

South East England

The South East produced 17% of UK-domiciled PhD graduates and employed 13% of the UK PhD workforce in the DLHE survey. The employment and unemployment rates for PhD graduates from South East universities were very similar to the UK averages. Although the migration figures show that the region is attractive to PhD graduates from other regions, overall the region was a net exporter of PhD graduates. More than half of the region's PhD graduates leave the South East for work or work and study.

Key statistics:

The 1220¹ UK-domiciled PhD graduates from South East institutions made up 17% of the UK total:

- 57% were male and 43% female, compared to the UK average of 55% and 45%
- 25% studied part-time, consistent with the UK average 27%
- The most popular subjects were psychology, chemistry, physics and biology.

Of the 730 (60%) who responded to the 2004 DLHE² survey:

- 80.5% entered employment in the UK³
- 3.3% were unemployed, very similar to the UK average 3.2%
- 9.2% continued their careers overseas compared to 8.1% across the UK.

Of the 590 PhD graduates from South East HEIs who had entered employment in the UK:

- 44.6% entered the education sector, predominantly in higher education
- 18.2% were employed in manufacturing and 17% in the health sector
- 51% remained in the South East and 49% moved to other regions of the UK.

The South East employed 545 (13%) of the UK-domiciled PhD graduate workforce:

- 55% gained their PhD at South East institutions
- 45% moved to the South East from other regions of the UK
- 46% were employed in the education sector: 44% as postdoctoral researchers; 37% in university teaching roles, primarily as lecturers
- 20% of all PhD graduates working in the South East were employed as postdoctoral researchers.

The South East was a net exporter (-16.7%) of UK-domiciled PhD graduates:

- PhD graduates who left the South East for work were most likely to move to London and the South West or the East of England
- The South East attracted 17% of the UK-domiciled PhD graduates who left their region of study for known UK locations
- PhD graduates moving to the region were most likely to come from the London or the East of England and work in the education or manufacturing sectors (both 33%).

Overview of South East higher education institutions⁴

In the South East of England, there are nine universities, one school of the University of London, and seven higher education colleges. There are over 171,000 full-time equivalent (FTE) higher education students in these institutions. The largest higher education institution (HEI) in the region is the University of Oxford with almost 19,000 student FTEs, and the smallest is the Kent Institute of Art & Design with just over 2,000 student FTEs.

Just over 5% of students in the region were registered for postgraduate research degrees, predominantly at the institutions with a substantial research income – the Universities of Oxford (which dominates the region in terms of research income), Reading, Surrey, Southampton and Sussex (see Table One).

Higher education institution	Final year PhD numbers
The University of Oxford	725
The University of Southampton	375
The University of Reading	225
The University of Surrey	200
The University of Sussex	195
Open University	130
The University of Kent	115
Royal Holloway and Bedford New College	90
Oxford Brookes University	55
The University of Portsmouth	40
The University of Brighton	20
Buckinghamshire Chilterns University College	20
Southampton Institute	15
King Alfred's College, Winchester	10
Canterbury Christ Church University College	5
Total	2220

Table One. Final year PhD researchers by HEI in the South East⁵

The research strengths of universities in the South East are reflected in Figure One, derived from the results of the 2001 Research Assessment Exercise (RAE)⁶. Further analysis of the RAE results shows that 68.5% of submissions from the region's institutions were rated at 4 or above, with 45% scoring the highest ratings of 5 and 5* - the second highest proportion of any UK region. These top rated departments are across the subject spectrum indicating the broad range of research expertise in the region.

¹ All figures are rounded to the nearest five for data protection

² Destination of Leavers from Higher Education – a survey of all UK and EU first and higher degree graduates

³ 71.3% are classified as 'working in the UK'; 9.2% are 'working and studying in the UK' The data in WDPDR on employment includes both classifications

⁴ HEFCE 2004 Regional Profiles: South East

⁵ These figures are derived from the HESA student record data for those who were scheduled to complete their enrolment period in 2002/03. They include international PhD researchers who were not included in the DLHE survey www.hesa.ac.uk/pi/0203/research.htm. In line with the survey statistics, all Open University PhD graduates are included in this region

⁶ Data set available at www.hero.ac.uk/rae/Results

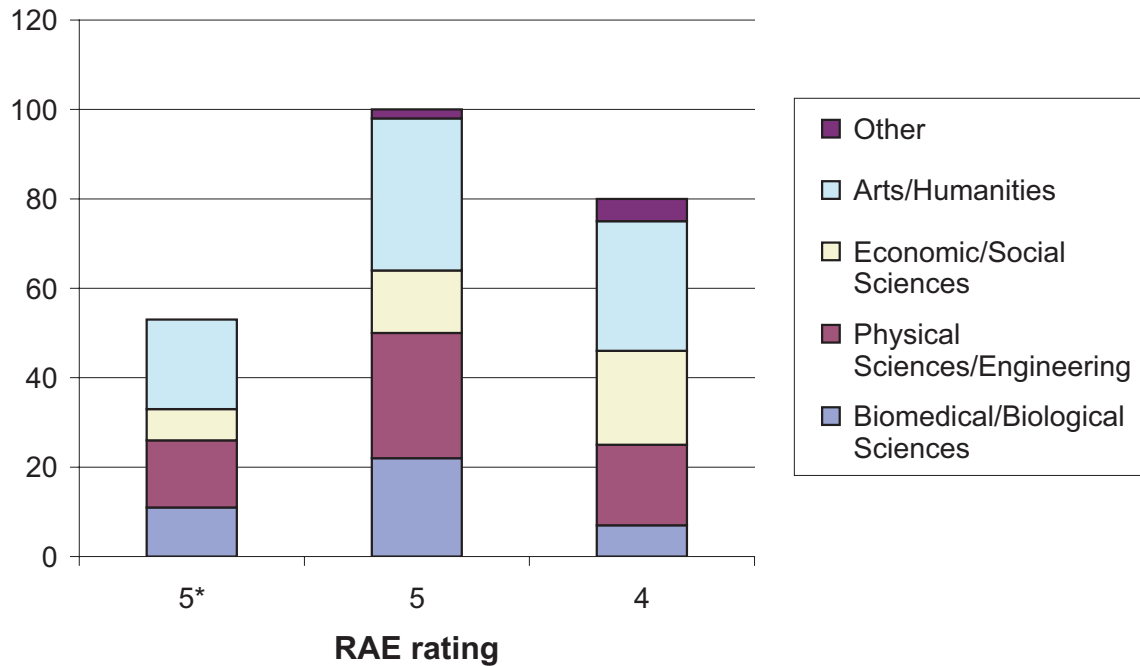


Figure One: Research subjects of top graded RAE submissions in South East England

Economic strengths

The South East England Development Agency (SEEDA)⁷ acknowledges the prosperity of this region, citing low unemployment (3.85% compared with the UK average of 4.9%) and high disposable income amongst its measures. It describes the South East as the 'locomotive of the UK economy' as its performance is critical to that of the UK as a whole.

The South East research profile is one of the strongest in the UK. The Business Enterprise R&D Survey conducted by the Office of National Statistics⁸, reported that in 2002, the gross domestic expenditure on research and development (R&D), as a percentage of Total Gross Value Added was 3.1% for the South East, compared to 2.0% for the UK as a whole. Additionally, over a quarter of all expenditure on research and development performed in UK businesses took place in the South East in 2001. With this huge resource, SEEDA's focus is different from many other regions. Rather than looking to create new research economies, it is intent on maximizing the outputs of its research base, and to transform this potential into economic wealth that can be retained within the region.

Profile of PhD graduates from the South East

Of the 7270 UK-domiciled PhDs who graduated in the UK in 2003, 16.8% (1220) graduated from South East HEIs. This was the largest number of PhD graduates from any region in the UK. Of these PhD graduates, 43% were female and 57% male, consistent with the UK average of 45% and 55%. Part-time study accounted for 25% of PhD degrees awarded, in line with the UK average of 27%.

Figure Two shows the breakdown of UK-domiciled PhD graduates by subject groups. A higher percentage of PhD graduates from South East universities (36.5%) came from the physical sciences than the UK average (32%). Slightly higher percentages came from the biosciences (13.9% compared to 12.4%) and the arts and humanities (16.4% compared to 13.7%). A smaller proportion graduated from the economic and social sciences (8.6% compared to 11.1%) and the medical sciences (22.1% compared to 26.9% across the UK).

⁷ The Regional Economic Strategy www.seeda.co.uk

⁸ www.statistics.gov.uk/; also useful is 'Regional Competitiveness and State of the Regions' by Mukund Lad at www.dtistats.net/sd/rci/

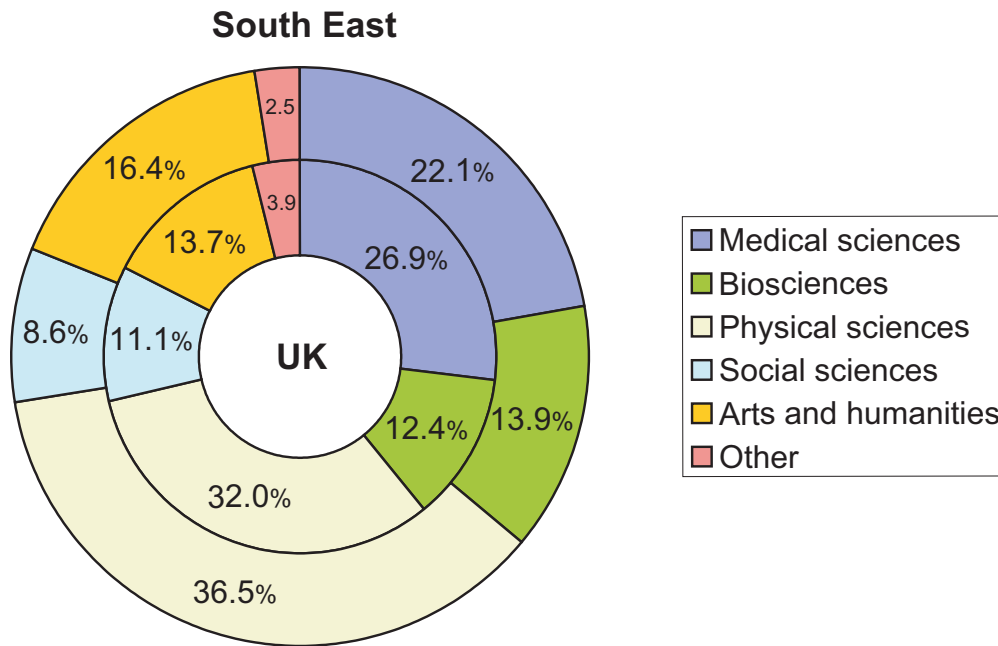


Figure Two: Subject groups of all UK-domiciled PhD graduates from HEIs in the South East (outer ring) compared to all UK HEIs (inner ring) in 2003

The list of the 'top ten' subjects for PhD graduates from the South East HEIs (Table Two) shows a stronger bias towards scientific and technical subjects than the UK table. Psychology, chemistry, physics, biology and other biological subjects top the table, although the most popular UK subject, clinical medicine, was ranked only at number 10 in the South East. Engineering subjects were also better represented in the South East than the UK average. From the arts and humanities, only history appears in the South East 'top ten'.

Subject and ranking	South East	Total (and position) in UK
1. Psychology	8.6%	7.6% (3)
2. Chemistry	6.4%	7.7% (2)
3. Physics	3.6%	4.4% (5)
4. Biology	2.9%	5.2% (4)
5. Other biological sciences	2.9%	1.2% (22)
6. Physical terrestrial geography and environmental sciences	2.4%	2.1% (11)
7. History by period	2.0%	2.5% (9)
8. Electronic and Electrical Engineering	1.8%	2.1% (11)
9. General Engineering	1.6%	2.0% (15)
10. Clinical Medicine	1.6%	8.2% (1)

Table Two. Top subjects studied by PhD graduates in South East HEIs compared to UK figures

What do South East PhDs do?⁹

Of the 1220 UK-domiciled PhD graduates from South East HEIs in 2003 eligible for the 2004 survey, 730 responded (60% response rate).

71.3% of UK-domiciled PhD graduates from South East institutions had entered the workplace when the survey was conducted, slightly lower than the overall UK figure of 72.7%. A further 9.2% were engaged in work and study simultaneously, slightly higher than the UK average of 8%. Slightly more PhD graduates had moved overseas (9.2%) than for the UK as a whole (8%). At 3.3%, unemployment rates for UK-domiciled PhD graduates from South East institutions were consistent with the UK average of 3.2%.

⁹ The data in this section refers to PhD graduates from South East HEIs who were working in all regions of the UK

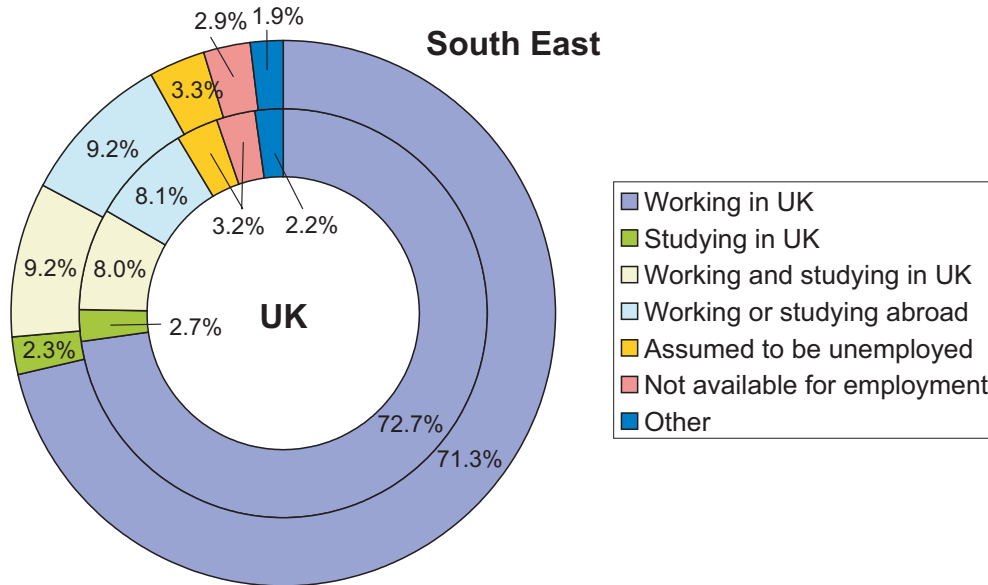


Figure Three: First destinations of UK-domiciled PhD graduates for all subjects from HEIs in the South East (outer ring) compared to all UK HEIs (inner ring) from 2004 DLHE survey responses

Employment sectors

The 80.5% of PhD graduates from South East HEIs working or working and studying in the UK were employed in a range of sectors across the UK. Consistent with the UK average (47.8%), the education sector was the dominant destination, employing 44.6%, predominantly in higher education.

The balance were employed in a range of occupations across all sectors, with only small differences against the UK picture, as shown in Figure Four.

Manufacturing industries employed 18.2% of the South East PhD graduates compared to 16.3% across the UK. 68% of these were employed in the chemical and pharmaceutical industries, accounting for 12% of all South East PhD graduates, close to the national figure of 11%).

The health sector employed a higher percentage of PhD graduates from South East universities at 17% compared to 15.5% across the UK. Slightly higher were employed in business, finance, IT (9.4% compared to 9.1%) and slightly less in the public sector (5.3% compared to 5.7%).

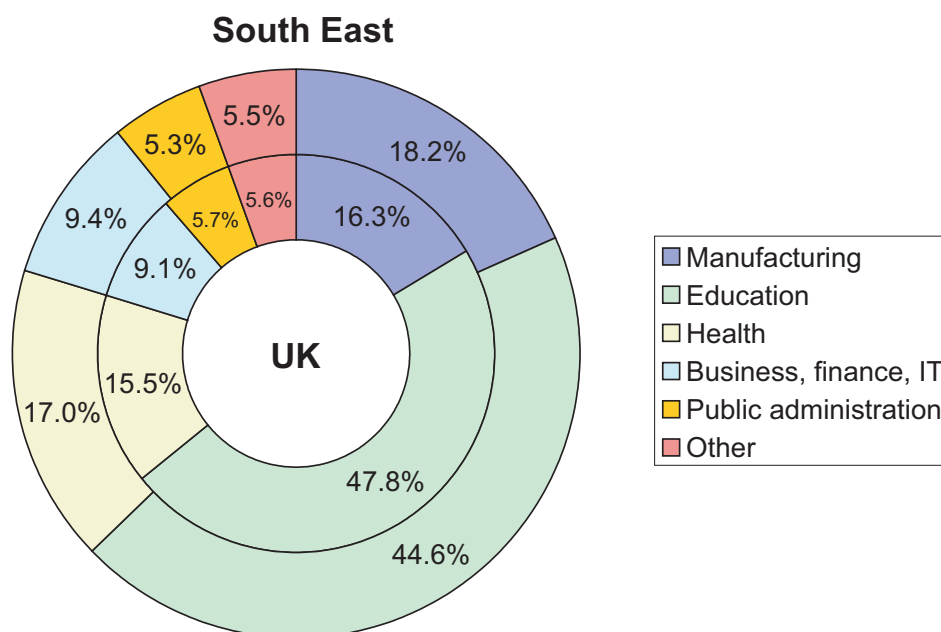


Figure Four: Employment sectors entered by UK-domiciled doctoral graduates from South East HEIs (outer ring) compared to all UK institutions (inner ring), based on Standard Industrial Classifications returned in 2004 DLHE survey

Career occupations

We examined the specific occupations entered by PhD graduates from South East universities. Given the similar picture of PhD degree subjects and employment sectors, it is not surprising that the occupations of South East PhD graduates reflect the UK average.

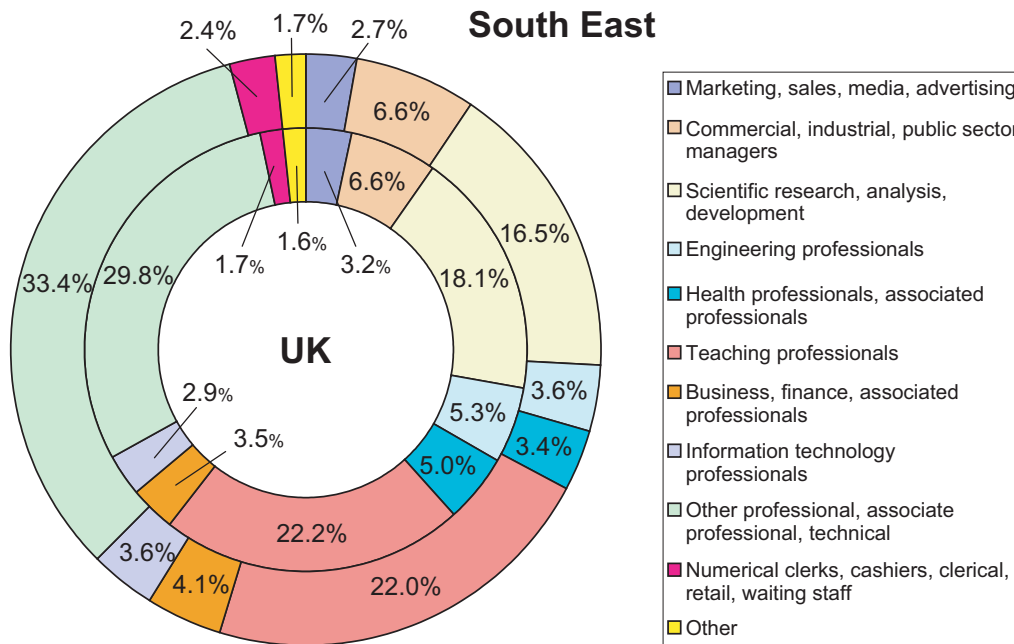


Figure Five: Types of work entered by UK-domiciled PhD graduates from HEIs in the South East (outer ring) compared to all UK institutions (inner ring), based on Standard Occupational Classifications returned in the 2004 DLHE survey.

The largest variation in the occupations of PhD graduates from South East HEIs and the national picture is in 'other professions', which includes some postdoctoral researchers. 33.4% of South East PhD graduates were employed in this sector compared to the UK average of 29.8%. Conversely, the region produced slightly fewer scientific researchers (16.5% compared to the 18.1% UK average) and engineers (3.6% compared to the UK average of 5.3%).

Migration

We examined the migration patterns of UK-domiciled PhD graduates from South East HEIs who were in employment at the time of the survey.

In common with most regions, the South East saw a net loss of PhD graduates. 16.7% fewer PhD graduates started work in the South East than the total number of PhD graduates from the region¹⁰. 290 PhD graduates (44% of total employed) left the South East for employment in other regions of the UK. This proportion is higher than the average figure for all regions of 38%. PhD graduates from the South East moved across the UK, but London was the most popular, attracting 19% of the total. Other popular regions for migration were the East of England and the West Midlands¹¹.

Another 65 PhD graduates (10% of total employed) left the South East for work or work and study abroad (compared to the national average of 9%).

¹⁰ The net migration figures should be treated with care. 2.5% of the total DLHE respondents did not identify a specific region of employment. If these respondents are skewed to one region this will impact significantly on the net migration figures

¹¹ Data protection prohibits a full analysis of region to region migration

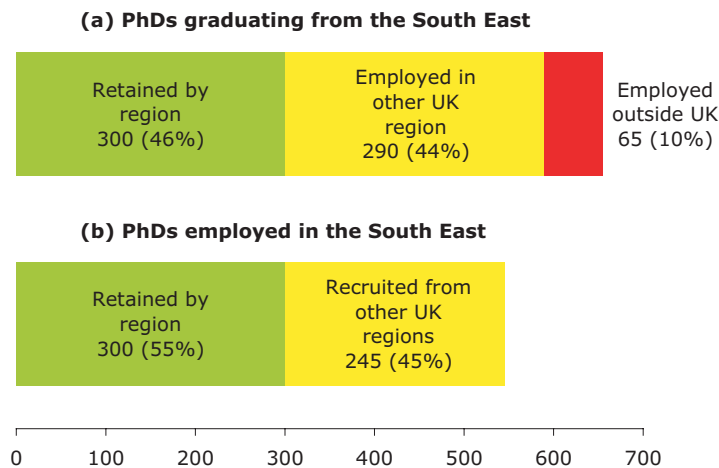


Figure Six: Mobility of South East PhD graduates in employment (a) and origin (region of study) of PhD graduates working in the South East (b)

What do PhD graduates employed in the South East do?¹²

300 UK-domiciled PhD graduates from South East HEIs were working in the South East at the time of the survey, representing 55% of the total employed in the region.

These were joined by 245 UK-domiciled PhD graduates from other regions in the UK, who gained employment in the South East. Within this cohort, small numbers came from each of the other UK regions, but London supplied the highest percentage at 9% of the South East PhD labour force, followed by the East of England (7%) and the West Midlands (5%). In total, 17% of UK-domiciled PhD graduates who left their regions of study for known UK locations moved to the South East. Amongst the regions, only London attracted greater numbers of PhD graduates.

Employment sectors

The employment sectors for all PhD graduates employed in the South East are compared to the national picture in Figure Seven. In line with the rest of the UK, the education sector employed 46.4% of PhD graduates in the region, compared to 47.8% across the UK. Of these, 37% were employed as university lecturers and 44% as postdoctoral researchers. Overall, 20% of all the UK-domiciled PhD graduates employed in the South East were employed as postdoctoral researchers, slightly lower than the UK average of 22%.

The most striking difference is that the manufacturing sector is a more dominant employer of PhD graduates in the South East than across the UK as a whole: 23.8% compared to the UK average of 16.3%. This represents the second largest manufacturing sector in all UK regions: only the East of England employed a higher proportion of PhD graduates in manufacturing. In contrast, the health sector employed fewer PhD graduates in the South East at 9.4% compared to 15.5% across the UK. The public sector and 'other' sector were more in line with the UK averages.

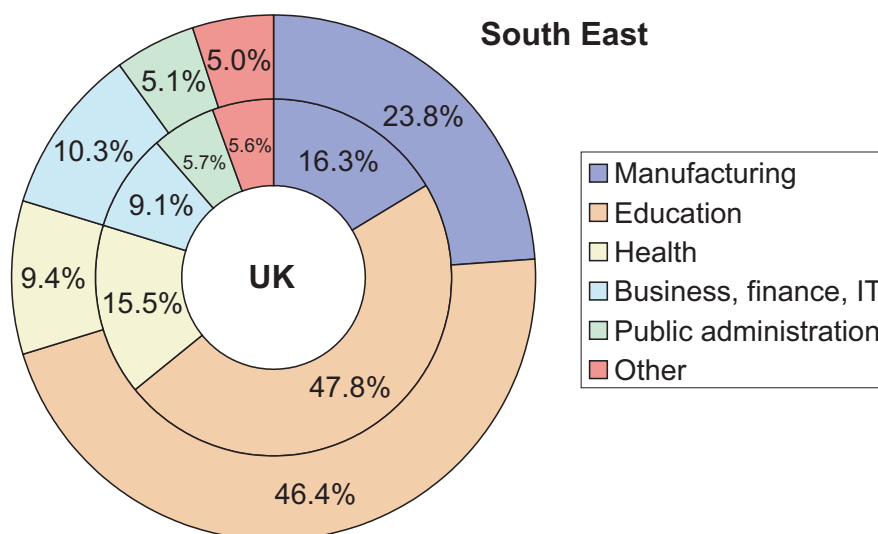


Figure Seven: Employment sectors entered by UK-domiciled PhD graduates employed in the South East (outer ring) compared to all UK regions (inner ring), based on Standard Industrial Classifications returned in the 2004 DLHE survey

¹² The data in this section refers to PhD graduates from all regions of the UK who were working in the South East

For the 245 PhD graduates who moved to the South East for employment, 33% were employed in the education sector. Of this cohort, 29% were employed as lecturers, 36% as postdoctoral researchers and 19% in further and school education. The manufacturing sector employed 33% of those PhD graduates moving to the region, whilst the business sector employed 12%, public administration 9% and health 8%.

Career occupations

We examined the specific occupations entered by PhD graduates employed in the South East. Overall, the picture is similar to the UK as a whole, as outlined in Figure Eight.

The most significant differences are in the scientific research classification, higher at 21.3% compared to the UK average of 18.1%, and the 'other professionals' classification (this includes some postdoctoral researchers), which is lower at 25.9% compared to 29.8% nationally. Overall, 20% of all PhD graduates working in the South East were employed as postdoctoral researchers¹³ compared to the UK average of 22%.

In other occupations, slightly more PhD graduates were employed as teaching professionals in the South East at 23.1% compared to 22.2% across the UK. Similarly, more PhD graduates were employed as IT professionals (4.8%) within the region than the UK average (2.9%).

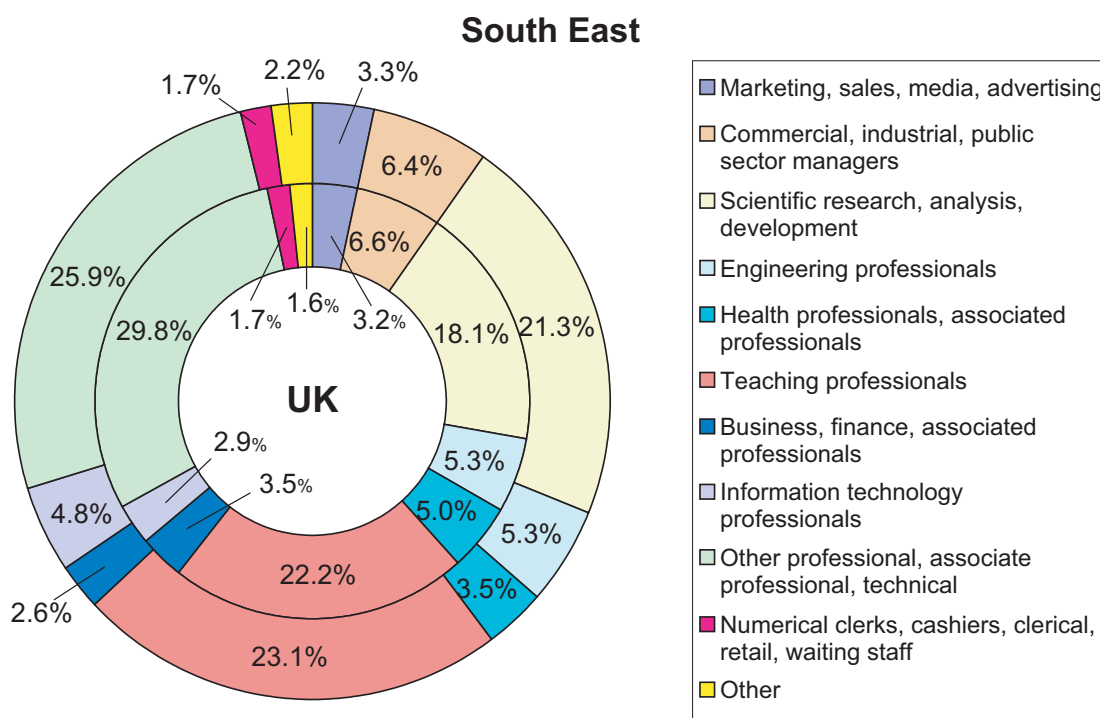


Figure Eight: Types of work entered by UK-domiciled PhD graduates employed in the South East (outer ring) compared to all UK regions (inner ring), based on Standard Occupational Classifications returned

¹³ 'What Do PhDs Do?' methodology describes the process of identifying postdoctoral researchers in universities www.grad.ac.uk/wdppd