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Graduate employment, productivity and economic growth

Analysis by Universities UK
March 2025

Scope of analysis

In the third of our series on graduate outcomes, we've analysed a range of data sources looking at employment of graduates, to show the impact of graduate skills across the country, how patterns differ across regions and industries, and comparisons to non-graduates and wider employees.

Our analysis focuses on:

1. Evidence for the link between higher education skills and productivity in the UK economy
2. Patterns in graduate contributions to economic growth and productivity
3. Future implications for economic growth of the UK economy

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The link between graduate skills, economic growth and productivity

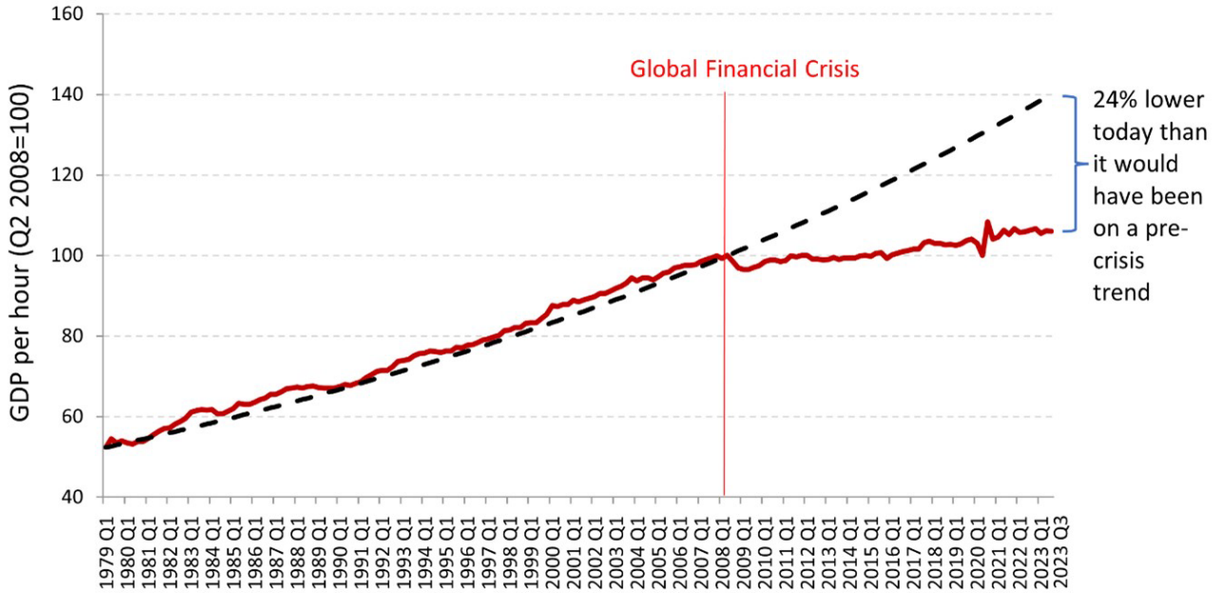
Sources:

LSE, Chronic under-investment has led to productivity slowdown in the UK

National Institute of Economic and Social Research, Productivity in the UK: Evidence Review

The UK economy has experienced a sustained period of low growth in productivity

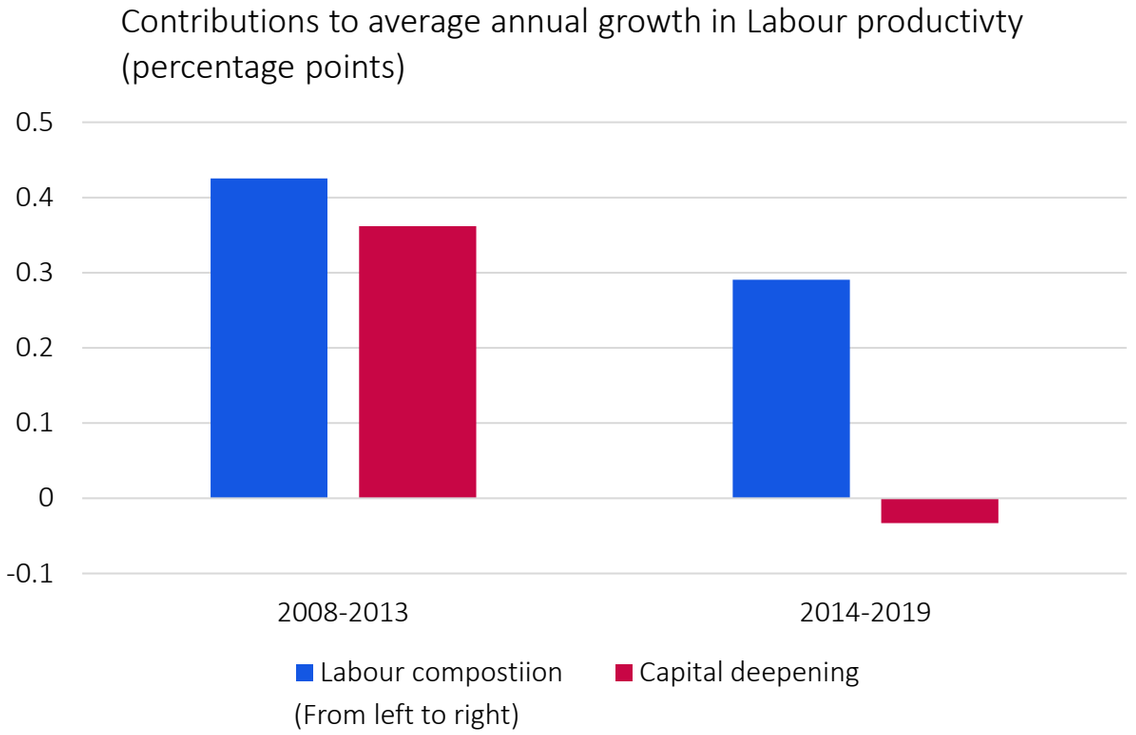
- Between 2007 and 2019, productivity in the UK averaged 0.2% annual growth, compared to 2.1% in the previous three decades.
- This is well below what is needed to achieve sufficient economic growth and improve living standards.



Notes: ONS Output per hour worked, UK Whole Economy (2008Q2= 100); Van Reenen and Yang (2023) based on "Productivity flash estimate" 21/11/2023: July to September 2023 and 24/10/23, UK. Predicted value after Q2 2008 is the dashed line calculated assuming a historical average growth rate of 2.2% (the 1979Q1-2008Q2 growth rate).

Improvement in skills has been the main contributor to productivity growth

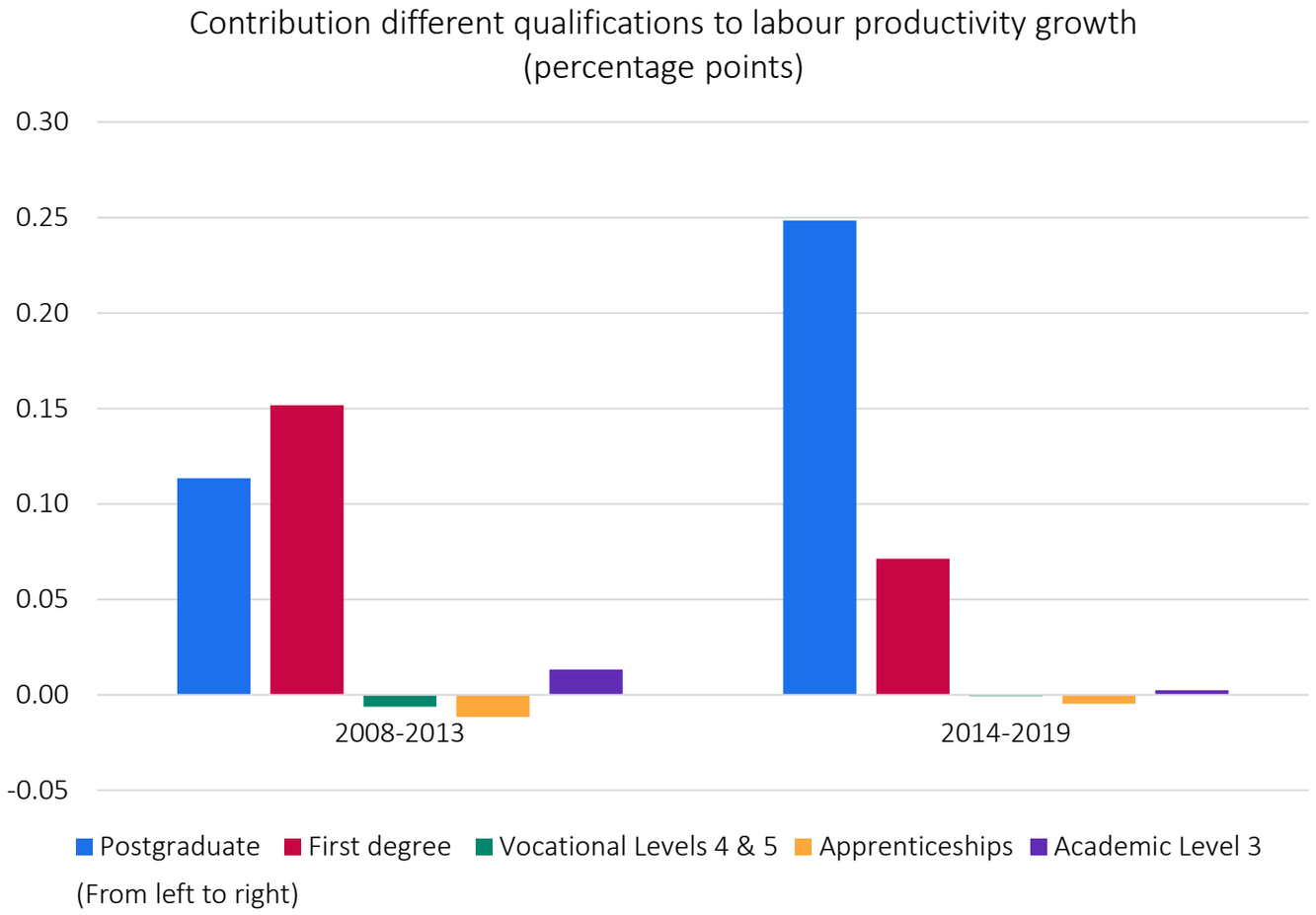
- Government research shows increased HE participation played a pivotal role in preventing a decline in productivity.
- Postgraduate and first degrees made up 22% of the UK workforce between 2001 and 2007, increasing to almost 35% between 2014 and 2019.
- Between 2014 and 2019, increases in qualifications contributed nearly 0.3 percentage points to productivity growth compared to a small reduction from Capital (eg investment in IT, equipment, machinery, transport)



Source: Department for Education, Skills and UK productivity: Estimating the contribution of educational attainment to productivity growth

Higher education qualifications improved productivity

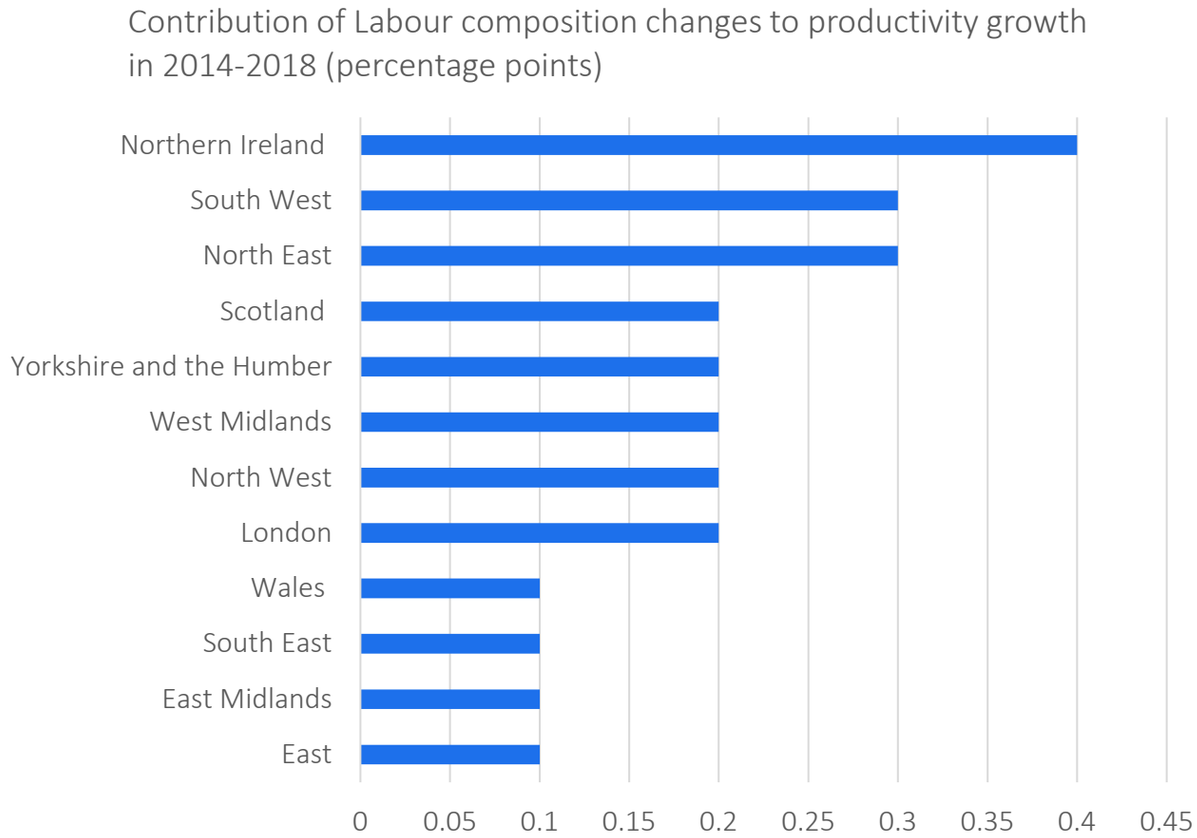
- First degrees and Postgraduate qualifications in the workforce contributed to growth in labour productivity in the period 2008-2013 and 2014-2019
- In comparison, Level 3 qualifications made a small contribution over the period



Source: Department for Education, Skills and UK productivity: Estimating the contribution of educational attainment to productivity growth

HE qualifications contribution to productivity growth was evident in all regions

- Increases in high-level skills in the workforce contributed positively to labour productivity growth in all regions
- This contribution was highest in Northern Ireland (0.4pp), South-West (0.3pp) and the North-East (0.3pp)



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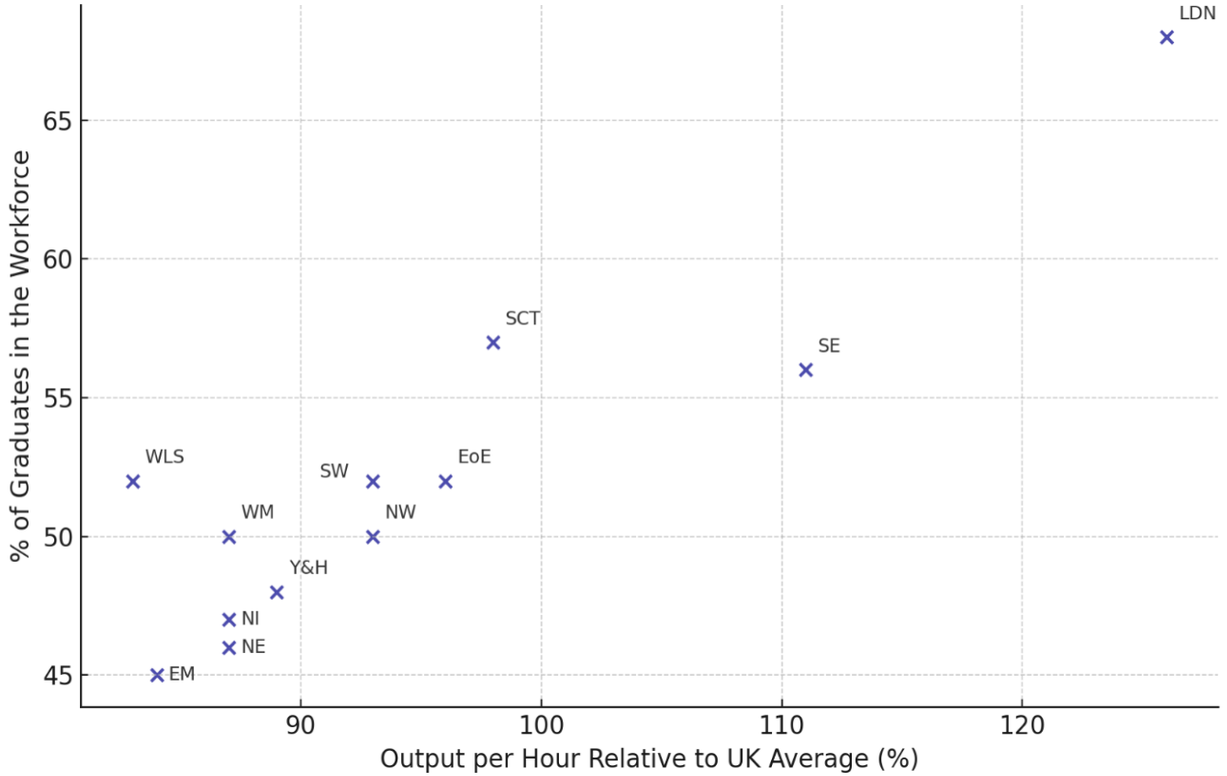
Patterns in graduate contributions to growth and productivity

Sources: UUK analysis of Labour Force Survey (Q3 2023) and ONS regional productivity data (2019)

Regions with more graduates in the workplace are more productive

- There is a strong correlation between labour productivity in a region and the proportion of graduates in the workforce.
- This suggests having more graduates in the workforce supports a region in being productive.
- To match the proportion of graduates in the workforce across all regions, to those seen in the most productive regions:
  - 4 million additional graduates would be needed to match London
  - 1.2 million would be needed to match levels in the South-East



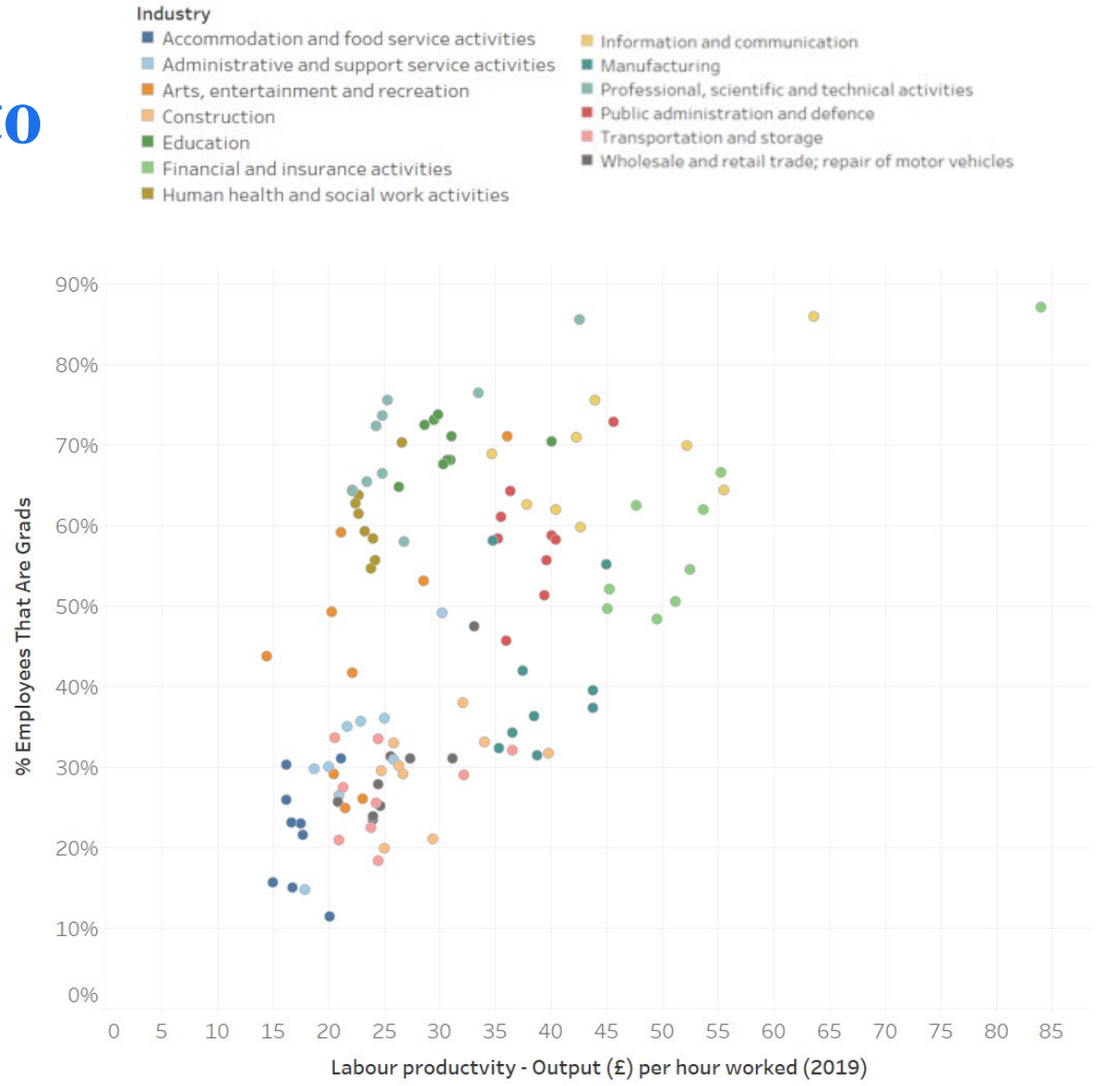
Sources: UUK analysis of Labour Force Survey (Q3 2023) and ONS regional productivity data (2019)

Regional industries with more graduates also tend to be more productive

There is also a correlation between labour productivity and graduates in the workforce across regional industries.

Regional industries with productivity above the UK average have:

- higher levels of graduate employees (56% vs 42%)
- higher graduate earnings (£39k vs £29k)



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Future economic growth and productivity

Source: National Foundation for Educational Research (NFER): Labour market and skills revised projections: 2020 to 2035

The UK economy will need more graduates in the future

- Official government forecasts show that, between 2025 and 2035, the UK economy will need 1.7 million more workers in occupations associated with graduate skills, just to replace those who will leave the workforce due to retirement and other factors.
- By 2035, it is forecast that this will mean the UK economy will move towards a workforce where 61% hold a higher education qualification compared to 52% in 2025 and 48% in 2020.
- This includes a 38% increase in the workforce holding a postgraduate degree, 14% increase in those holding a first degree and 15% increase in Level 4 and 5.
- Even greater levels of graduates will be needed if we want to expand growth sectors to drive economic growth.

Source: UUK analysis of Labour Force Survey (Q3 2024)

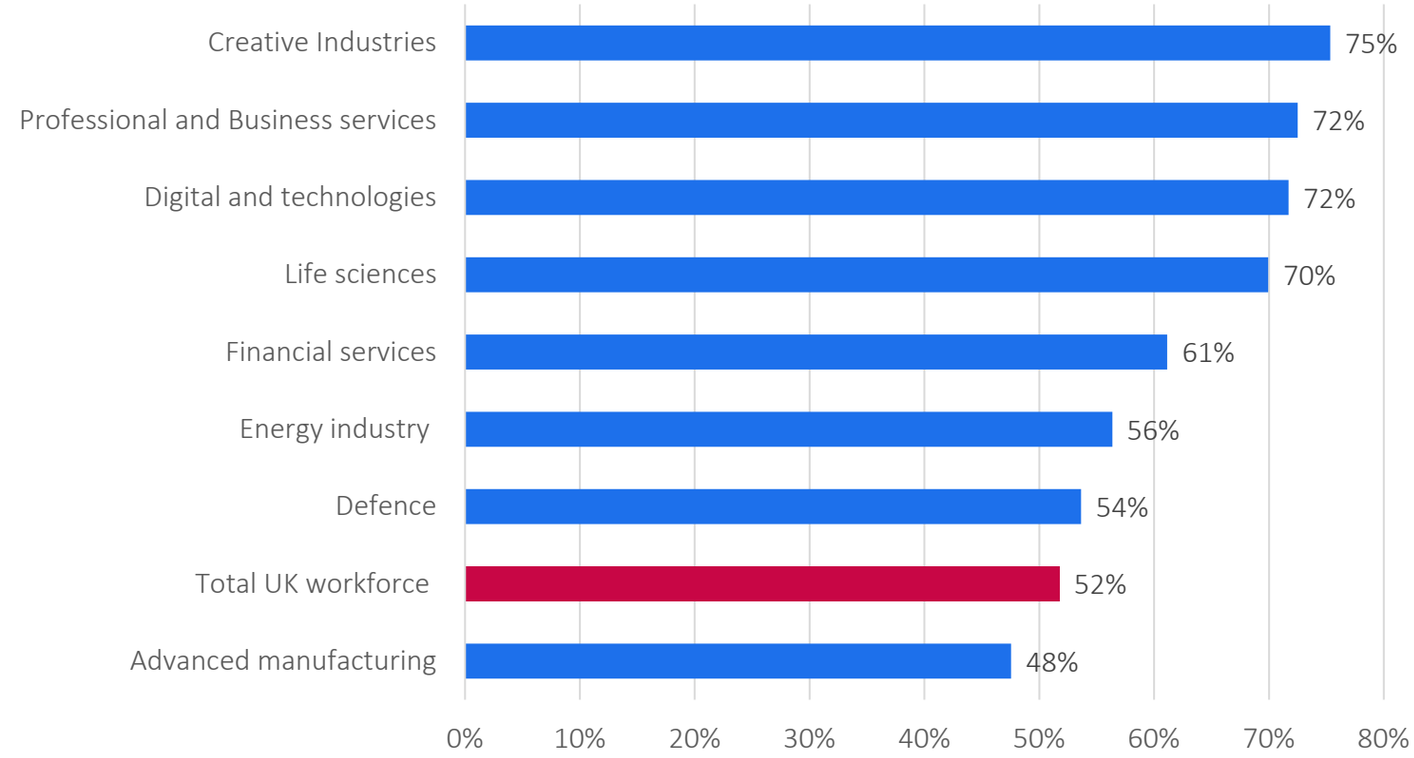
Industries that will drive growth over the coming decade require graduate skills

The government's industrial strategy looks to drive growth over the next decade through investment in eight sectors.

All eight of these sectors are dependent on high level skills and are reliant on graduates.

The Creative sector (75%), Professional and business services (73%), Digital sector (72%) and life science sector (70%) are particularly dependent on high levels of HE skills.

Proportion of graduates in the governments industrial strategy growth sectors, UK 2024



Source: UUK analysis of Labour Force Survey (Q3 2024)

Industrial strategy growth sectors across regions require high levels of graduate skills

- London has exceptionally high levels of graduates employed in growth sectors including Digital & technologies (90%), Energy (90%), Professional and Business services (87%), Life sciences (86%) and Creative Industries (86%)

- The highest skilled growth sectors vary across regions with the creative sector prominent across nearly all regions.

Region (% grads in workforce)	Growth sector (top two based on skills needs)	% of graduates in growth sector
East Midlands (45%)	Life sciences	69%
	Creative Industries	67%
East of England (52%)	Digital and technologies	74%
	Creative Industries	68%
London (68%)	Digital and technologies	90%
	Energy industry	90%
North East (46%)	Professional and Business services	69%
	Creative Industries	59%
North West (50%)	Life sciences	79%
	Creative Industries	73%
Northern Ireland (47%)	Creative Industries	79%
	Financial services	71%
Scotland (57%)	Digital and technologies	81%
	Creative Industries	78%
South East (56%)	Life sciences	74%
	Creative Industries	73%
South West (52%)	Creative Industries	75%
	Professional and Business services	72%
Wales (52%)	Life sciences	79%
	Energy industry	70%
West Midlands (50%)	Professional and Business services	73%
	Creative Industries	64%
Yorkshire and Humberside (48%)	Creative Industries	72%
	Professional and Business services	68%

Sources and methodology

This analysis is based on range of data published by the government, including:

- Graduate labour market statistics, 2023. This is an annual government release which provides data on labour market conditions for graduates, postgraduates, and non-graduates living in England. The data is available from 2007 to 2023 and is based on the Office for National Statistics Labour Force Survey.

- Annual Survey of Hours and Earnings. This is a survey by the ONS which collects information on payments made to the employees and the hours on which this pay was calculated, including by industry and regions across the UK.

- Labour Force Survey: This is the largest household study in the UK and provides the official measures of employment and unemployment.

- Skills and UK productivity Estimating the contribution of educational attainment to productivity growth (DfE 2023)