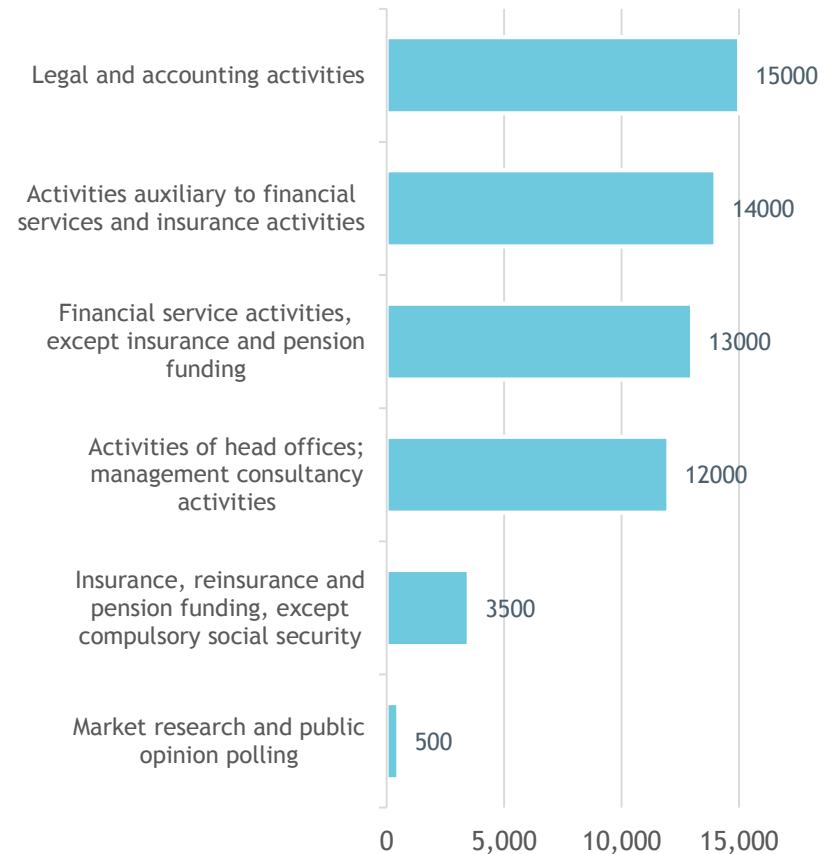
Subsectors:

Within the sector, there is most employment in the following four subsectors:

- Legal and accounting (26% of employment in the sector)
- Activities auxiliary to finance and insurance (24%)
- Financial service activities (excluding insurance and pension funding) (22%)
- Head offices and management consultancy (21%)

Insurance and market research appear to play a smaller part in the region’s employment.

Figure 42: Financial, business and legal ‘tech’ services employment by subsector in the West of England (2017)



Sector analysis

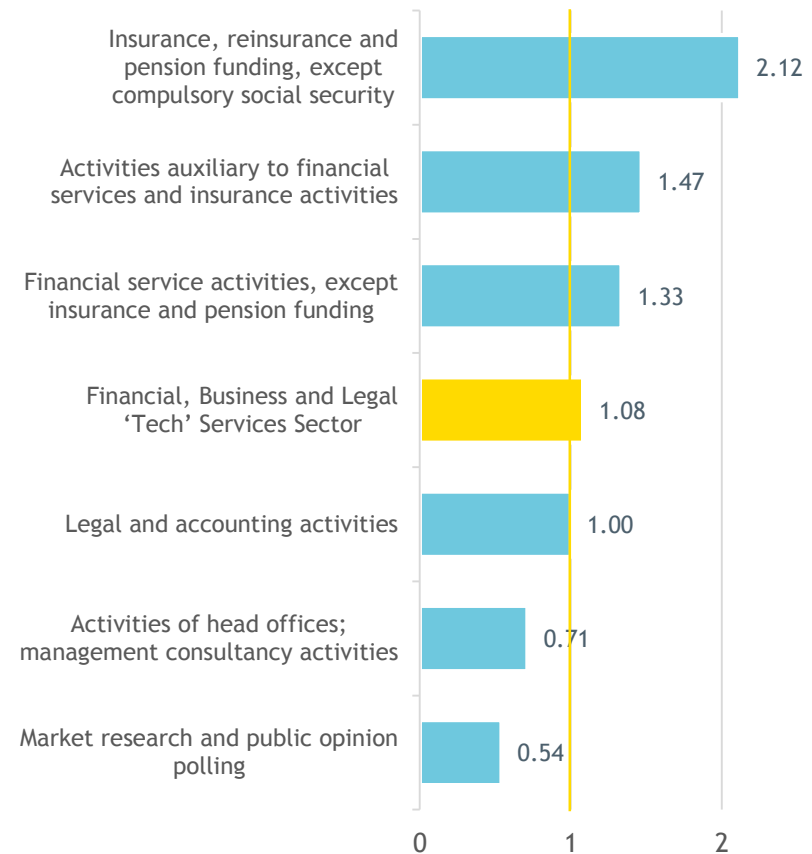
Financial, business and legal ‘tech’ services (continued)

Figure 38 displays location quotients¹ for the subsectors. It shows that:

- The West of England is specialised in financial, business and legal ‘tech’ services as a whole compared to England.
- Although insurance was a smaller subsector in terms of employment, when compared to England the West of England has a high proportion of employment in this subsector.
- The region is also specialised in finance and its auxiliary activities.

This reflects the results noted earlier in the report that the region is specialised in *financial and insurance activities*.

Figure 43: Financial, business and legal ‘tech’ services location quotients by subsector in the West of England (2017)



1. Location quotients are explained on page 39.

Note: Comparator Areas

This document compares the West of England to a list of comparator areas. These are as follows:

- The other six Combined Authorities with secured devolution deals:
 - *Cambridgeshire and Peterborough Combined Authority*
 - *Greater Manchester Combined Authority*
 - *Liverpool City Region*
 - *Sheffield City Region*
 - *Tees Valley Combined Authority*
 - *West Midlands Combined Authority*
- The *London Economic Action Partnership (LEAP)* area

Contact us



westofengland-ca.gov.uk



info@WestOfEngland-CA.gov.uk



0117 428 6210



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