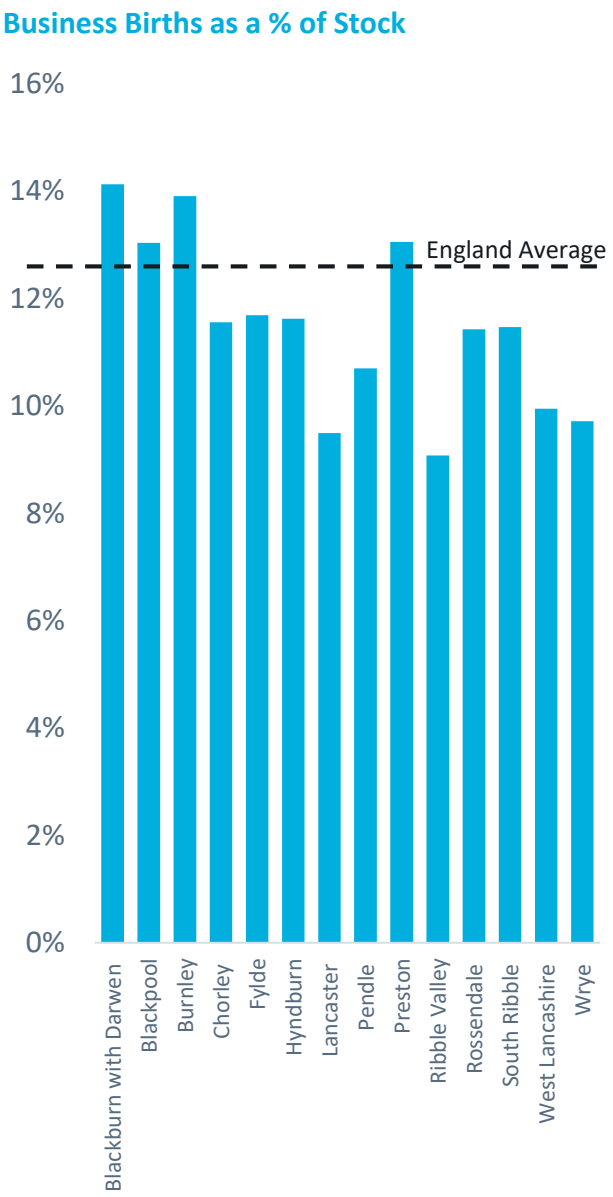
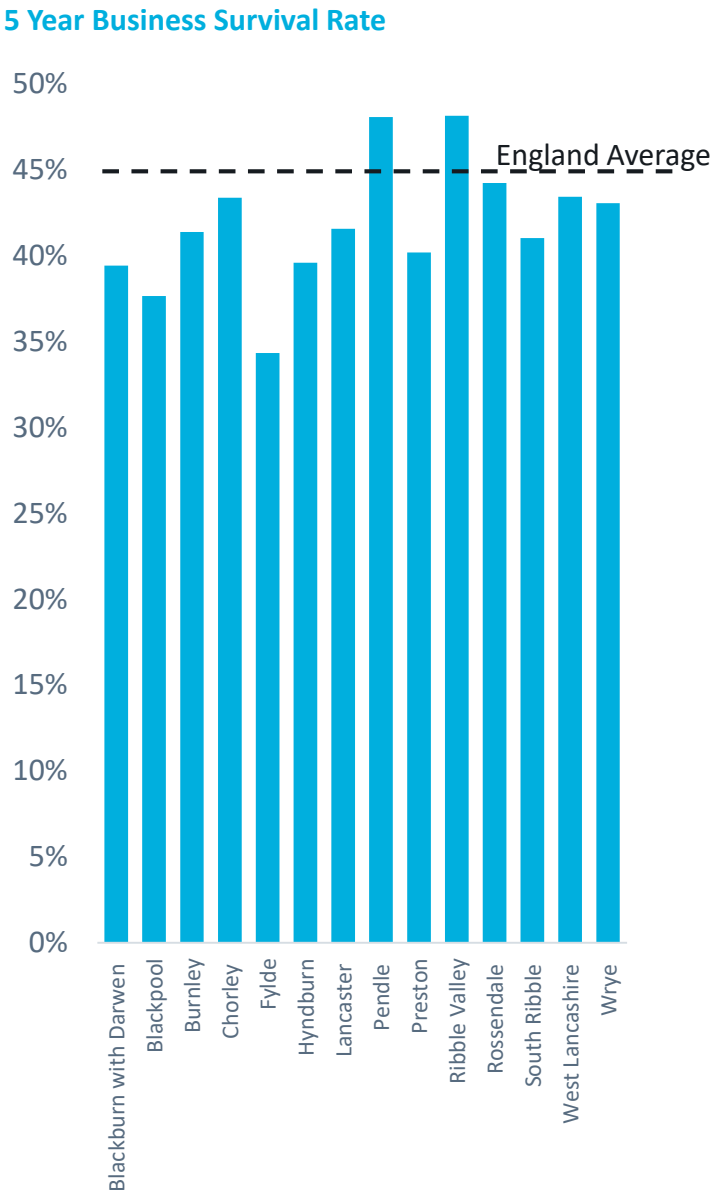
New businesses across Lancashire's Local Authority Districts





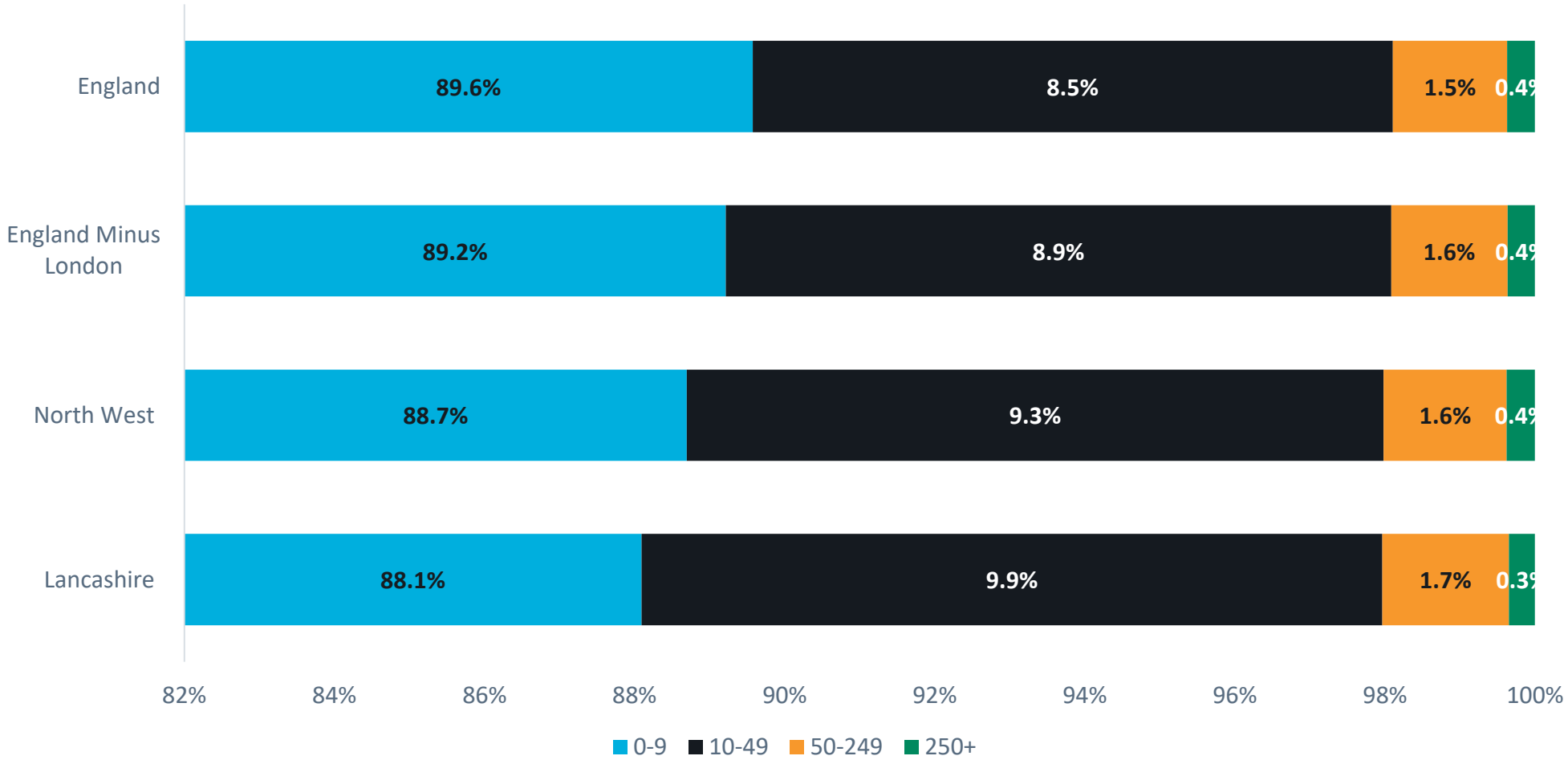
Source: Business Demography, ONS 2011 for 5 years

- On the whole, Lancashire's Local Authority Districts underperform in terms of business births and 5-year survival rates when compared to the England average.
- However, the picture of business births and business survival varies significantly between Lancashire's local authority districts.
- In terms of new businesses as a proportion of the total business stock, Blackburn with Darwen and Burnley outperform the England average.
- In terms of 5-year business survival, Ribble Valley and Pendle outperform the England average.

Business size

- Lancashire has a small proportion of micro-businesses when compared to any other assessed spatial level. These are often the source of fast growth – therefore Lancashire may be missing out on potential high-growth businesses

Proportion of businesses by employment size band

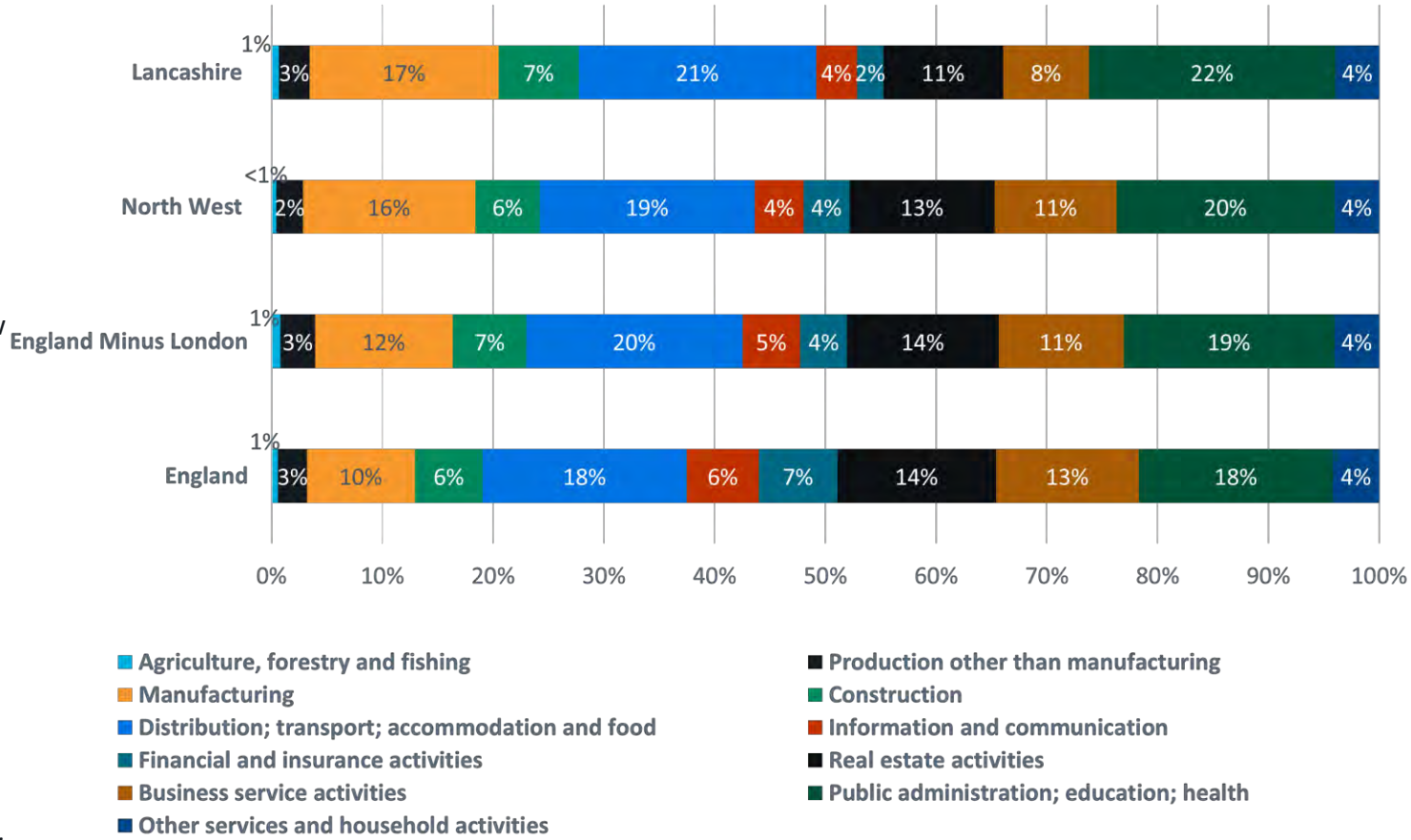


Source: UK Business Counts, NOMIS 2017

Key sectors

- Lancashire's GVA-driving sectors are broadly inline with North West averages.
- The county draws a large proportion of its GVA (60%) from its three largest sectors: Manufacturing; Distribution, transport, accommodation and food; & Public administration; education; health.
- Lancashire also draws a relatively low proportion of its GVA from Business service activities.
- *Thus, the economy has a specialism in manufacturing, a relatively high concentration of public sector activity, a low concentration of high-value added service activities.*
- *Although, in line with What Works Centre guidance, local partners note that industrial structure is not something that may be easily influenced through local intervention.*

Share of GVA By Sector

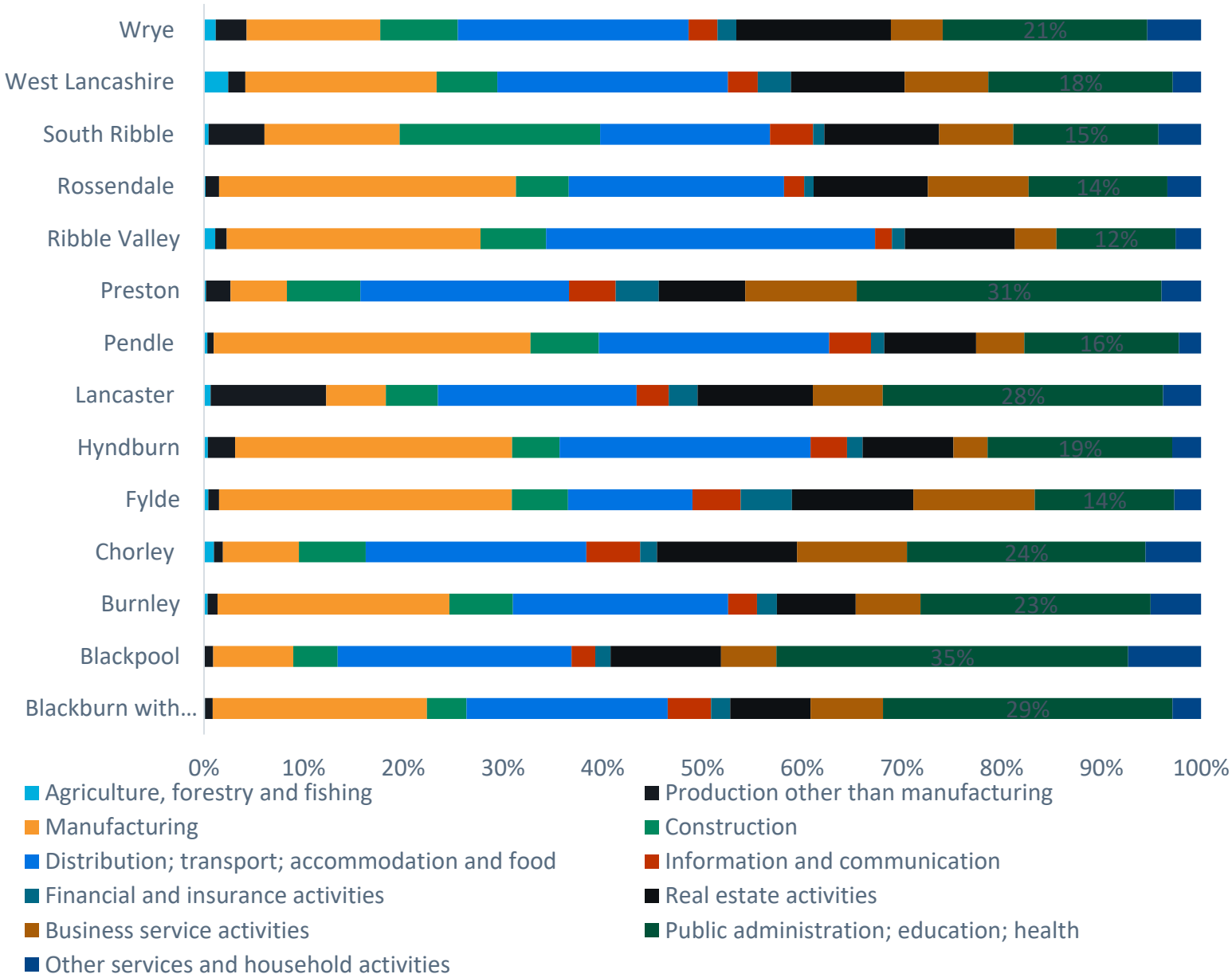


Source: ONS Regional Accounts, 2015

Variation in sectoral mix between Local Authority Districts in Lancashire

- Over 25% of GVA in Rossendale, Ribble Valley, Pendle, Fylde comes from the Manufacturing sector – well above the county average.
- In Lancaster, 12% of GVA comes from production other than manufacturing – compared to a county average of 3%.
- South Ribble has a particularly large construction sector – 20% of GVA compared to a county average of 7%.
- Wyre, Ribble Valley, Pendle and Hyndburn have small business services sectors – less than 5% of GVA compared to a county average of 8%.
- In Preston and Blackpool over 30% of GVA comes from Public administration, education and health sector activities – compared to a county average of 22%.
- *Thus, local economic priorities are likely to vary between districts.*

Share of GVA By Sector

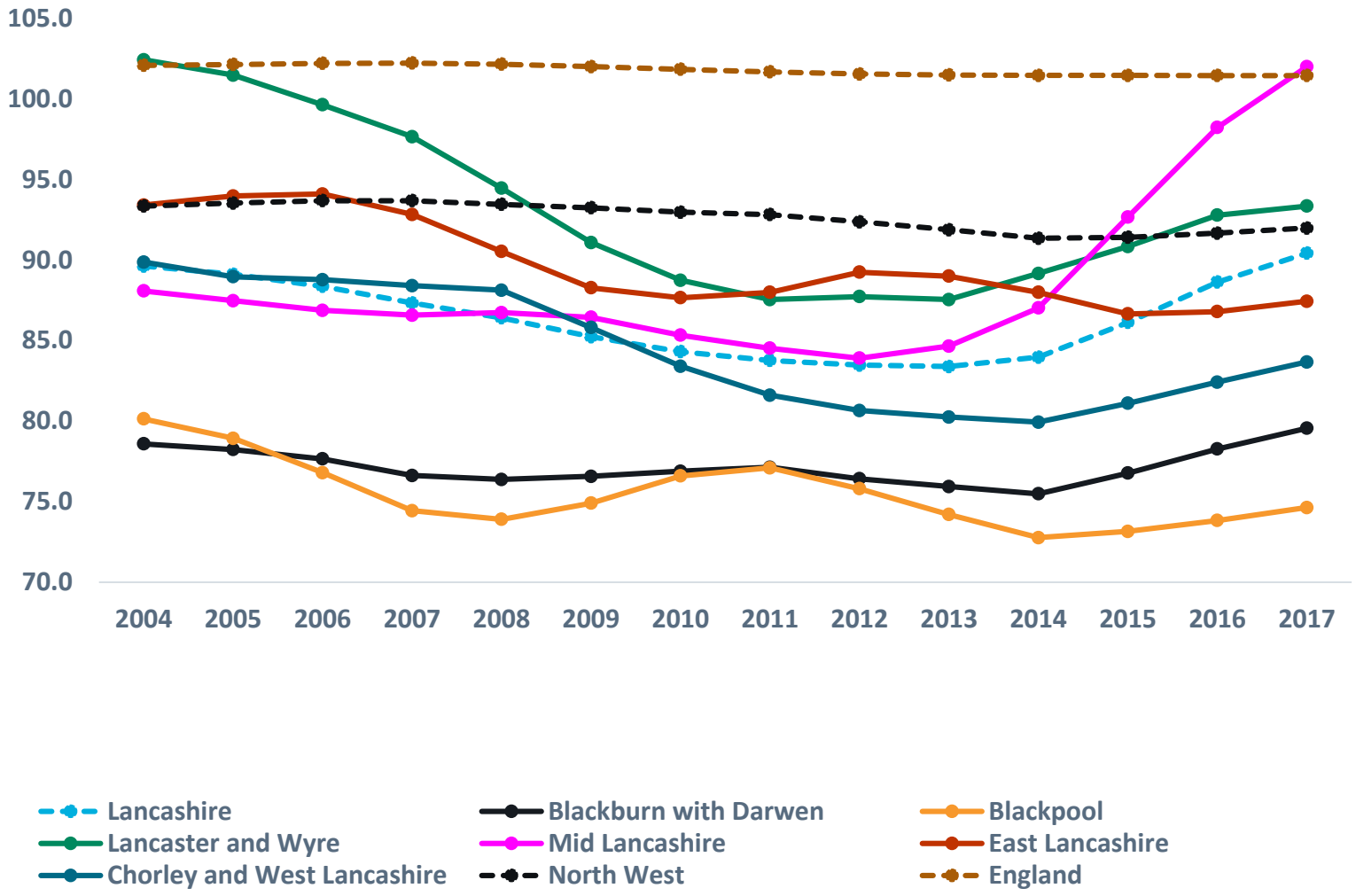


Source: ONS Regional Accounts, 2015

GVA per hour worked

- All the local authority districts in Lancashire have been on an upward trajectory in terms of GVA per hour worked since 2014.
- The largest changes in GVA per hour worked over the period 2004-2017 occurred in Lancaster and Wyre, which fell from close to the England average in 2004 to just above that of the North West in 2017, and Mid-Lancashire which climbed from below the Lancashire average in 2004 to the national average in 2017.
- But there is significant variation between local authority districts in GVA per hour worked – posing a particular challenge for inclusive growth.

Nominal (smoothed) GVA (B) per hour worked indices, 2004 - 2017



Source: ONS Regional and Sub-regional Productivity, 2019

Priority Sectors identified in the Strategic Economic Plan

ADVANCED MANUFACTURING

CONSTRUCTION

CREATIVE AND DIGITAL

ENERGY AND ENVIRONMENTAL

FINANCIAL AND PROFESSIONAL SERVICES

HEALTH & SOCIAL CARE

VISITOR ECONOMY

Advanced Manufacturing

Employment in key manufacturing sectors

Aerospace 12,900

Automotive 4,100

Food & Drink 13,500

Textiles 3,700

Chemicals 4,300

The premises offer for Advanced Manufacturing

The Enterprise Zones at Samlesbury and Warton offer space for 6,000 highly skilled jobs

The skills challenge for Advanced Manufacturing

Nearly 22,00 workers will need to be replaced by 2022

Key businesses

BAE Systems

BCW Engineering

Burton's Foods

Evans Vanodine International

Fox's Biscuits

Graham & Brown

Hotter Shoes

Leyland Trucks

Panaz

Pepsi

Rolls Royce

TRW Automotive

Victrex

Source: Lancashire LEP Sector Skills Baseline Study, 2015

Lancashire's aerospace supply chain

Lancashire is the biggest aerospace employer in the UK with 17,00 directly employed in the sector, and tens of thousands employed in high skilled jobs throughout its supply chain.

Lancashire is the only place in the UK with the skills, resources and capacity for the manufacturing and servicing of a complete aircrafts for its entire life-cycle.

The North West Aerospace Alliance forecasts increasing demand for new larger civil craft over the next two decades, as well as 12,500 civil aircraft awaiting manufacture with the potential for growing demand for the region's innovation and production capabilities.

There are around 30 Lancashire-based aerospace firms, which have a combined turnover of £5billion, these include BAE, Rolls-Royce, Kaman, Safran, Magellan, Weston, Velocity and Assystem.

The county has world-class aerospace businesses, assets and infrastructure dedicated to R&D, manufacturing and servicing, including the Samlesbury Enterprise Zone with its aerospace hub and BAE's UK manufacturing base which includes aerospace training facility.

Approximately 500 firms in Lancashire directly supply the county's aerospace sector, many in specialist manufacturing including engine sub-system assembly, precision components and advanced surface treatments.

Lancashire has had substantial private sector investment in aerospace (including from Rolls-Royce and BAE Systems), and the LEP has previously secured Growth Deal public funding to support aerospace activities.

Source: NWAA, Lancashire: Number One For Aerospace Jobs, 2017

Construction

- **c.36,000 workers in construction** in Lancashire
- **584 construction business** in Lancashire
- Key construction businesses:
  - BAAS Construction
  - Balfour Beatty
  - Barnfield Construction
  - Conlon Construction
  - Eric Wright Group
  - FWP Group
  - Laing O'Rourke
  - Marcus Worthington Group
  - Story Homes
  - Wade Group

Source: Lancashire LEP and National Careers Service, Sector Focus, and CITB, Construction in the Lancashire LEP Area, 2016

Creative & Digital

4,500 Creative & Digital businesses

36,000 workers

Key businesses:

- Bespoke Internet
- Door4
- EKM
- Fat Media
- Graham & Brown
- JP74
- Motionlab
- NuBlue
- Panaz
- SMD Textiles
- Tetrad

Source: Lancashire LEP Sector Skills Baseline Study, 2015

Energy and Environmental

5,200 business

40,000 workers

Key businesses

EDF Energy

Farmgen

Peel Energy

Recycling Lives

Remsol

Westinghouse

Trelleborg Offshore

United Utilities

Vattenfall

Vital Energi

Wind Power

Source: Lancashire LEP Sector Skills Baseline Study, 2015

Financial and Professional Services

5,200 business

40,000 workers

Key businesses

Begbies Traynor

Chesnara PLC

Chorley Building Society

Danbro

Farleys Solicitors

Forbes Solicitors

Key Retirement Solutions

KPMG

Marsden Building Society

Moore and Smalley

Napthens Solicitors

National Savings and Investments

PM+M

RSM

Taylor Patterson

Source: Lancashire LEP Sector Skills Baseline Study, 2015

Health and social care

3,500 businesses

98,000 workers – largest employment sector

Concentrations of jobs in:

Preston

Blackburn with Darwen

Blackpool

Key employer:

NHS

Private sector:

Bupa

Anchor

Barchester

Multiple smaller businesses

Source: Lancashire LEP Sector Skills Baseline Study, 2015

Visitor Economy

3,800 businesses

50,000 workers

Key employers:

Best Western

Blackpool Pleasure Beach

Blackpool Winter Gardens

Holiday Inn

Martin Mere

Merlin Entertainments

Northcote

Pure Leisure Group

Preston Guild Hall

Seafood Pub Company

The Sandcastle

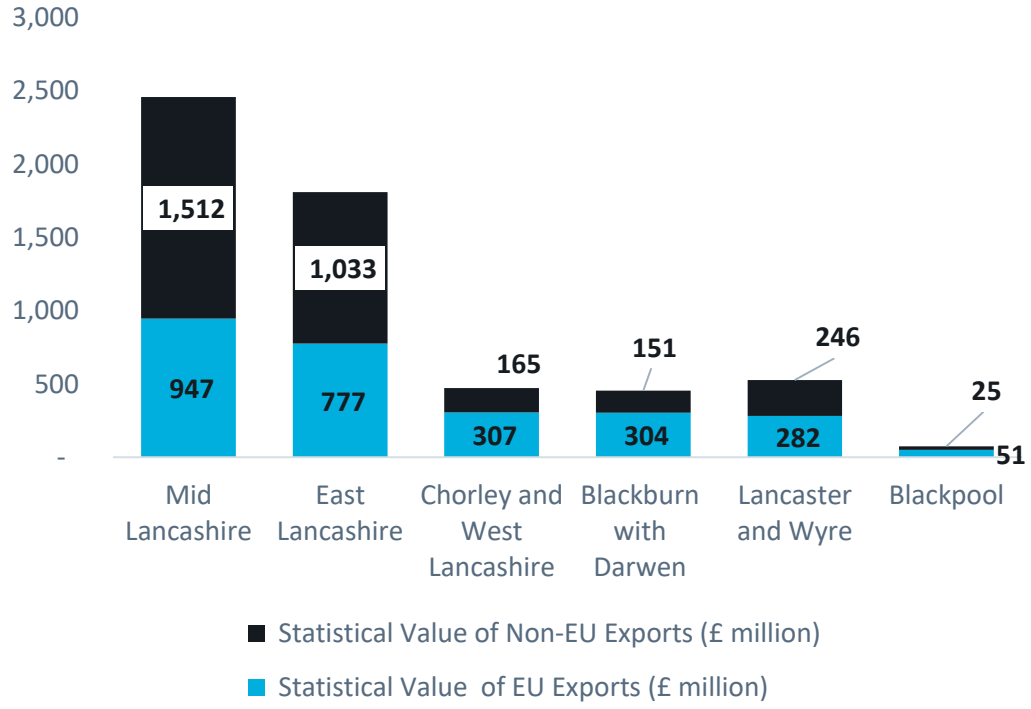
Travelodge

Source: Lancashire LEP Sector Skills Baseline Study, 2015

Exports in goods and services

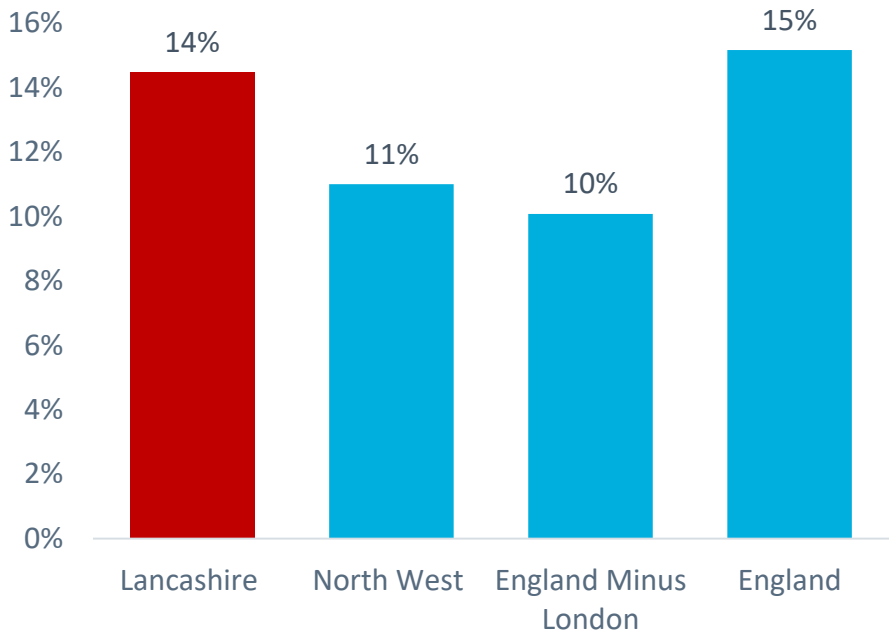
- Publicly available data on exports at the local authority level are limited. Experimental data on service exports show Lancashire performs strongly on service exports as a proportion of its GVA, out-performing the North West and performing close to the England average.
- Mid Lancashire (Fylde, Preston, Ribble Valley and South Ribble) exports the most goods (in value) to both EU and non-EU countries, East Lancashire (Burnley, Hyndburn, Pendle and Rossendale) exports the second-most.
- Chorley and West Lancashire, Blackburn with Darwen, Lancaster and Wyre and Blackpool export more goods to the EU than non-EU countries, in Chorley and West Lancashire, Blackburn with Darwen and Blackpool this disparity is large with EU goods exports contributing double as much in value than those in non-EU countries. Mid and East Lancashire's goods exports to non-EU countries contribute much higher value than their EU exports, however.

Regional Trade in Goods Statistics disaggregated by smaller geographical areas



Source: HMRC Regional Trade in Goods Statistics, 2017

Service Exports as a Proportion of GVA

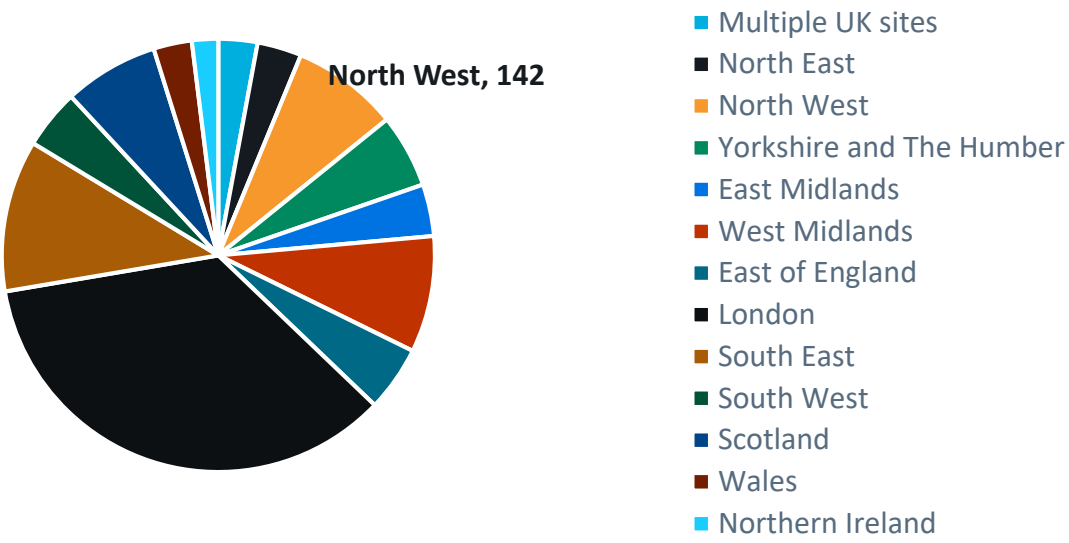


Source: The Pink Book International Trade in Services ONS 2016 & Regional GVA by Local Authority, ONS 2016

Exports and foreign investment

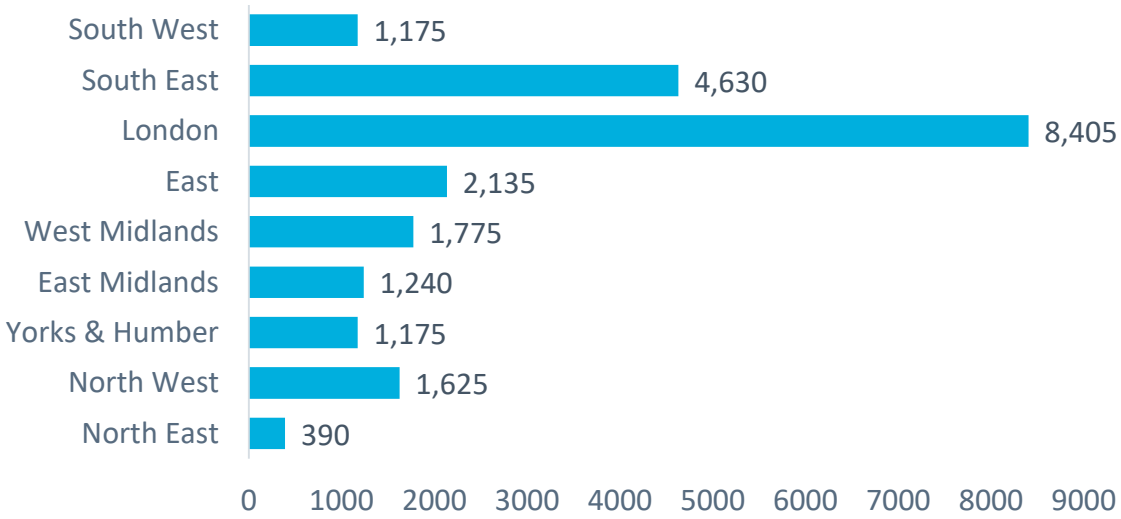
- The North West's Foreign Direct Investment projects constitute 6% of the UK's total, Yorkshire and the Humber's FDI projects also constitute 6%. The West Midlands' (7%), South East's (10%) and London's (39%) constitute higher percentages of the UK's total FDI projects than the North West region's, the North East's (3%), East Midlands' (3%) and South West's (4%) FDI projects, constitute lower percentages.
- Publicly available data on foreign ownership at local authority level is limited, regional data show the North West has the fourth largest number of foreign-owned businesses, after London, the South East and the West Midlands.
- Foreign ownership may be advantageous to an economy, as foreign-owned businesses tend to export more than domestic firms and can tap in to wider supply and innovation networks – however, in the current policy environment with uncertainty regarding international trade and investment arrangements, stakeholders have expressed a need to identify and mitigate risks associated with key investment decisions being taken overseas.

Regional Breakdown of all UK's Foreign Direct Investment Projects



Source: DIT Inward Investment Results, 2018-19

Number of foreign-owned businesses by Region



Source: VAT and/or PAYE based Enterprises by Country of Ultimate Foreign Ownership ONS, 2010

Ideas

Introduction

Outline of this section

- This section reviews the innovation landscape in Lancashire. It provides an overview of:
  - Research, Development, Demonstrator and Innovation Assets including Higher Education Institutions;
  - Patent activity by sector;
  - University research performance;
  - University Commercialisation, Spin-offs, Knowledge Transfer Partnerships and Graduate Start-ups; and
  - Regional-level data on innovation active businesses and R&D spending by business and universities.
- It draws on national datasets, plus the:
  - Lancashire Innovation Plan, 2018;
  - North West Coastal Arc Partnership for Clean and Sustainable Growth Science and Innovation Audit, 2018 – a partnership led by Lancaster University, involving Merseyside, Cheshire, Staffordshire and North Wales;
  - Innovation North Progressing Innovation in the Northern Powerhouse, NP11 and Innovate UK, 2018; and
  - ESRC-funded Lancashire Innovation Ecosystem Project – ongoing.

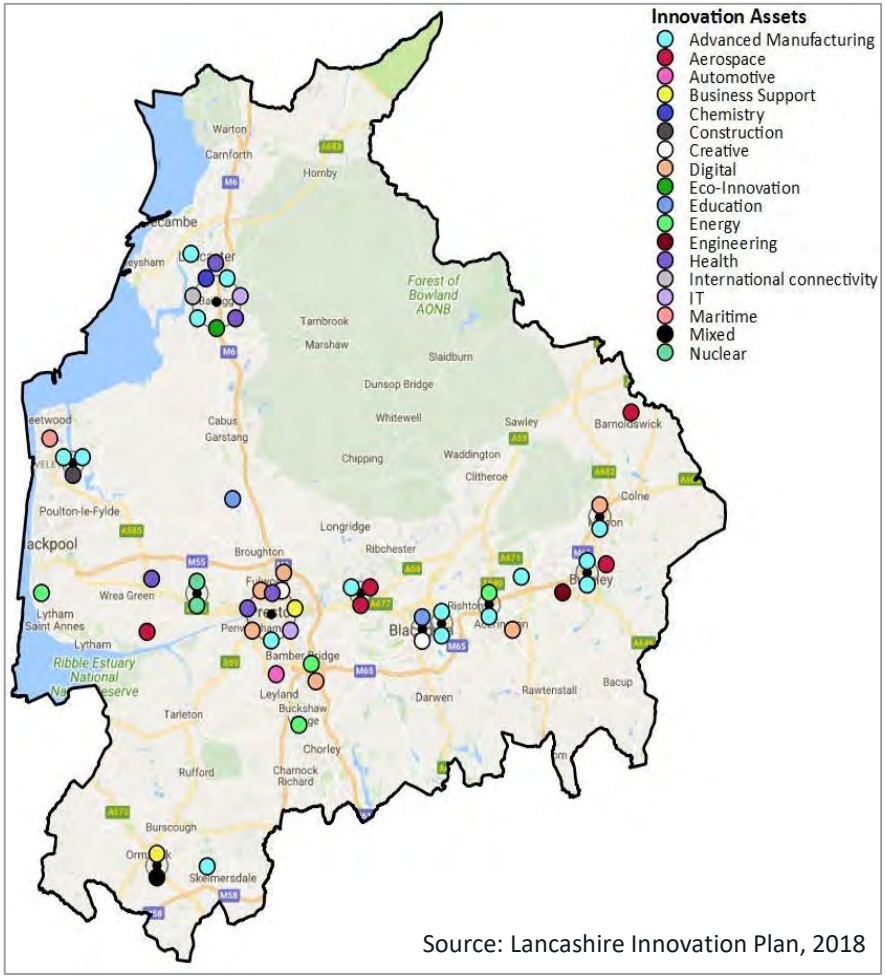
Key messages

- Lancashire is home to leading global businesses at the cutting edge of advances in Advanced Manufacturing, which are supported by a cluster of high-tech SMEs that are amongst the most productive in the country.
- Lancashire's manufacturing base is led by aerospace, automotive, and energy sectors, with additional strengths in digital, healthcare and agri-food and agri-tech sectors.
- There are excellent examples of innovation in Lancashire's business base, including BAE Systems in the aerospace sectors and AMS Neve in digital/sound engineering.
- Lancashire is developing its innovation links with neighbouring cities, including but not limited to Manchester, Liverpool and Sheffield. An example of collaboration with Sheffield partners is the Advanced Manufacturing Research Centre North West.
- Lancashire's HEIs have research strengths in Allied Health Professions, Chemistry, Computer Science, Earth Systems and Environmental Sciences, General Engineering, Mathematical Sciences and Physics.
- IPO data show strong intellectual property advances in areas such as Civil Engineering, Mechanical Elements, Medical and Computer Technology, and Thermal Processes.
- Lancashire's strengths in industries at the forefront of Industry 4.0 and its participation in the Made Smarter Pilot in the North West mean that it is well-placed to capitalise on productivity improvements associated with increased automation and the adoption of new technology.
- Lancashire has an unusual mix of sectors and supply chains with (as yet untapped) potential to combine capabilities which may open up new competitive opportunities.

Innovation assets

- Four universities operate in Lancashire – the table below shows their positions in different Higher Education Insitution ranking schemes.
- The Lancashire Innovation Plan identifies: 54 innovation assets that support and enable innovation, which cover 16 sectors, including:
  - Advanced Manufacturing (15 assets);
  - Digital (6 assets);
  - Energy (5 assets);
  - Aerospace (5 assets); and
  - Health (5 assets).
- There is a concentration of innovation assets along the West to East corridor (M55-M6-M65).
- There is also a substantial concentration of assets around the Lancaster University and UCLAN Campuses.
- Digital assets in Lancashire appear to be broadly distributed, with no apparent signs yet of effective clustering.

Lancashire's Innovation Assets



Source: Lancashire Innovation Plan, 2018

Higher Education Institutions

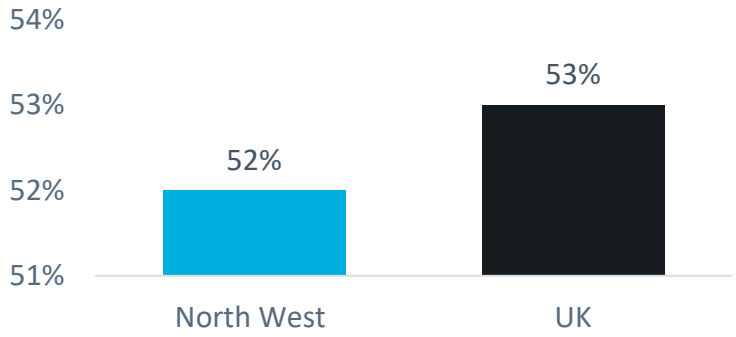
	Times UK Ranking	Times World Ranking	QS World Ranking	REF Power Ranking	FTE Students	Intl Students
Lancaster University	6	=150	=135	25	11,637	38%
University of Central Lancashire	93	601-800	801-1000	74	16,500	18%
Edgehill University	61	-	-	96	-	-
Cumbria University	125	-	-	142	-	-

Source: The Times/The Sunday Times: Good University Guide 2018, Times Higher Education World University Rankings 2018, QS World University Rankings 2018, REF 2014 Power Rankings

Patent applications

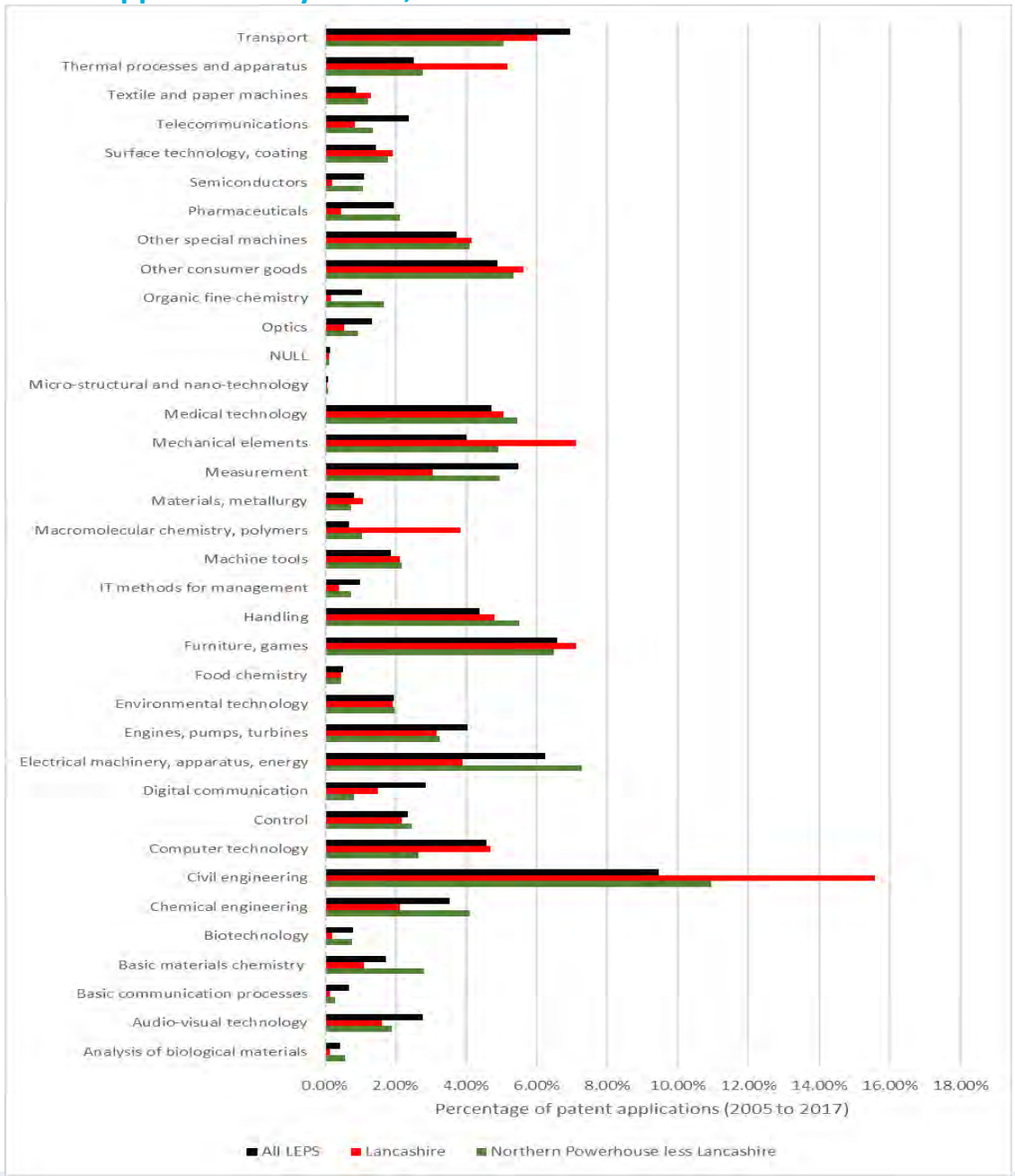
- Firms and research institutions based in Lancashire are actively developing patents across a broad range of sectors.
- Relative to other LEP areas, Lancashire has particular prominence in patents for:
  - Thermal Processes & Apparatus;
  - Mechanical Elements; and
  - Civil Engineering.
- With further strengths in Digital and Healthcare.
- It should be noted that these data capture 'local' patenting, which does not include patents from major multi-national corporations (MNCs) with registered HQs outside Lancashire, so these data are likely to understate the level of activity in Lancashire.
- Data on innovation active businesses are only available at regional level – the North West is only marginally behind the UK average.

Innovation active businesses



Source: Innovation Active Enterprises, UK Innovation Survey 2015 (survey period 2012-2014)

Patent applications by sector, 2005 to 2017

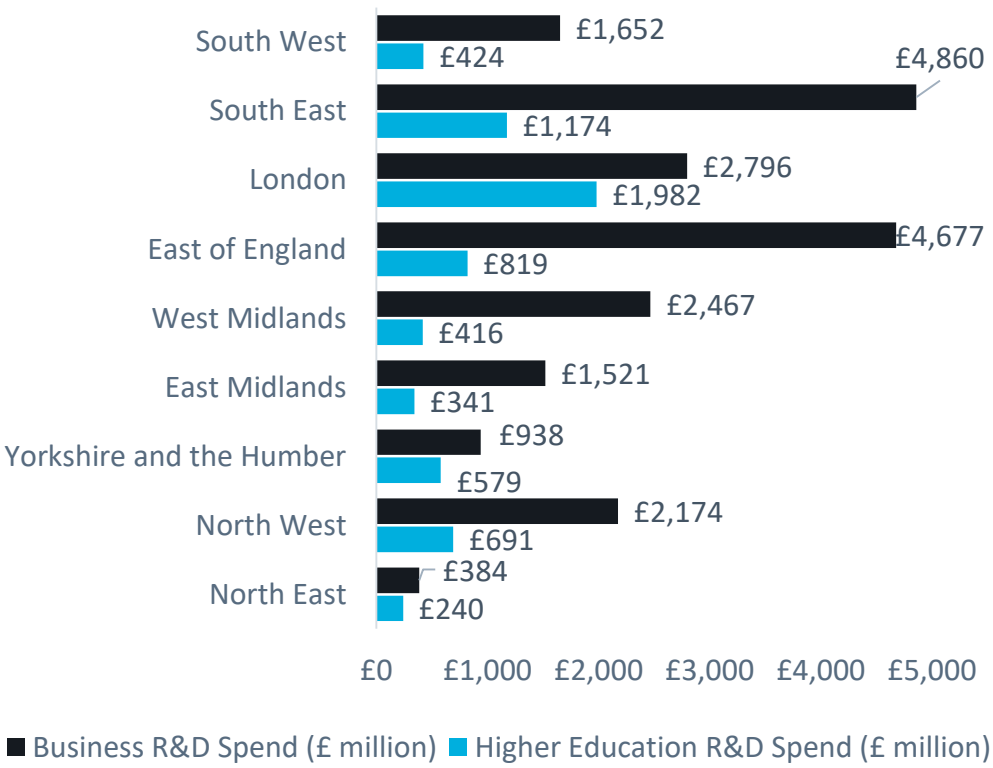


Source: IPO, 2017

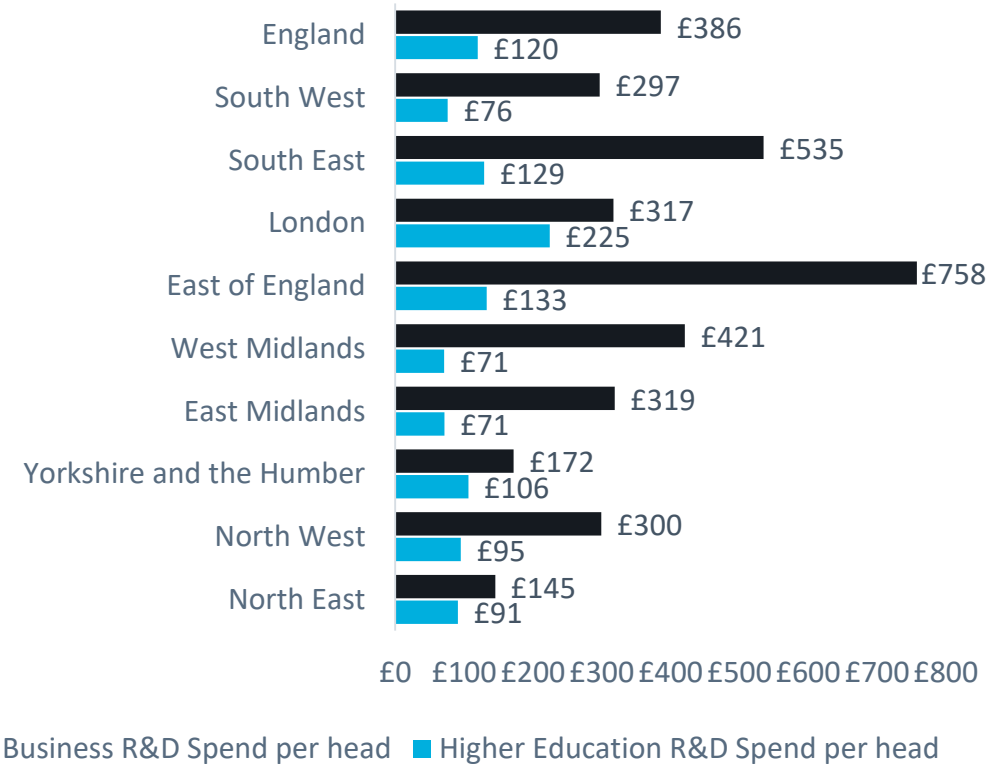
R&D Spend

- Data on R&D expenditure is available at regional level for university and business investment – this provides an indication of the levels of investment in R&D in Lancashire.
- It shows:
  - HE R&D investment per head is £95 – 80% of the England average; and
  - Business R&D investment per head is £300 – around 80% of the England average.
- Data on investment in R&D by government and charities is not available at the level of the NW due to issues of confidentiality.

Gross R&D Expenditure by Business and Higher Education



R&D Expenditure per person by Business and Higher Education

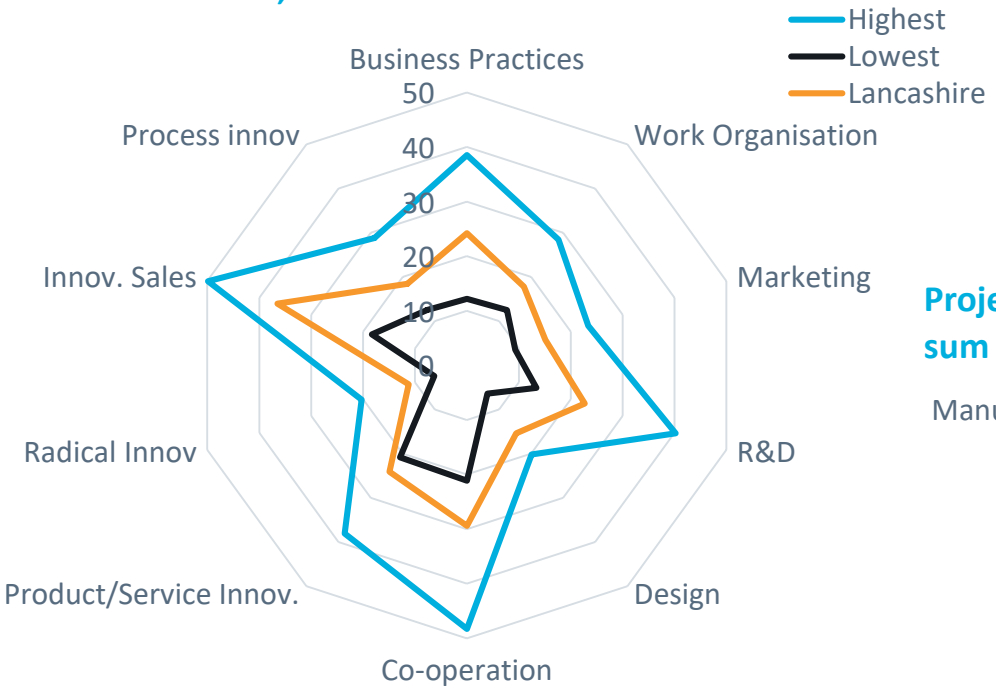


Source: ONS Country and regional breakdown of expenditure, 2017 and ONS Population Estimates 2019

Innovation Projects

- An area's ability to innovate effectively plays a crucial role in economic growth and competitiveness. Lancashire's universities spark innovation, but what about firms across the LEP? The Enterprise Research Centre measured firm's performance across 10 benchmarks of ability innovate.

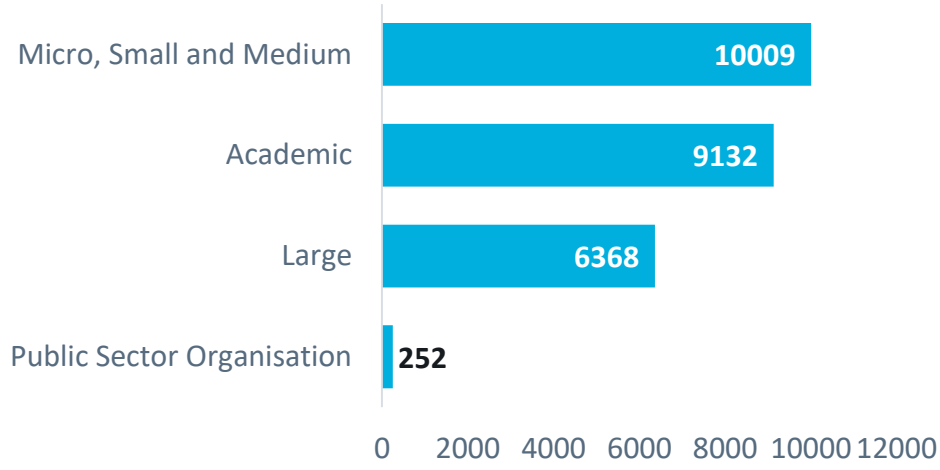
Innovation metrics, Lancashire LEP 2014-16



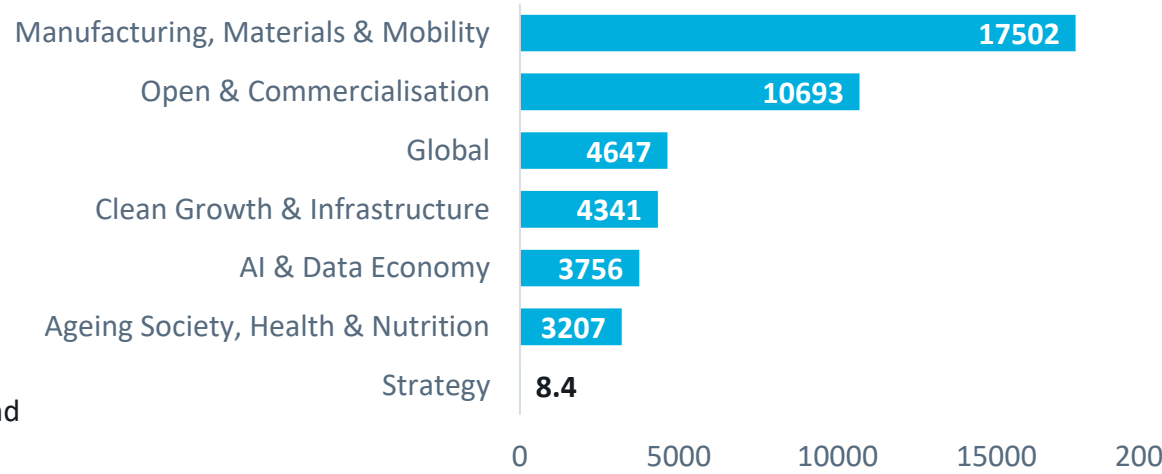
Source: ERC Innovation Benchmarks, 2019

- Lancashire LEP performs better than the average of all LEPs in England on 6 of the 10 benchmarks; Business Practices, Marketing, R&D, Design, Radical Innovation and Process Innovation.
- Lancashire LEP however scores lower than average across the other 4 benchmarks; Work Organisation, Co-operation, Product/Service Innovation and Innovation Sales.

Projects funded by Innovate UK in Lancashire LEP between 2004-2019, sum of grants offered (£000s) by enterprise type



Projects funded by Innovate UK in Lancashire LEP between 2004-2019, sum of grants offered (£000s) by sector



Source: Innovate UK and UK Research and Innovation, 2019

- Innovation projects in Lancashire between 2004-2009 constitute 12.7% of the total grants awarded across the North West region.

University research performance

- As noted above, four universities operate in Lancashire:
  - Lancaster;
  - UCLAN;
  - Edge Hill; and
  - Cumbria.
- The Research Excellence Framework (2014) shows Lancashire's HEIs have significant research strengths.
- The high-rated subjects of relevance to the Industrial Strategy are:
  - Business & Management Studies;
  - Mathematical Sciences;
  - Allied Health Professions, Dentistry, Nursing & Pharmacy;
  - Computer Science & Informatics;
  - Earth Systems and Environmental Sciences;
  - Psychology, Psychiatry & Neuroscience;
  - Physics;
  - Chemistry; and
  - General Engineering.
- The next slide illustrates the universities' performance relative to the UK average.

Highest % of research (overall) rated 4* or above by subject & by university

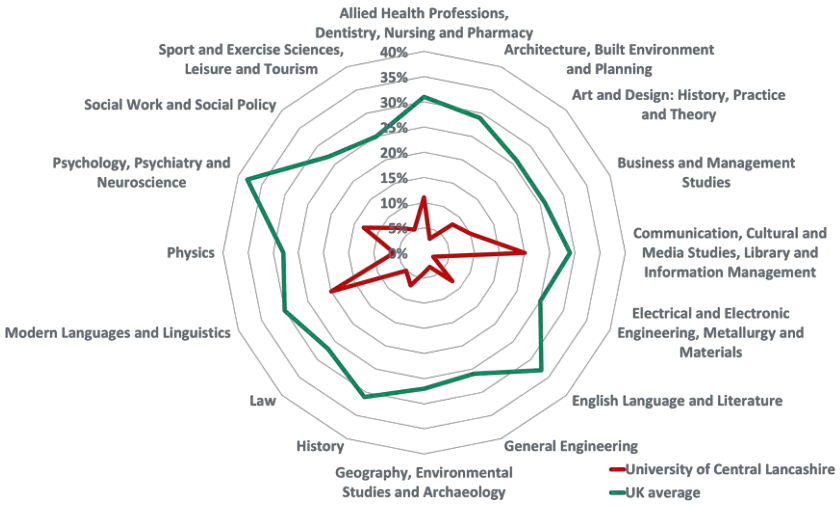
University	Subject	Average of 4* Research
Lancaster	Theology & Religious Studies	42%
Lancaster	Business & Management Studies	41%
Lancaster	English Language & Literature	40%
Lancaster	Mathematical Sciences	40%
Lancaster	Allied Health Professions, Dentistry, Nursing & Pharmacy	39%
Lancaster	Sociology	39%
Lancaster	Computer Science & Informatics	36%
Lancaster	Earth Systems & Environmental Sciences	32%
Lancaster	Art & Design: History, Practice & Theory	31%
Lancaster	History	30%
Lancaster	Psychology, Psychiatry & Neuroscience	29%
Lancaster	Law	28%
Lancaster	Education	25%
Lancaster	Physics	24%
Lancaster	Chemistry	20%
UCLAN	Communication, Cultural & Media Studies, Library & Information Management	20%
UCLAN	Modern Languages & Linguistics	20%
Lancaster	General Engineering	17%
Edge Hill	Psychology, Psychiatry & Neuroscience	15%
Cumbria	Sport & Exercise Sciences, Leisure & Tourism	14%
Edge Hill	Sport & Exercise Sciences, Leisure & Tourism	13%
UCLAN	Psychology, Psychiatry & Neuroscience	13%

Source: REF, 2014

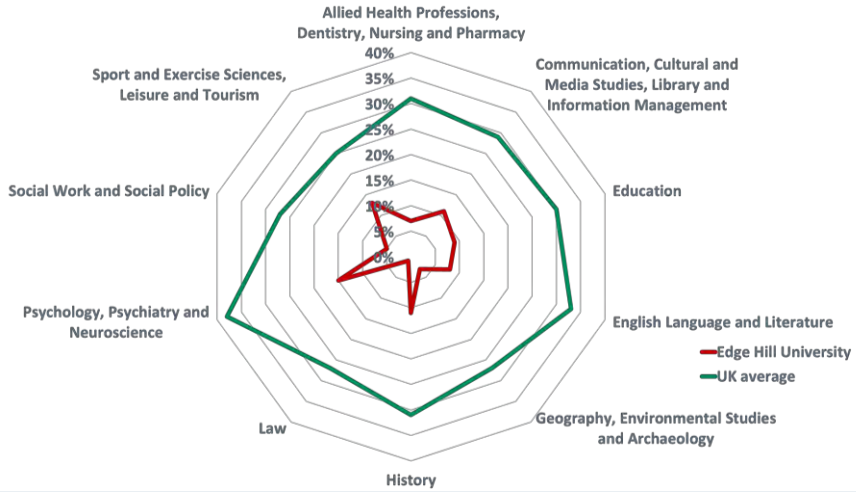
Research performance

% of research (overall) rated 4* or above by subject

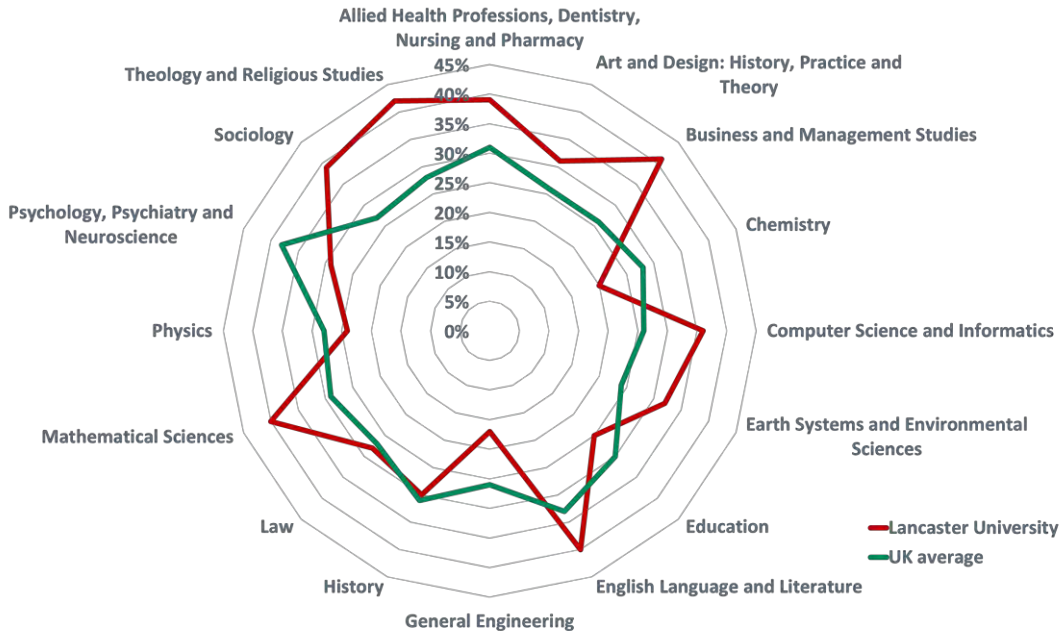
University of Central Lancashire (UCLAN)



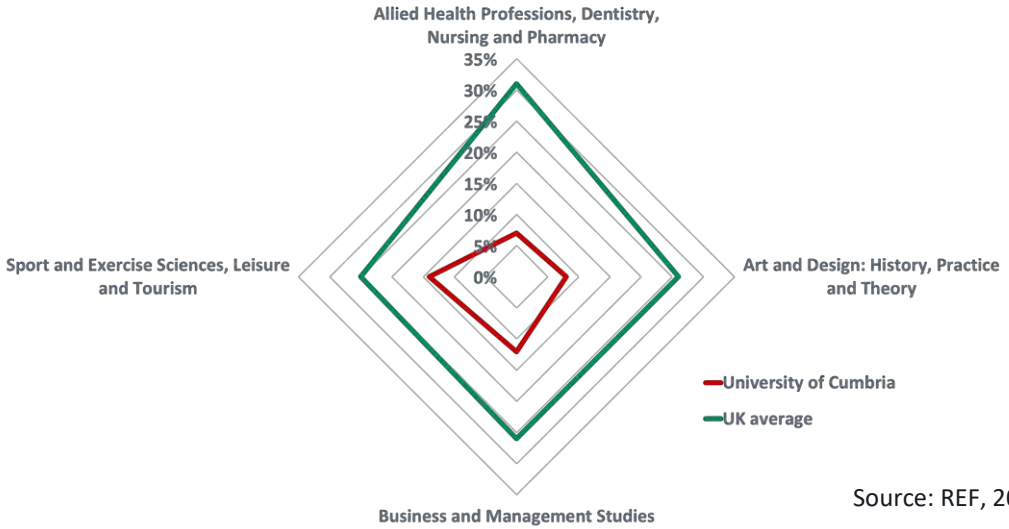
Edgehill University



Lancaster University



University of Cumbria

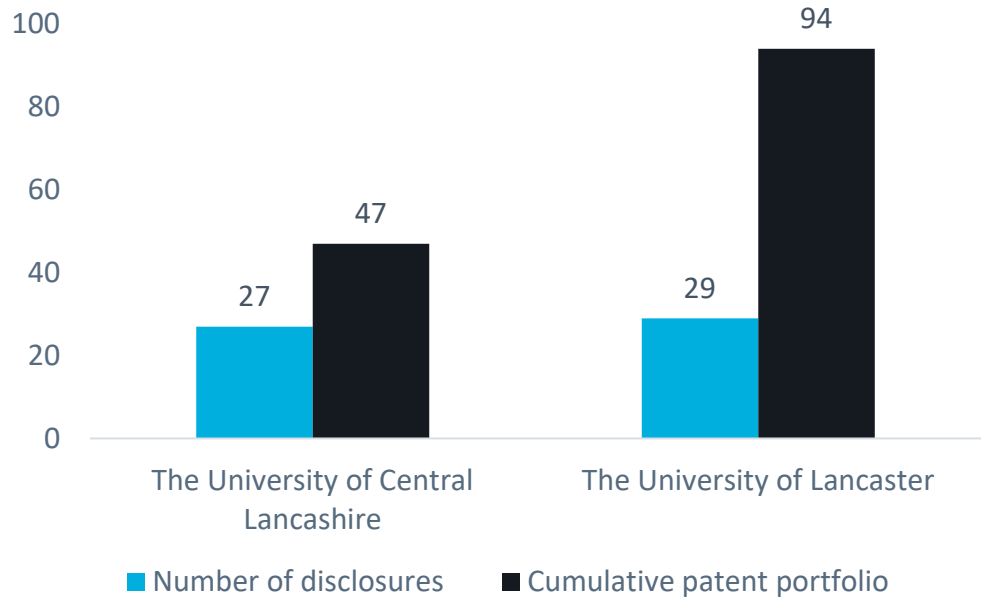


Source: REF, 2014

Universities and Intellectual Property

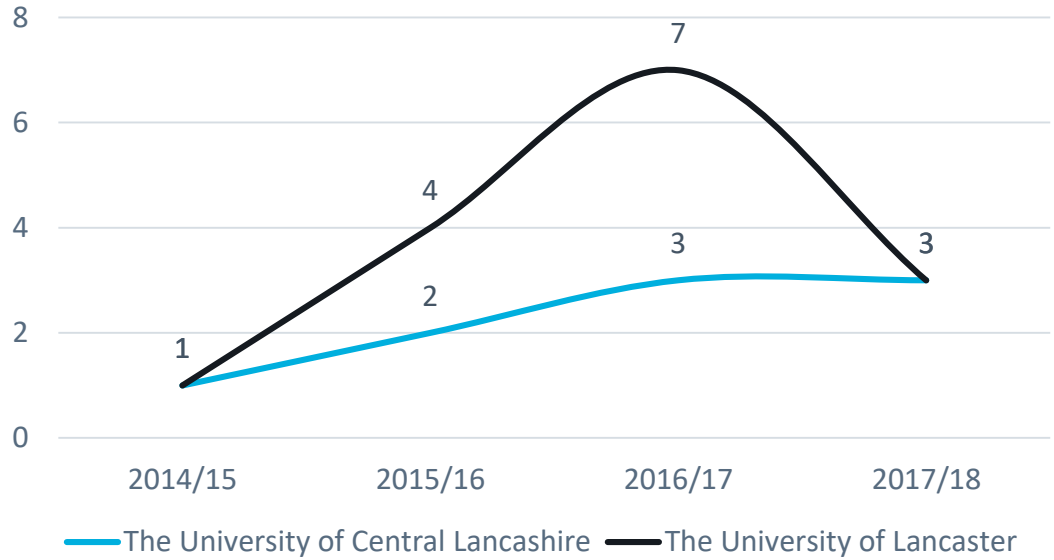
- Two of Lancashire's universities, Lancaster and UCLAN, actively generate new IP.
- In 2017/18, UCLAN had 27 disclosures, i.e. research that may be commercially relevant and require a patent, and Lancaster identified 29.
- The generation of findings which may be patentable and then achieves a patent can take time and is 'lumpy' making year-on-year comparisons tricky. The range of patents granted each year for Lancaster is in the range of 1-7 and for UCLAN 1-3.
- Between the two universities there are 141 active patents in their portfolios.

Patent portfolio and number of disclosures by university



Source: HESA, 2017/18

Granted number of patents by year



Source: HESA, 2014/15-2017/18

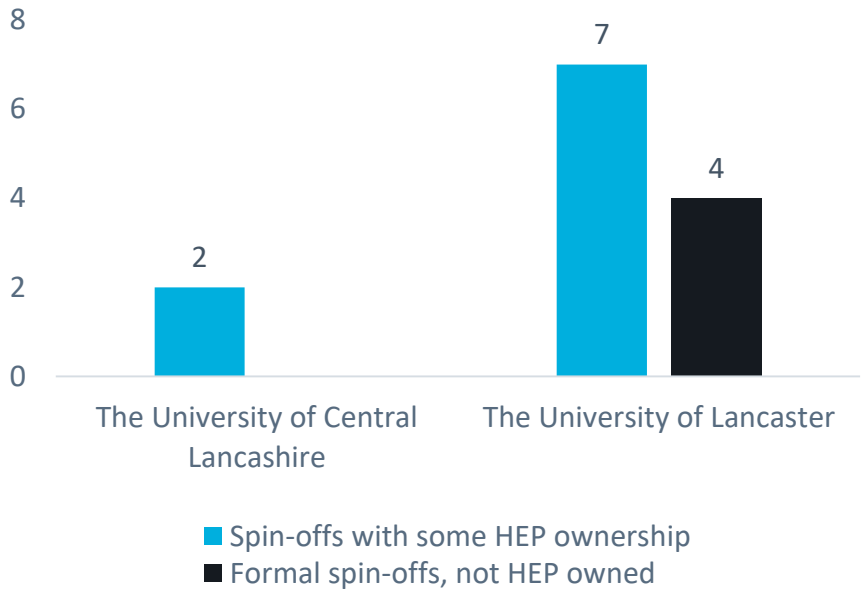
- In terms of driving GVA and growth, the key challenge for the universities is commercialisation of their research – the next slide provides a breakdown of the data on this.

Source: Lancashire Innovation Plan, 2018

Commercialising Research

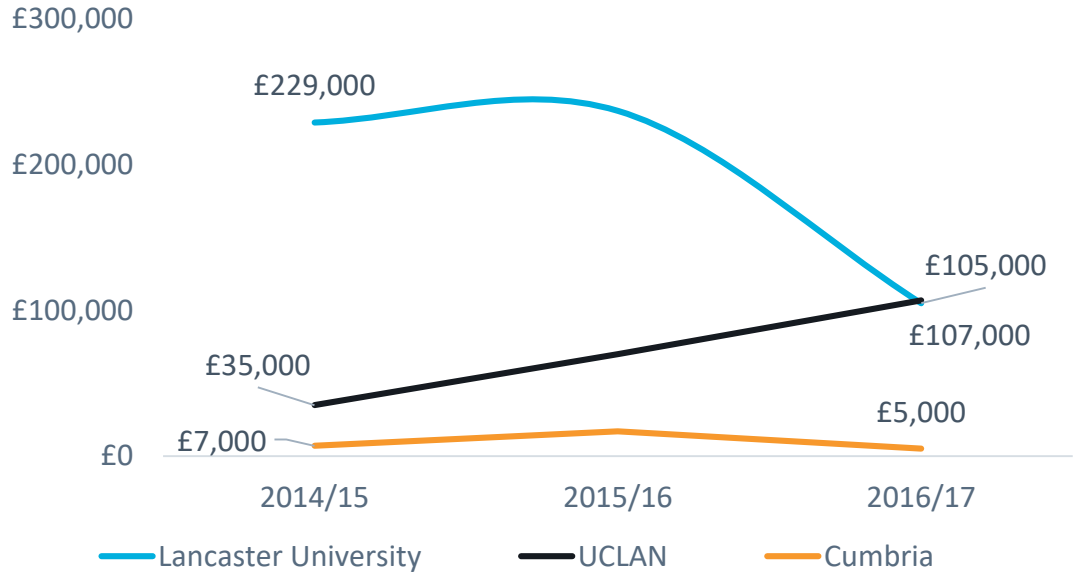
- University research is translated into commercial activity through spin-off companies or licensing.
- Data for 2017/18 show two active spin-offs for UCLAN and 11 active spinoffs for Lancaster – seven of which have at least some ownership with the university.
- To provide a comparison in terms of scale of activity, data for the University of Manchester show 14 active spinouts with university ownership and 12 with no university ownership, and data for the University of Liverpool show 12 active spinouts with some university ownership and 2 without.

Spinoff activity



Source: HESA, 2017/18

Intellectual property income (including patents, copyright, design, registration and trade marks) by university



Source: HESA, 2014/15-2016/17

- The above chart shows income from licensing for Lancaster, UCLAN and Cumbria universities.
- It shows significant variation from year to year – and income of a relatively modest scale.
- To provide a comparison in terms of scale, data for the University of Manchester show £1.65m in 2014/15, £3.6m 2015/16, £1.27m 2016/17 and data for the University of Liverpool show £361,000 in 2014/15, £524,000 in 2015/16 and £683,000 2016/17.

Supporting Business

KTPs

- Universities support the adoption and the spread of innovation via Knowledge Transfer Partnerships.
- Lancashire has a strong KTP network – with 10 active KTPs and a track record of successful delivery

Knowledge Transfer Partnerships

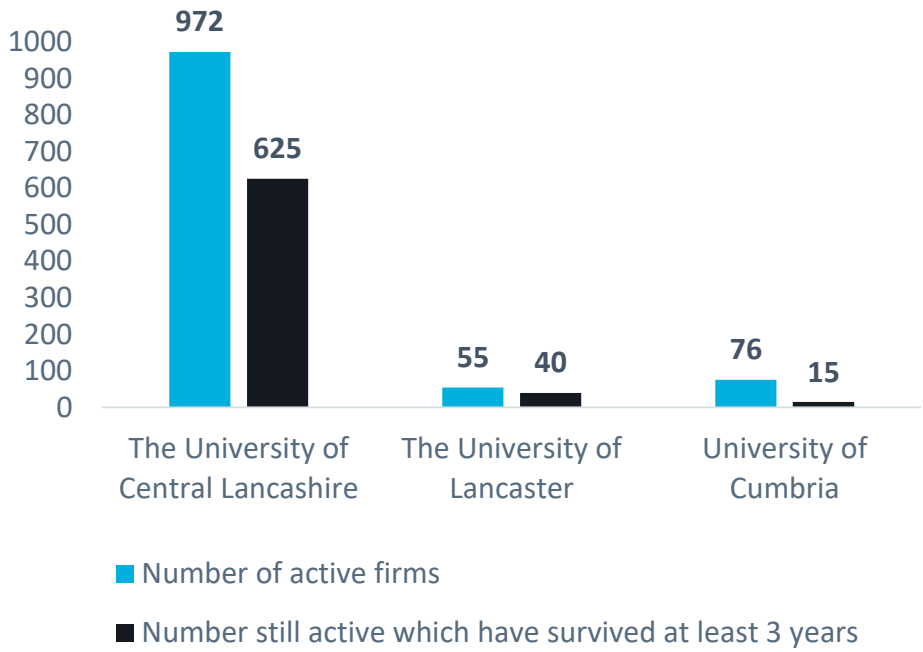
	Current KTPS	Total completed KTPs
Edge Hill University	1	4
Lancaster University	7	43
University of Central Lancashire	2	48
University of Cumbria	0	15

Source: Knowledge Transfer Partnerships Database , InnovateUK (Accessed 05/19)

Graduate entrepreneurship

- Universities in Lancashire have a good track record in graduate entrepreneurship – UCLAN has one of the best records in the country in terms of graduate start-ups.
- Graduate start-ups include all new businesses started by recent graduates (within two years of graduation) regardless of where any IP resides, but only where there has been formal business/enterprise support from the HE provider

Graduate start-ups



Source: HESA, 2017/18

People

Introduction

Outline of this section

- This section covers the size, occupational mix, qualifications and skills of Lancashire's current workforce and projected future requirements.
- It draws on national datasets to look in turn at:
  - Employment rates;
  - Employment by sector;
  - Employment by Occupation;
  - Current skill shortages;
  - Potential sector and occupational changes to 2028;
  - Projected changes in demand for workers at different levels of skill;
  - Educational outcomes;
  - Subject choices of students in Further and Higher Education, as an indication of future talent flow; and
  - Current health as a potential cause of relatively low productivity.

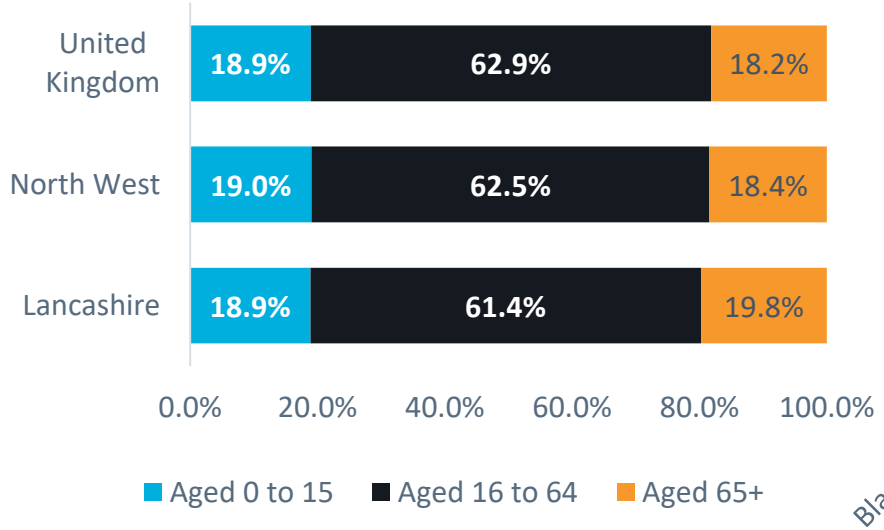
Key messages

- Lancashire's employment rate is relatively good compared to regional and national averages. There are, however, significant variations in the employment rates achieved in different districts. Thus, there is untapped employment potential in the county.
- The employment rate appears to be more volatile than regional and national rates, indicating a need to build resilience in local economies and the workforce.
- Lancashire has a greater proportion of lower level occupations and fewer high-level occupations than the England.
- The largest sectors by employment are Wholesale & Retail Trade, Human Health & Social Work, Manufacturing, Education, and Accommodation & Food.
- Currently there are skills shortages in Skilled Trades, and Administrative and Clerical Staff.
- There are projected reductions in demand for Process, Plant and Machinery Operatives and Administrative and Secretarial Support and projected increases in Directors, Managers and Senior Officials; Professional occupations; Associate Professional and Technical occupations; and Caring, Leisure and Other Services occupations.
- The challenge for the local economy in terms of those currently in work will be to reskill those who need to move sectors and upskill those who need to attain new roles in their current sector – particularly in relation to digital skills.
- The education system locally performs well in aggregate but this overall picture masks significant variation at the local level.
- STEM subjects are relatively popular with students going on to study at university, but there is a risk of a mismatch between the educational choices of students and the needs of the economy in the future.
- More than half of Lancashire's Districts suffer above average sickness absence rates, which reduces worker productivity – health interventions as part of workforce development will help drive up productivity in some of the areas with relatively low worker productivity.

Population

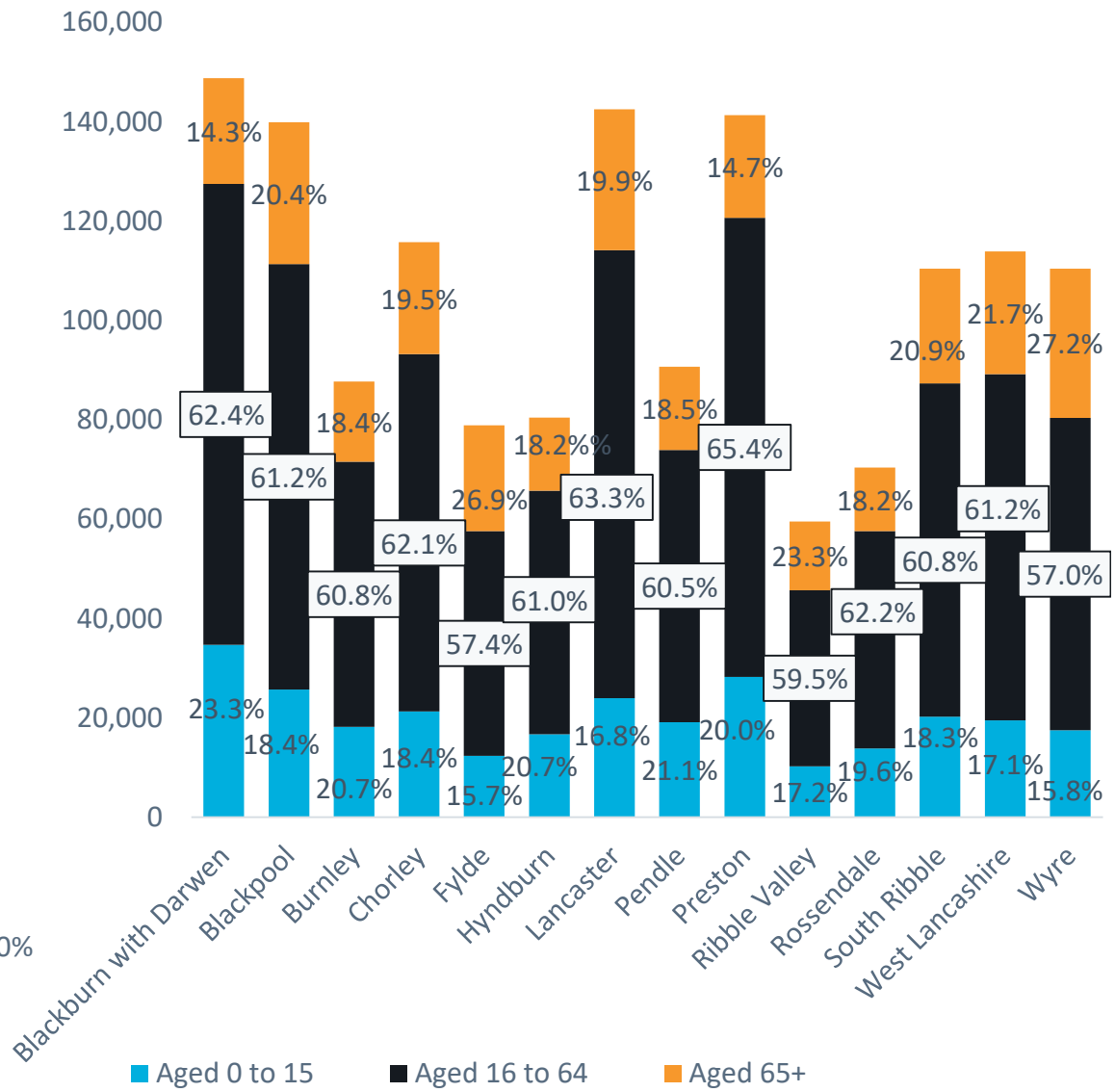
- Blackburn with Darwen, Blackpool, Lancaster and Preston have the largest populations of Lancashire's local authority districts, Ribble Valley and Rossendale have the smallest populations.
- Blackburn with Darwen has the largest proportion of 0-15 year olds in Lancashire (23.3%), Fylde has the smallest (15.7%). Preston has the largest proportion of working age population (65.4%), while Wyre has the smallest (57%). Wyre has the largest proportion of those aged 65 years or more (27.2%), Blackburn with Darwen has the smallest (14.3%).
- To a large extent Lancashire's age-makeup reflects the UK's, but with slightly lower proportions of 20-34 year olds, and slightly higher proportions of people over 50.

Age groups, 2017



Source: ONS Annual Population Survey, 2017

Lancashire's local authority districts by population size and age groups, 2017



Source: ONS Annual Population Survey, 2017

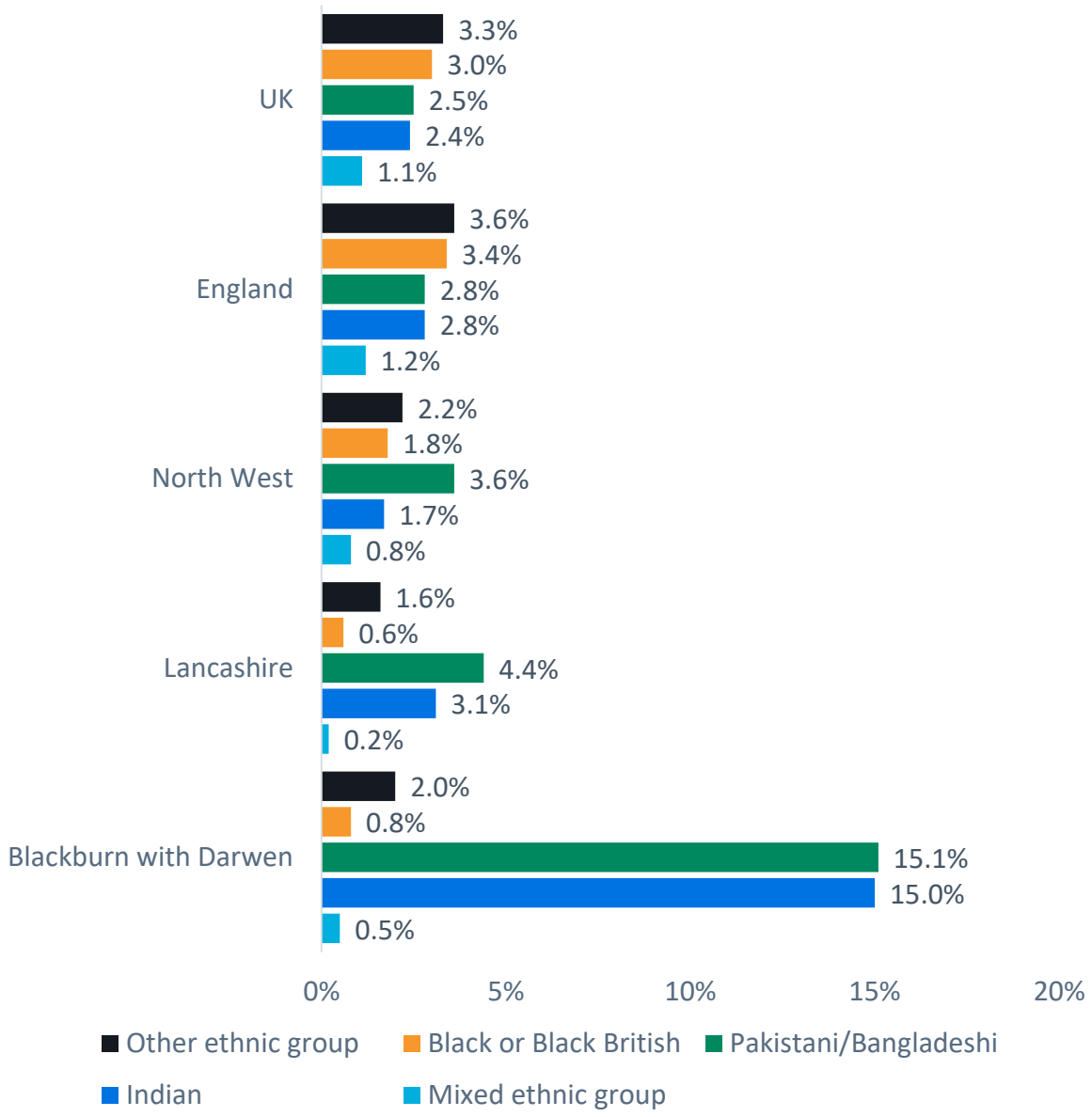
Demography

- Lancashire has a smaller proportion Black and/or Black British population and higher Pakistani and/or Bangladeshi and Indian populations than the UK as a whole, as a proportion of the total population aged 16 and over.
- The published data on ethnic minority populations in Lancashire by local authority district is incomplete.
- However, data show that Blackburn with Darwen has a significantly different profile from Lancashire overall.
- The North West region and the UK as a whole have similar proportions of men and women. Lancashire has a very slightly lower proportion of men and slightly higher proportion of women.

	Lancashire	North West	United Kingdom
Male	49.44%	49.34%	49.34%
Female	50.56%	50.66%	50.66%

Source: ONS Annual Population Survey, 2017

Minority ethnic percentage of the total population aged 16 and over

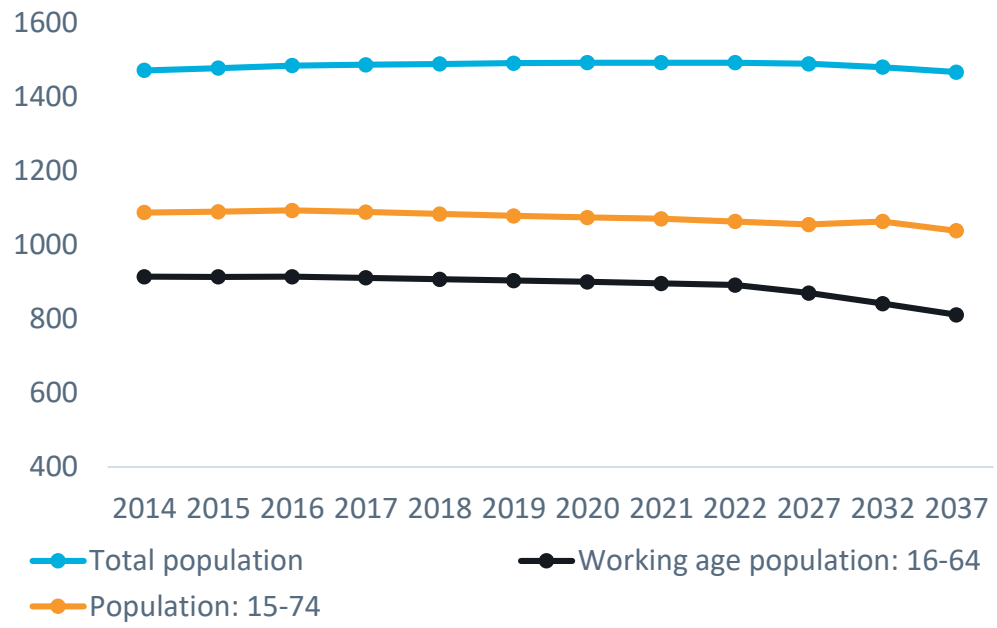


Source: ONS Annual Population Survey, 2018-2019

Population Projections

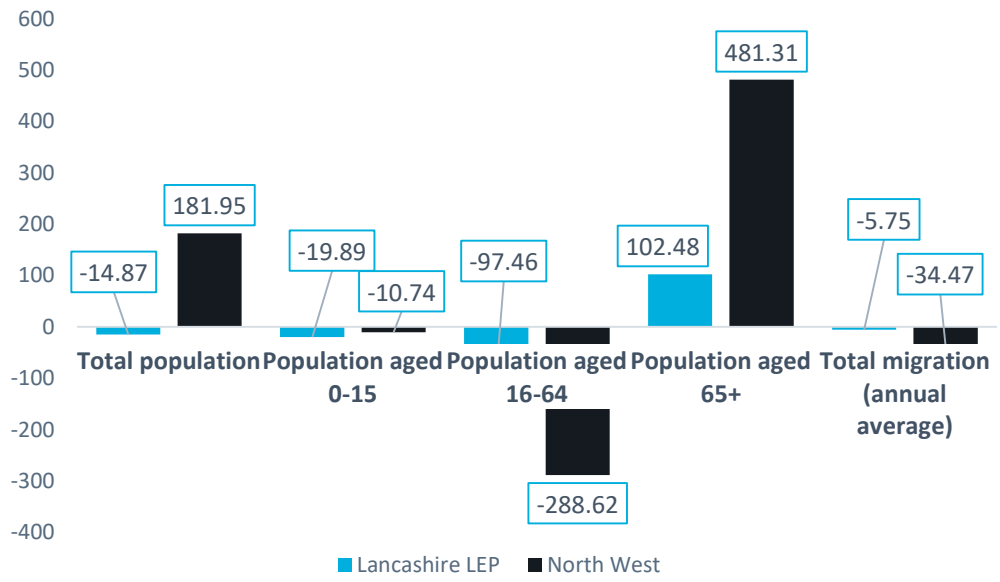
- Over the next two decades Lancashire's population is likely to change.
- Following the trend of the UK's ageing population, there is a projected increase of 102,481 in population over the age of 65 in Lancashire.
- The working age population is projected to decrease by a similar amount, 97,459, increasing Lancashire's dependency ratio in turn.

Projected change in population In Lancashire LEP between 2014 and 2037



Source: GMFM 2018

Projected change in population between 2016 and 2036, thousands



Source: GMFM 2018

- In contrast to the North West as whole, Lancashire's total population is projected to decrease, by 14,867.
- Total migration is also forecasted to lessen slightly, both in Lancashire and across the North West region.

Employment Rate

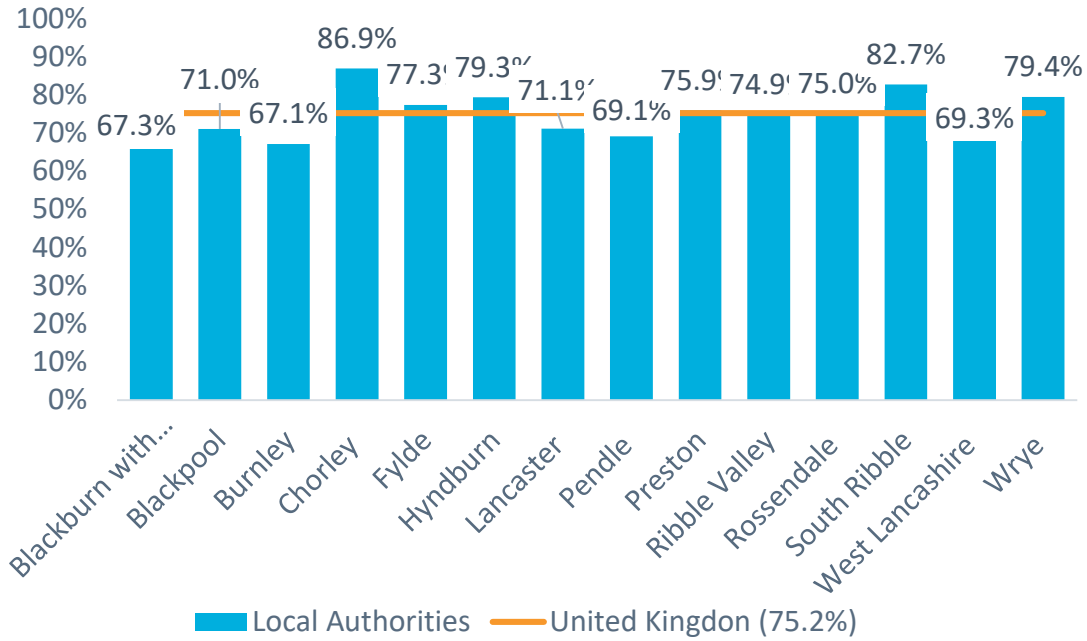
Variations in the employment rate by local authority

- The employment rate varies between Lancashire's Local Authority Districts with a number falling below (and a few significantly below) the UK average, namely: Blackburn with Darwen, Blackpool, Fylde, Pendle and West Lancashire.
- A number of areas also outperform the UK in terms of the employment rate, most significantly Chorley and South Ribble (both areas have employment rates above 80%).

Variations in the employment rate over time

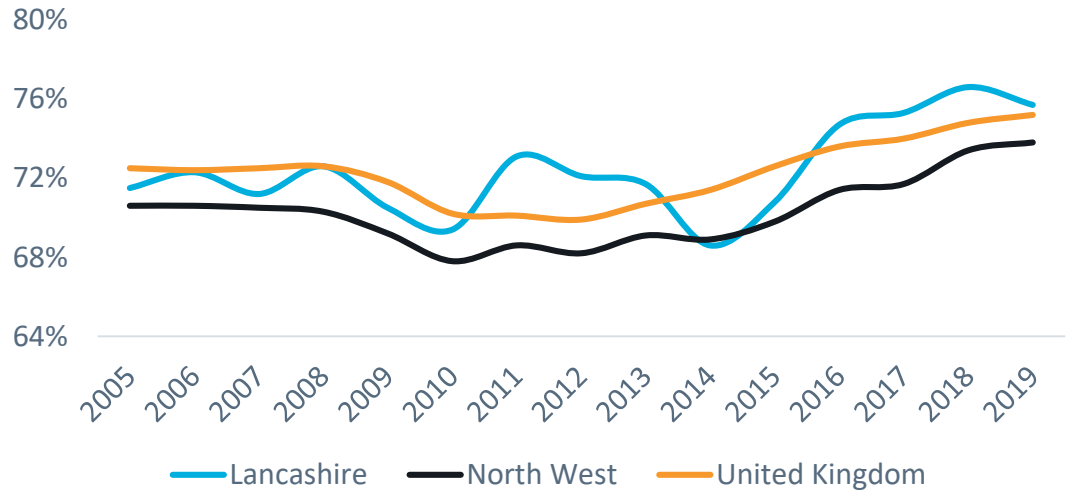
- The employment rate has fluctuated across time, with much of this variation accounted for by national economic trends. However, Lancashire's employment rate appears to be more volatile than North West and England trends.
- Following the 2008 recession, Lancashire initially recovered faster than national and regional averages. This was followed by a more severe second decline in 2013-14. However, Lancashire again recovered quickly with employment growth rates outpacing national and regional averages. More recent data show a tailing off of this growth.
- This pattern of volatility implies a need to build economic resilience.

% in employment aged 16-64, 2018/19



Source: Annual Population Survey, 2019

% in employment aged 16-64 over time



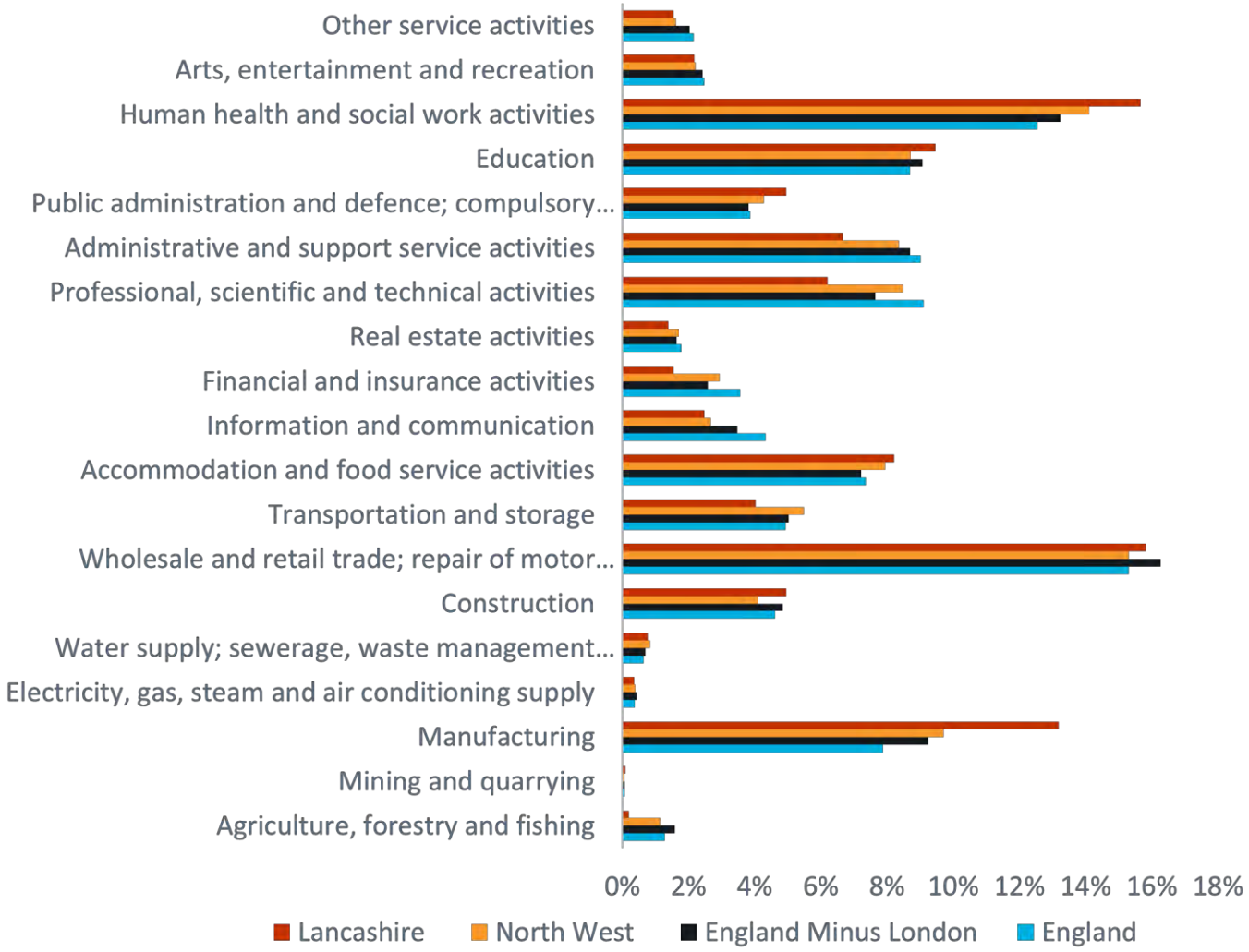
Source: Annual Population Survey, 2019

Employment by sector

- Lancashire's sectoral breakdown is distinct from the North West and England for the scale of 'human health and social work activities' and, more significantly, manufacturing.
- Lancashire also has a relatively low proportion of employment in the 'financial and insurance activities' and 'information and communication' sectors.
- The county's largest sectors by employment are detailed in the table below.

Sector	% total jobs
Wholesale & Retail Trade	16%
Human Health & Social Work	16%
Manufacturing	13%
Education	9%
Accommodation & food	8%

Employment by sector

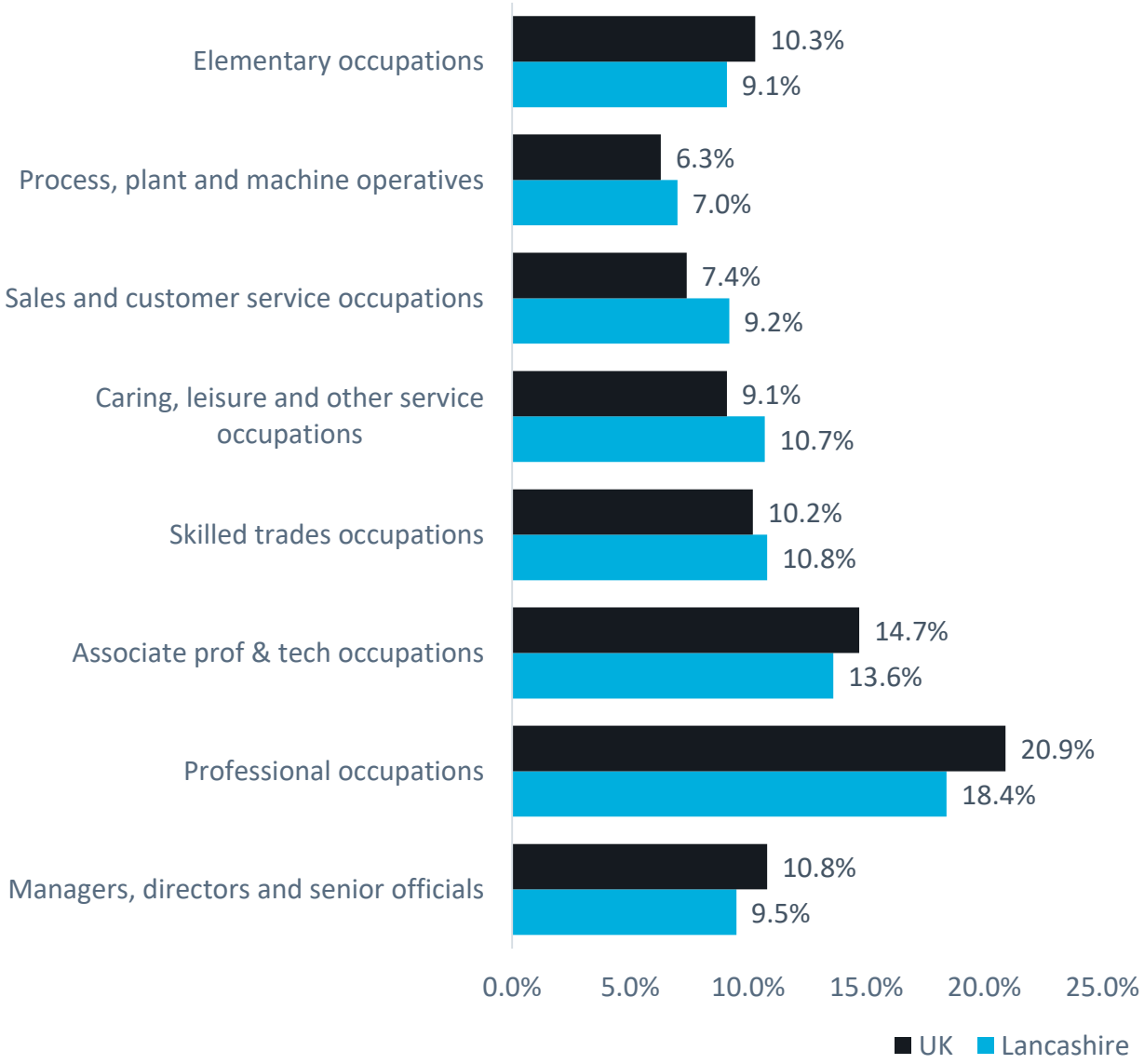


Source: BRES, 2016

Occupational breakdown

- An economy's occupational mix helps to determine the overall worker productivity and earnings.
- Compared to the UK, Lancashire has a larger proportion of employment in lower skilled occupations and a smaller proportion of employment in higher skilled occupations.
- This mix needs to shift if Lancashire's economy is to increase productivity and earnings.

Employment by occupation, 2019

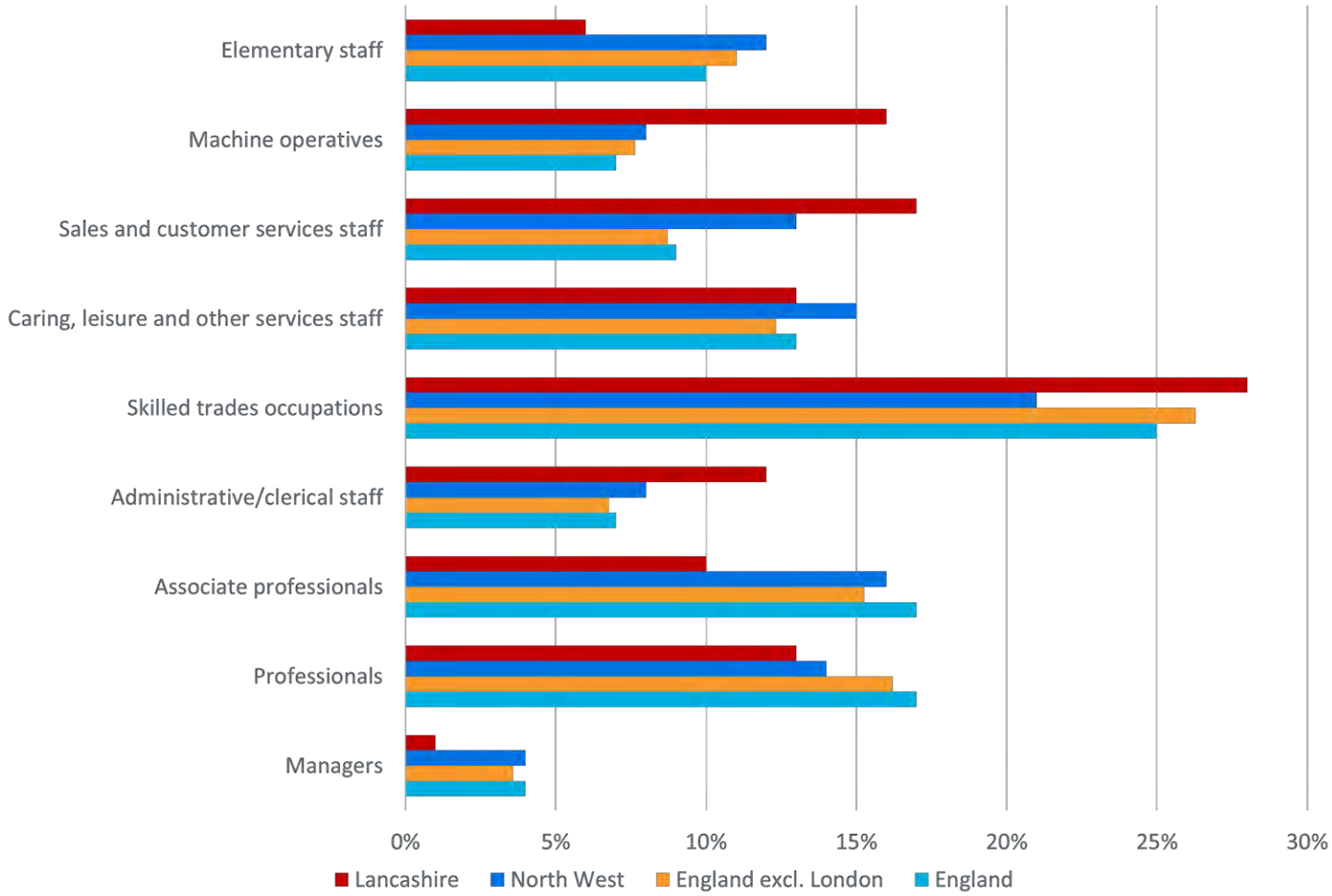


Source: Annual Population Survey, 2019

Skills shortages

- In terms of the current level of supply and demand for skills, Lancashire suffers fewer shortages in elementary staff, associate professionals, and manager when compared to the North West and England.
- On the other hand, Lancashire has greater levels of skills shortages in Machine operatives, sales and customer services staff and skilled trades occupations than the North West or England.
- This pattern – which is mirrored by data on hard-to-fill vacancies – indicates that the majority of current skills shortages in Lancashire are in mid-level skills.
- However, this pattern may change as technological drivers produce changes in sectoral and occupational structures.

Employers reporting skills shortage vacancies by Occupation



Source: UKCES, 2015

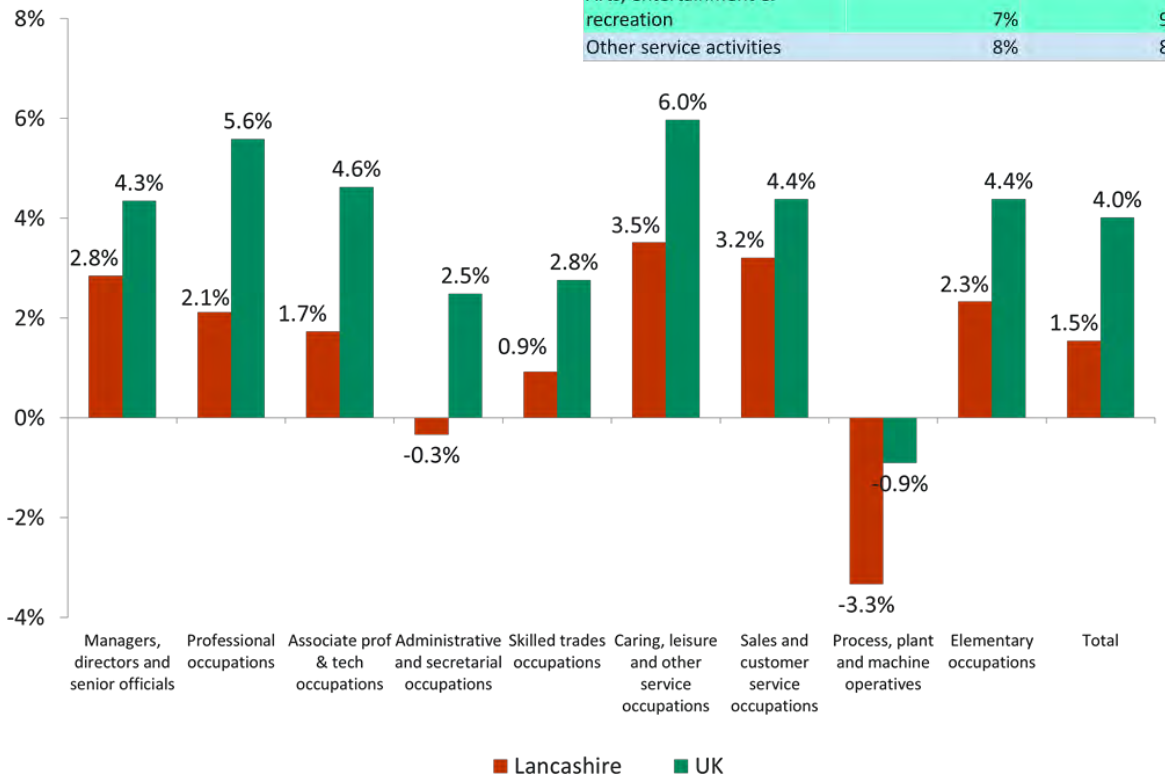
Employment change by sector and occupation 2018-2028

- Between 2018-2028 Lancashire is projected to experience similar changes in sectoral employment to the UK.
- Key anticipated employment growth sectors in Lancashire are:
  - Construction;
  - Professional, scientific and technical;
  - Administration and support;
  - Health and social work; and
  - Arts, entertainment and recreation.
- Sectors projected to shrink in terms of employment include:
  - Agriculture;
  - Mining and quarrying;
  - Manufacturing;
  - Energy;
  - Water and waste; and
  - Public administration and defence.
- These sectoral shifts are projected to link to changes in Lancashire's occupational mix, with falls in demand for Process, plant and machine operatives (linked to a projected decline in manufacturing employment associated with digitisation and automation), and a decline in demand for Administrative and secretarial occupations (linked to digitisation and automation).

Sector change 2018-2028

	Lancashire	UK
Agric', forestry & fishing	-10%	-9%
Mining & quarrying	-32%	-28%
Manufacturing	-13%	-12%
Energy supply	-15%	-14%
Water & waste activities	-10%	-9%
Construction	11%	11%
Wholesale & retail	5%	5%
Transportation & storage	0%	2%
Accommodation & food	4%	6%
Info & comms	8%	10%
Financial services	-3%	-2%
Real estate	6%	10%
Prof, sci & tech	13%	14%
Admin & support	14%	15%
Public admin & defence	-8%	-5%
Education	-1%	2%
Health & social work	3%	6%
Arts, entertainment & recreation	7%	9%
Other service activities	8%	8%

Occupation change 2018-28

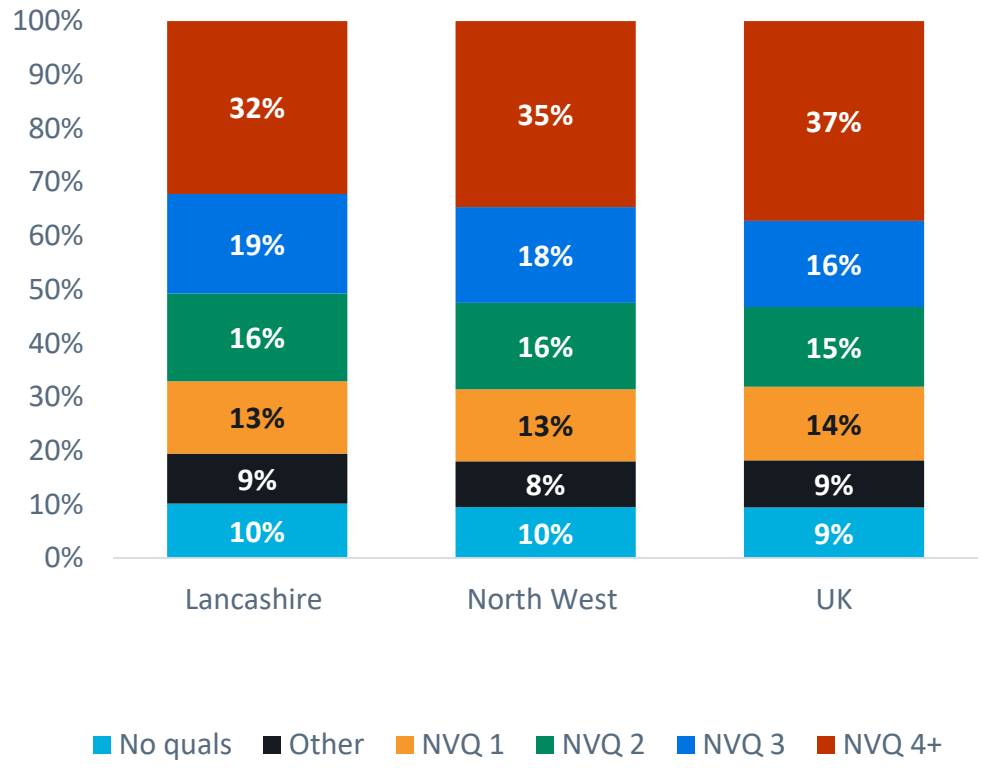


Source: Oxford Economics analysis for the Lancashire Labour Market Intelligence Toolkit, 2018

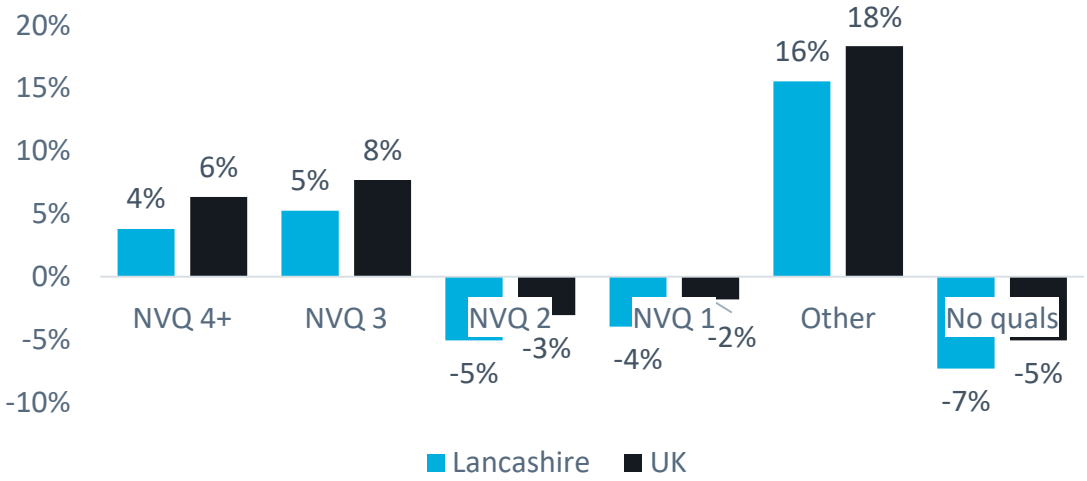
Skill levels – present supply and future demand

- Lancashire currently has a lower proportion of residents with NVQ Level 4+ qualifications than the North West and UK and a higher proportion of those with Level 3.
- Projections of demand for qualifications to 2028 show increased demand for NVQ Level 3 and 4+ with declines in demand for Levels 1 and 2, and a significant fall in demand for those with no qualifications – Lancashire is projected to experience a larger decline in the demand for those with no qualifications than the UK overall.
- Thus, there is a challenge for the local economy to upskill its existing workforce and to ensure that the next generation of workers has the qualifications necessary for the skill-hungry economy of the future.

Existing qualification Levels



Projected employment change by skill level 2018-2028

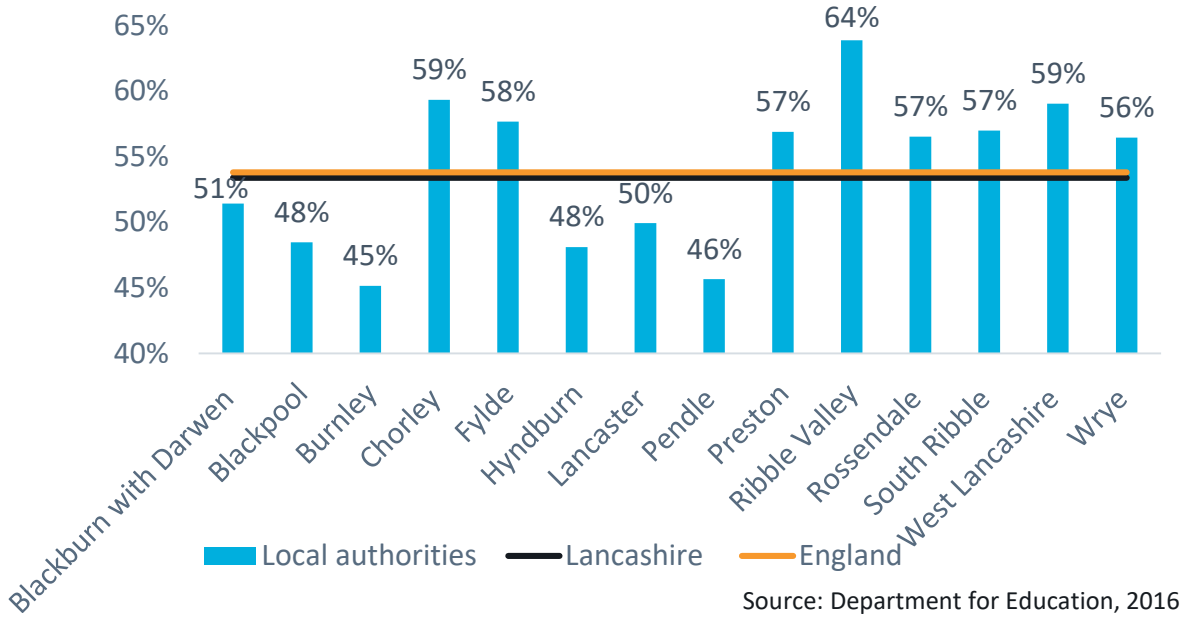


Source: Oxford Economics analysis for the Lancashire Labour Market Intelligence Toolkit, 2018

Educational attainment

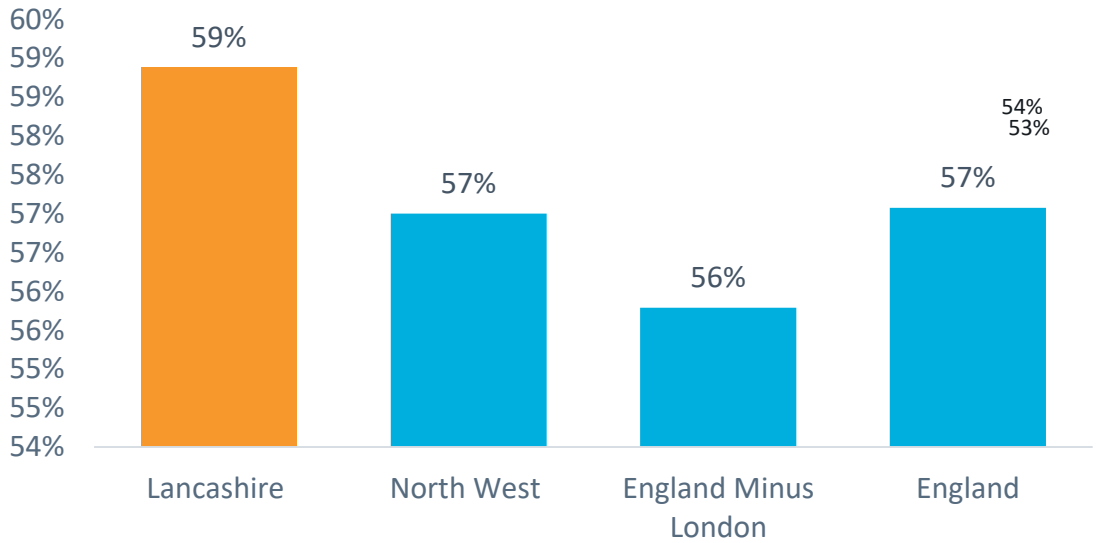
- Schools, colleges and universities in Lancashire drive the future talent pipeline.
- The picture of current educational performance across Lancashire varies depending on the metrics used.
- Looking at the proportion of residents attaining Level 3 qualifications by age 19, Lancashire outperforms the North West and England.
- Looking at the proportion of Key Stage 2 pupils reaching expected their expected level in reading, writing and mathematics the Lancashire average is on a par with that of England.
- However, there is significant variation in Key Stage 2 attainment at the local authority level with some local authorities (i.e. Blackpool, Burnley, Hyndburn and Pendle) significantly underperforming by this metric.
- The Lancaster average of key stage two attainment is weighted upwards by the strong performance of some of its other local authorities.

% of pupils at KS2 reaching expected level in reading, writing and maths



Source: Department for Education, 2016

% of attainment of Level 3 by age 19

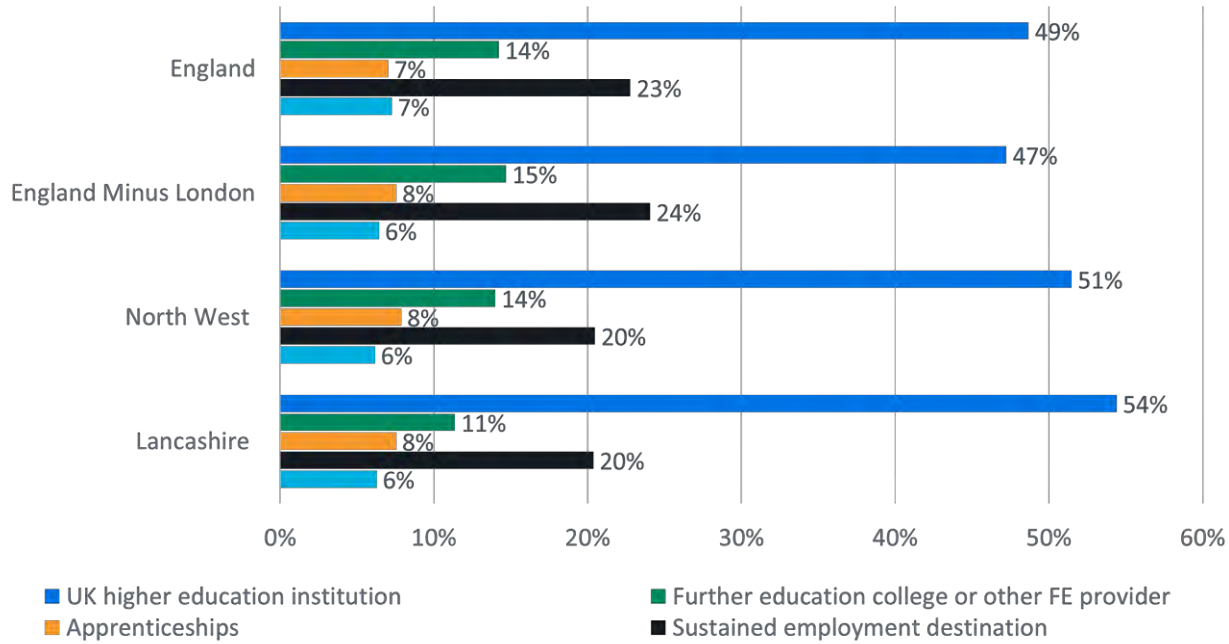


Source: Department for Education, 2016

School leavers destinations

- In Lancashire, a higher proportion of students go into higher education than in the North West or England as a whole – however, there is significant variation between Local Authority Districts.
- A smaller percentage of Lancashire's students move into Further Education than in the North West and England. While the percentage of students moving into apprenticeships matches the regional average and is marginally higher than that of England.
- Further Education provision in Lancashire, is mainly rated Outstanding or Good. But there is room for improvement. Stakeholder consultations indicated concern that current funding levels to FE colleges were inadequate to meet expected needs.
- The relative fit of the future talent flow with the local economy's needs depends on the subject choices of students – the next two slides summarise subject choices in Further Education and Higher Education.

Destination of students after completing Key Stage 5 by %



Source: DfE, 2017

Ofsted Ratings for Schools/Colleges (16-18 years)

Ofsted Rating	Number of FEI
Outstanding	17
Good	18
Requires Improvement	7
Inadequate	1
No data available	38

Source: DfE, Find and compare schools in England, March 2019