

# London

London produced 11% of the UK-domiciled PhD graduates and employed 14% of the UK PhD workforce in the DLHE survey. It was one of only two regions to see a net influx of PhD graduates. PhD graduates from London universities have the most equal gender balance, a high proportion of part-time study and more than half of them remained in London for work.

## Key statistics:

The 790<sup>1</sup> UK-domiciled PhD graduates from London institutions made up 11% of the UK total:

- 50% were male and 50% female, compared to the UK average of 55% and 45%
- 37% studied part-time, higher than the UK average 27%
- The most popular subjects were medicine, pharmacology, psychology and education.

Of the 495 (63%) who responded to the 2004 DLHE<sup>2</sup> survey:

- 78.3% entered employment in the UK<sup>3</sup>
- 3.2% were unemployed identical to the UK average
- 8.7% continued their careers overseas compared to 8.1% across the UK.

Of the 385 PhD graduates from London institutes who had entered employment in the UK:

- 50.3% entered the education sector, predominantly in higher education
- 18.7% were employed in the health sector and 10.7% in manufacturing
- 65% remained in London and 35% moved to other regions in the UK for work.

Overall, London employed 14% of the UK-domiciled PhD graduate workforce:

- 43% of these gained their PhD at London institutions
- 57% moved to the London from other regions of the UK
- 38% were employed in the education sector: 50% of these as postdoctoral researchers; 32% in university teaching roles, primarily as lecturers
- 19% of all PhD graduates working in London were employed as postdoctoral researchers.

London was a substantial net importer (+37%) of UK-domiciled PhD graduates:

- PhD graduates who left London for work were most likely to move to the South East, the East or to leave the UK
- London attracted 23% of all 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 South East and the East of England and work in the education (26%) or health (23%) sectors.

## Overview of London higher education institutions<sup>4</sup>

London has the largest concentration of higher education in the UK, with 39 higher education institutions (HEIs) including 12 universities, 10 higher education colleges and 17 colleges and schools of the University of London. These institutions range in size from London Metropolitan University (over 23,000 student FTEs) to the Institute for Cancer Research (just over 100 student FTEs).

4.6% of students in the region were registered for postgraduate research degrees and were predominantly based in the institutions with high research profiles and income: University College London, Imperial College of Science, Technology and Medicine, and King's College, London. (Table One)

Higher education institution	Final year PhD numbers
University College London	570
Imperial College of Science, Technology and Medicine	455
King's College London	375
Queen Mary and Westfield College	125
London School of Economics and Political Science	115
Brunel University	110
The School of Oriental and African Studies	65
Birkbeck College	50
City University	50
Institute of Education	50
London Metropolitan University	50
St George's Hospital Medical School	35
Goldsmiths College	35
Middlesex University	30
The University of Greenwich	30
The School of Pharmacy	25
Institute of Cancer Research	20
Courtauld Institute of Art	15
The Royal Veterinary College	15
The University of East London	15
The University of Westminster	15

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<sup>1</sup> All figures are rounded to the nearest five for data protection

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

<sup>3</sup> 73.6% are classified as 'working in the UK'; 4.7% are 'working and studying in the UK'. The data in WDPDR on employment includes both classifications

<sup>4</sup> HEFCE 2004 Regional Profiles: London

Higher education institution	Final year PhD numbers
Kingston University	10
London School of Hygiene and Tropical Medicine <sup>10</sup>	
London South Bank University	10
Royal College of Art	10
London Business School	5
Thames Valley University	5
University of London (Institutes and activities)	5
University of Surrey, Roehampton	5
Total	2310

**Table One. Final year PhD researchers by HEI in London<sup>5</sup>**

The research strengths of universities in London are reflected in Figure One, derived from the results of the 2001 Research Assessment Exercise (RAE)<sup>6</sup>. Further analysis of the RAE results shows that 62.4% of submissions from the region's institutions were rated at 4 or above, with 41.8% scoring the highest ratings of 5 and 5\*. These top rated departments are across the subject spectrum indicating the broad range of research expertise in the region, with particular strengths in the arts and humanities.

**Economic strengths**

London's economy<sup>7</sup> is dominated by financial and business services, which make up the highest proportion of any regional economy in England. Conversely, manufacturing accounts for the lowest proportion in England. The London Development Agency (LDA)<sup>8</sup> reports that London has the highest productivity rate in the UK, the world's 4th largest economy and a gross value added of over £160 billion a year.

When compared to other UK regions, however, the capital's research and development base looks weaker. Its levels of research and development (R&D) expenditure are much lower

than the UK average. The Business Enterprise R&D Survey, conducted by the Office of National Statistics<sup>9</sup>, reported that in 2002, the gross domestic expenditure on R&D, as a percentage of Total Gross Value Added, was 1.2% for London, compared to 2.0% for the UK as a whole.

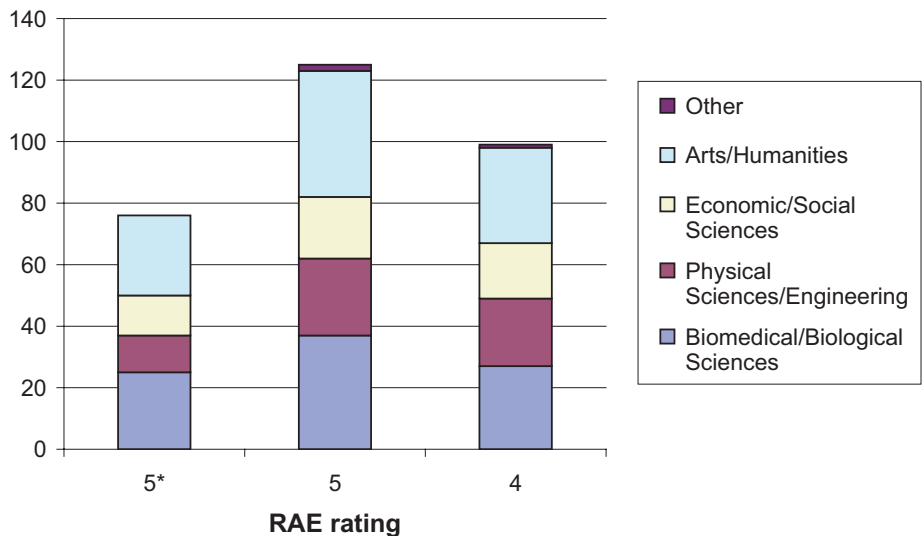
The LDA has developed the London Innovation Strategy to build upon the existing strengths of the capital. This strategy differs from other regions by including the creative and cultural sectors in its "science policy". The strategy aims to bring the broad expertise in London's academic sector together with the business sector "to make London the world's leading knowledge economy".

The innovation strategy is just one of many initiatives. The scale of economic activity in the capital means that there are a huge range of development opportunities, which have the potential to increase demand for the knowledge and skills of researchers from all disciplines.

**Profile of PhD graduates from London**

Of the 7270 UK-domiciled PhDs who graduated in the UK in 2003, 11% (790) graduated from London HEIs. Of these, 50% were male and 50% female, giving London the highest proportion of female PhD graduates of any region (UK average figures are 55% and 45%). Part-time study was more common in London than in other regions, accounting for 37% of degrees awarded, compared to the UK average of 27%.

Figure Two shows the breakdown of PhD graduates by subject groups. Significantly more PhD graduates from London HEIs came from the medical sciences (40.7%) compared to the UK average of 26.9%. To a lesser extent, the economic and social science subjects are also better represented in London (13.4% compared to 11%). There is also a concentration of 'other' subjects, predominantly education (6.4% compared to 3.9%). Conversely there are fewer PhD graduates from the physical sciences (18.5%) compared to the UK average (32.0%) and biosciences (7%) compared to (12.4%). The proportion of arts and humanities PhD graduates in London is similar to the UK picture (around 14%).



**Figure One: Research subjects of top graded RAE submissions in London**

<sup>5</sup> These figures were 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](http://www.hesa.ac.uk/pi/0203/research.htm)  
<sup>6</sup> Data set available at [www.hero.ac.uk/rae/Results](http://www.hero.ac.uk/rae/Results)  
<sup>7</sup> HEFCE 2004 Regional Profiles: London  
<sup>8</sup> [www.lda.gov.uk](http://www.lda.gov.uk)  
<sup>9</sup> [www.statistics.gov.uk/](http://www.statistics.gov.uk/); also useful is 'Regional Competitiveness and State of the Regions' by Mukund Lad at [www.dtistats.net/sd/rci/](http://www.dtistats.net/sd/rci/)

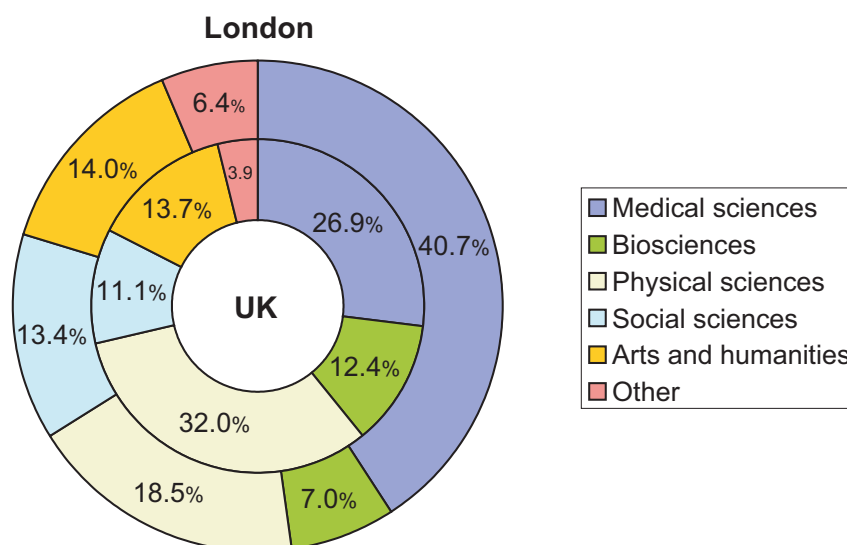


Figure Two: Subject groups of all UK-domiciled PhD graduates from London HEIs (outer ring) compared to all UK HEIs (inner ring) in 2003

The list of 'top ten' subjects for PhD graduates from London HEIs (Table Two) is consistent with the medical science strengths illustrated above. Clinical medicine is substantially ahead of the next nearest subject and other medical and biomedical research subjects dominate the rankings. The physical sciences that do appear, chemistry and physics, are both at much lower percentages than the national figures.

Subject and ranking	London	Total (and position) in UK
1. Clinical medicine	8.0%	8.2% (1)
2. Pharmacology, toxicology & pharmacy	4.3%	2.9% (7)
3. Psychology	3.9%	7.6% (3)
4. Academic studies in education	3.4%	3.1% (6)
5. Pre-clinical medicine	3.3%	2.0% (30)
6. Biology	2.3%	5.2% (4)
7. Physics	2.2%	4.4% (5)
8. Anatomy, physiology and pathology	1.8%	1.8% (19)
8. Chemistry	1.8%	7.7% (2)
10. Sociology	1.6%	1.9% (17)

Table Two: Top subjects studied by PhD graduates from London HEIs compared to UK figures

### What do London's PhD graduates do?<sup>10</sup>

Of the 790 UK-domiciled PhD graduates from London's HEIs in 2003 eligible for the 2004 survey, 495 responded (63% response rate).

The proportion of UK-domiciled PhD graduates from London's institutions that had entered the workplace when the survey was conducted (73.6%), is close to the overall UK figure of 72.7%. A further 4.7% were engaged in work and study simultaneously, lower than the UK average of 8%. Slightly more PhD graduates had moved overseas (8.7%) than for the UK as a whole (8.1%). Unemployment rates for UK-domiciled PhD graduates from London institutions were the same as the UK average at 3.2%.

<sup>10</sup> The data in this section refers to PhD graduates from London HEIs who were working in all regions of the UK

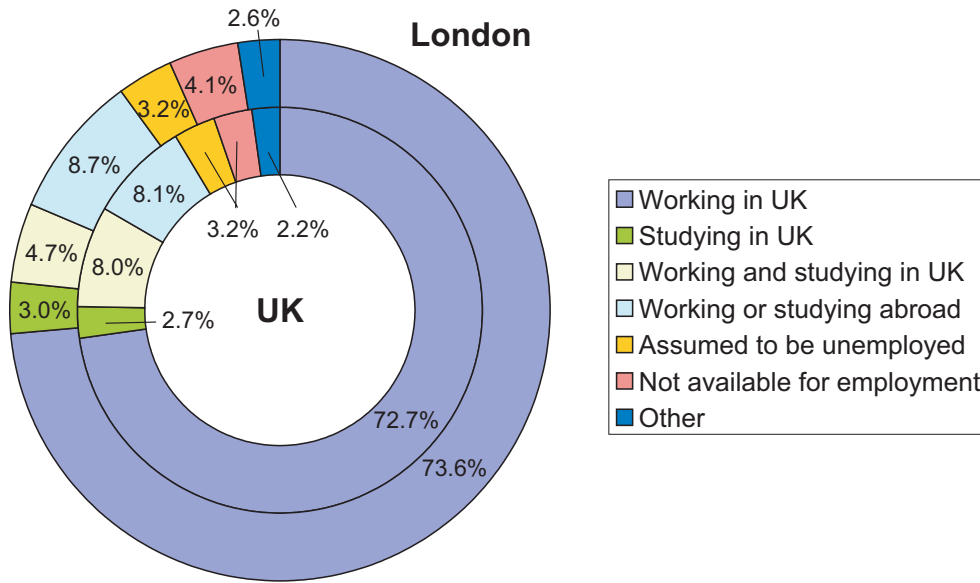


Figure Three: Survey response of UK-domiciled PhD graduates for all subjects from HEIs in London (outer ring) compared to all UK HEIs (inner ring) from 2004 DLHE survey responses

### Employment sectors

The 78.3% of PhD graduates from London 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 50.3%, predominantly in higher education. The balance (49.7%) were employed in a range of occupations across all sectors, with some differences compared to the picture for UK-domiciled PhD graduates from all UK HEIs.

The health sector employed more London PhD graduates, accounting for 18.7%, compared to 15.5% across the UK as a whole. The manufacturing sector accounted for a much smaller proportion of PhD graduates (10.7% compared to 16.3%). 61% of these PhD graduates were employed in the chemical and pharmaceutical industries, accounting for 6.5% of all London UK-domiciled PhD graduates (compared to a national proportion of 11%).

Although business, finance and IT are all particularly strong in the capital, this is not reflected in the employment of PhD graduates from the region's HEIs (8.3% compared to 9.1% across the UK). Similarly, public administration and 'other' sectors were lower than the UK average.

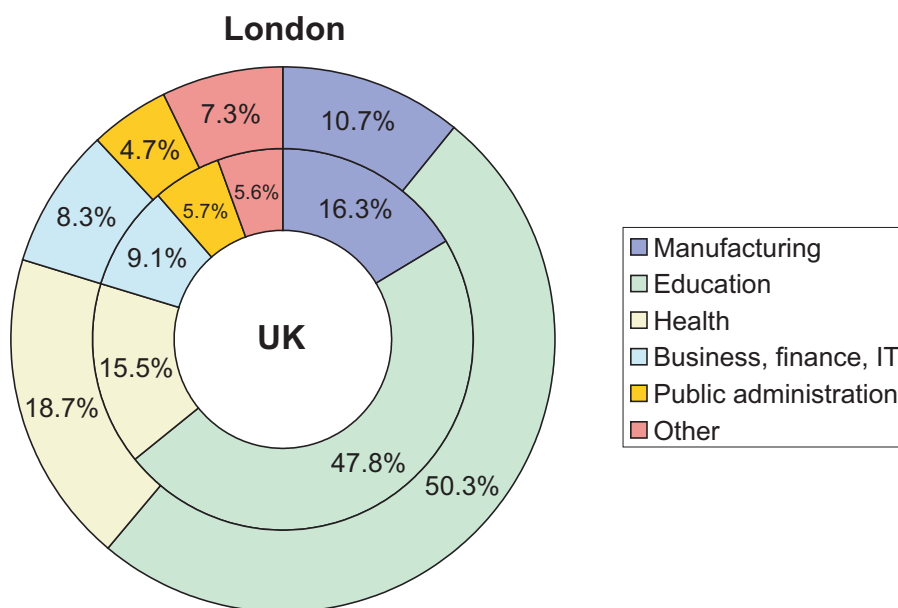


Figure Four: Employment sectors entered by UK-domiciled doctoral graduates from London HEIs (outer ring) compared with all UK institutions (inner ring), based on Standard Industrial Classifications returned in 2004 DLHE survey.

### Career occupations

We examined the specific occupations entered by PhD graduates from London’s institutions. As the previous employment sector analysis predicts, when compared to the UK average figures, variations emerge (see Figure Five).

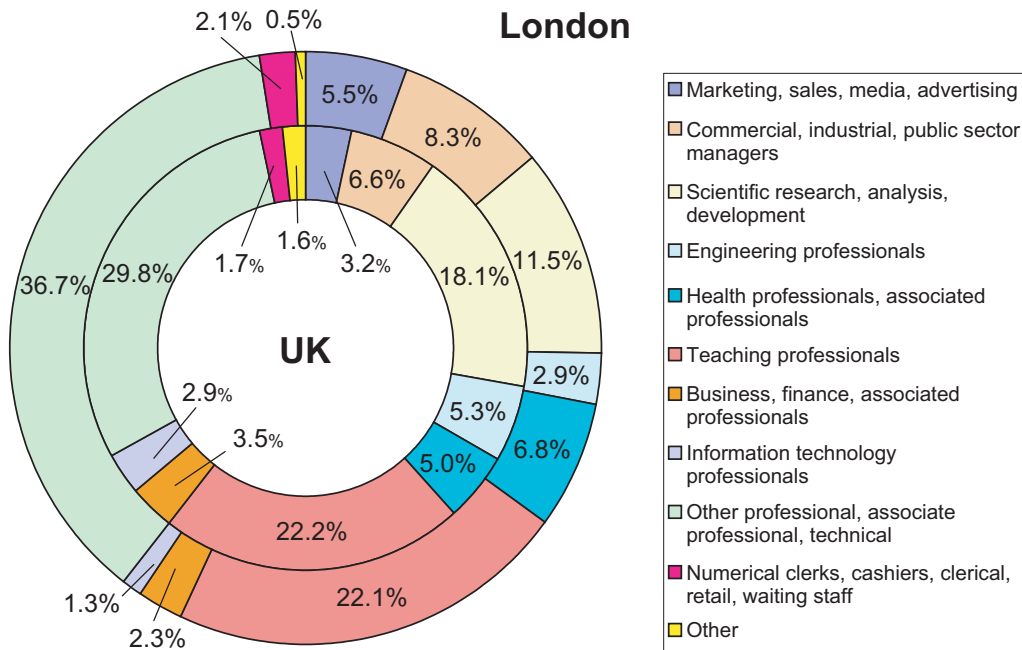


Figure Five: Types of work entered by UK-domiciled PhD graduates from HEIs in London (outer ring) compared to all UK institutions (inner ring), based on Standard Occupational Classifications returned in 2004 DLHE survey.

PhD graduates from London HEIs were more likely to be employed as ‘other professionals’ – this category includes postdoctoral researchers: 36.7% compared to 29.8% for the UK average. Conversely, the region employed fewer scientific researchers (11.5% compared to 18.1%), fewer business, finance and IT professionals and fewer engineers. Not surprisingly, the numbers working as health professionals at 6.8% were higher than the UK average of 5.0%. More surprisingly, given the strength of the financial and business services sectors in the region, London PhD graduates were less likely to be employed in these sectors (2.3%) than the UK average (3.5%).

### Migration

We examined the migration patterns of UK-domiciled PhD graduates from London’s HEIs who were in employment at the time of the survey (see Figure Six).

135 PhD graduates (32% of the total employed) left London for employment in other regions of the UK. This proportion was lower than the UK average of 38%. PhD graduates from London moved across the UK, but many remained close to home with the South East (12%) and the East of England (6%) the most popular destinations<sup>11</sup>. Another 40 PhD graduates (9% of the total employed) left London for work or work and study abroad, consistent with the national average of 9%.

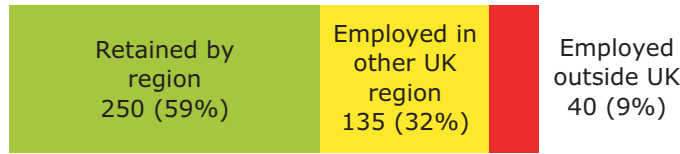
335 PhD graduates, came to London from other regions of the UK for employment, equivalent to 57% of the total PhD graduates employed in London. Within this sizeable cohort, PhD graduates came from all UK regions, particularly the South East (21% of the total London doctoral labour force), the East of England (11%) and the South West (5%). The capital was by far the most popular destination for PhD graduates, with 23% of all those who left their regions of study for known UK locations moving to London. (The next most popular region was the South East, which attracted 17%).

As a result and in contrast to most regions, London saw a significant net gain of UK-domiciled PhD graduates, 37.4% more PhD graduates started work in the region than the total number of PhD graduates from the region<sup>12</sup>.

<sup>11</sup> Data protection prohibits a full analysis of region to region migration

<sup>12</sup> 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 were skewed to one region this will impact significantly on the net migration figures

**(a) PhDs graduating from London**



**(b) PhDs employed in London**



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

**What do PhD graduates employed in London do?<sup>13</sup>**

250 PhD graduates from London’s institutions were working in the capital at the time of the survey, representing 43% of the total number of PhDs working in the region. They were joined by 335 UK-domiciled PhD graduates from other regions in the UK who moved to London for employment.

**Employment sectors**

The employment sectors for 585 PhD graduates employed in London (14% of the UK-domiciled PhD graduate workforce) are compared with the national picture in Figure Seven. There are significant differences to the national picture, reflecting the unique economy of the capital. The health sector was significantly higher than average at 22.4% compared to 15.5%. The business, finance and IT sector employed more PhD graduates in London than any other region of the UK (14.9% compared to 9.1% across the UK). Similarly, public administration employed more PhD graduates (8.0%) than the national average (5.7%).

The education sector employed the smallest percentage of any UK region (38.4% compared to 47.8). Of those employed in education 50% were postdoctoral researchers and 32% in university teaching roles, primarily as lecturers. In total 19% of the PhD graduates working in London were employed as postdoctoral researchers<sup>14</sup>, lower than the UK average of 22%.

Similarly, the proportion employed in manufacturing was (with Northern Ireland) the lowest proportion of all the UK regions (8.9% compared to 16.3%).

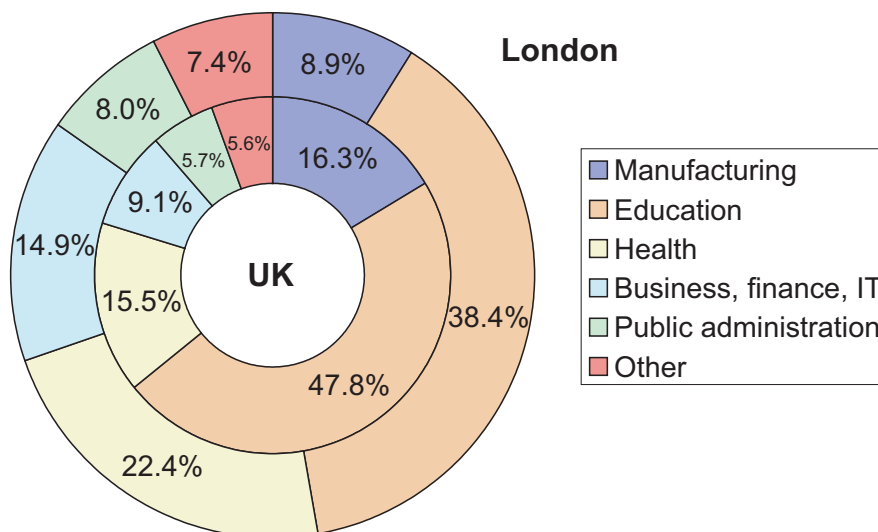


Figure Seven: Employment sectors entered by UK-domiciled PhD graduates employed in London (outer ring) compared to all UK regions (inner ring), based on Standard Industrial Classifications returned in the 2004 DLHE survey

<sup>13</sup> The data in this section refers to PhD graduates from all regions of the UK who were working in London

<sup>14</sup> 'What Do PhDs Do?' methodology describes the process of identifying postdoctoral researchers in universities [www.grad.ac.uk/wdpd](http://www.grad.ac.uk/wdpd)

For the 335 UK-domiciled PhD graduates who moved to London from other regions in the UK, the main employment sector was education (38.4%), but at a much lower level than the UK average (47.8%). Of these, 29% were employed as lecturers and 43% as postdoctoral researchers. Unsurprisingly, other popular employment sectors were business and finance (20% of those moving to London) and health (23%). Manufacturing employed a small proportion of those entering the capital (11%), as did public administration (12%) with a range of other sectors (notably publishing and cultural activities) employing the remaining 8%.

Overall, London was a net exporter of those entering the education sector, but a net importer of those entering the health and business, finance and IT sectors.

### Career occupations

In Figure Eight we compare the specific occupations of UK-domiciled PhD graduates who moved to London for employment to the UK average. PhD graduates moving to London were more likely to be employed in the 'other professionals' classification (34.8%), which includes some postdoctoral researchers, than the UK average (29.8%). Fewer were employed as teaching professionals (16.8% compared to 22.2% across the UK) and in the scientific research classification (13.2% compared to 18.1%). A significantly higher proportion of PhD graduates were employed as business and finance professionals (7.5% compared to 3.5%). Most of the other proportions based on the standard occupational classifications employed a similar proportion of PhD graduates moving to London compared to the UK as a whole.

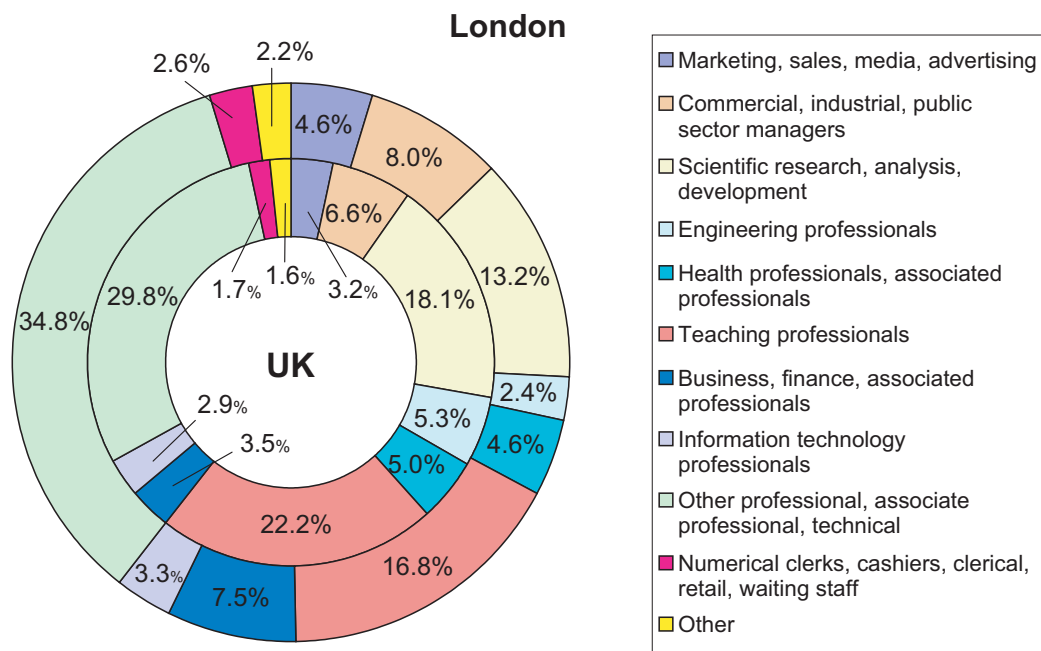


Figure Eight: Types of work entered by UK-domiciled PhD graduates employed in London (outer ring) compared to all UK regions (inner ring), based on Standard Occupational Classifications returned in 2004 DLHE survey