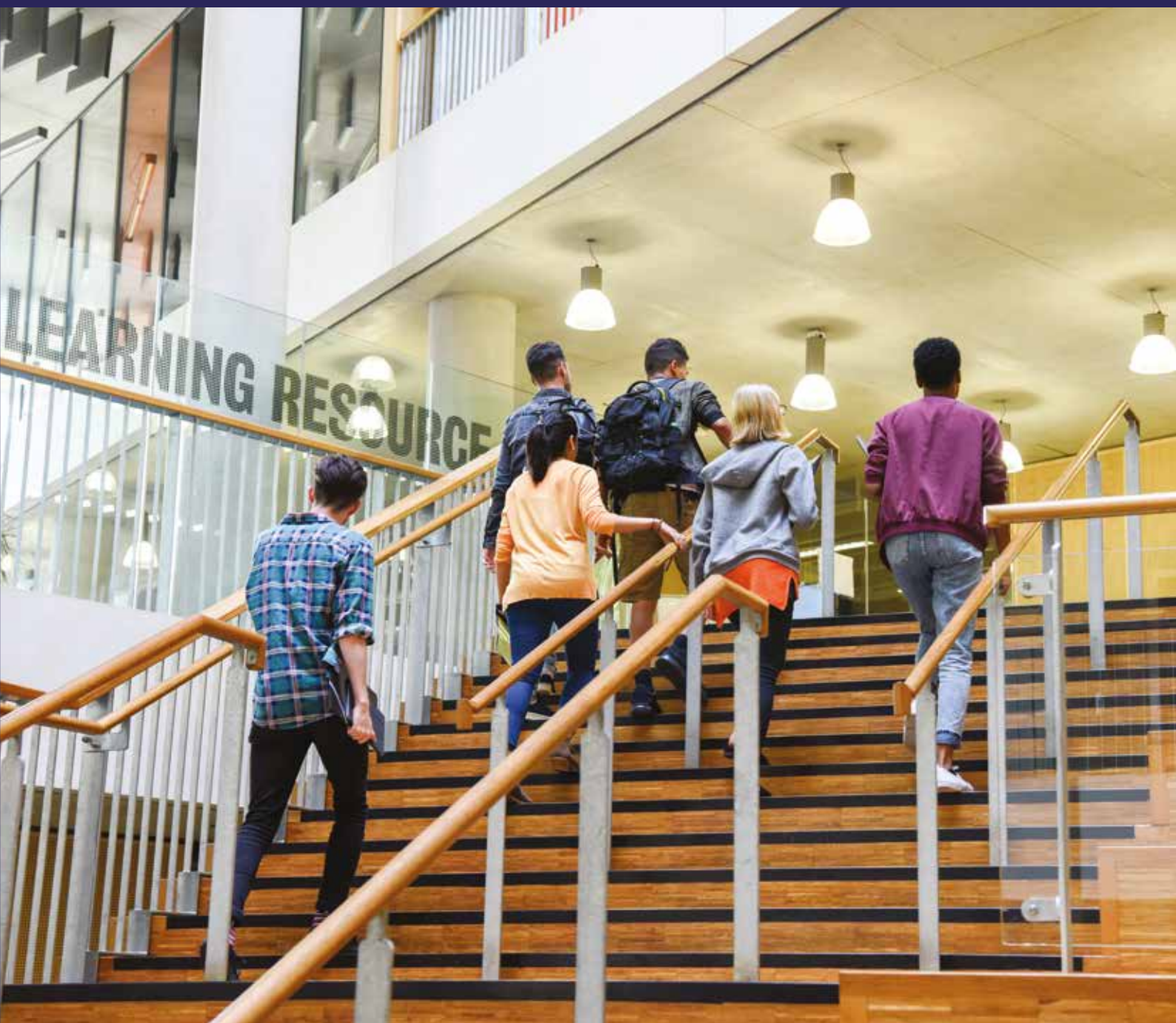


Postgraduate Education in the UK

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About the author

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Key points

- The introduction of postgraduate loans for study at Master's level has led to a marked increase in UK-domiciled student numbers, following several years of decline or stagnation. It also appears to have boosted participation among those from less advantaged backgrounds.
 - Average Master's fees for UK/EU students have inched closer to the maximum value of postgraduate loans in England and, in some instances, have overtaken them leaving little or nothing for students' living costs.
 - EU-domiciled student numbers started to decline following the UK's decision to leave the European Union (EU) in 2016, with the decline particularly pronounced among postgraduate researchers.
 - Strong growth in non-EU postgraduate numbers has mainly been driven by Chinese students, who in 2017/18 formed 38% of the non-EU cohort; participation from other non-EU countries declined by 10% from 2014/15.
 - The imbalance of female to male postgraduates continues to grow, standing at 60:40 overall, and 62:38 for UK-domiciled students.
 - While uptake of postgraduate courses has increased overall, there has been a marked decline in numbers of older part-time students accessing lifelong learning opportunities.
 - Participation is particularly low among the White British population and males from low-participation (disadvantaged) neighbourhoods, and there is particularly high participation within the Black African British demographic.
 - There are now more students studying for UK postgraduate qualifications wholly abroad, via transnational education (TNE), than there are non-UK students in the UK.
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Executive summary

This report explores how the state of postgraduate education in the UK has changed over the past decade. It builds on two earlier HEPI reports published in 2004 and 2010, and mainly focuses on the period from 2008/09 to 2017/18.

Overall, the number of postgraduate starters increased by 16% between 2008/09 and 2017/18, with growth particularly marked among the 'non-EU' cohort (+33%).

Compared to the previous two publications, which mainly showed a steady increase in participation across most domiciles and demographics, the period covered in this report has been characterised by a high degree of turmoil in postgraduate numbers.

UK, 'other EU' and 'non-EU' student numbers have all been affected, both positively and negatively, by numerous domestic and international factors. These include:

- the 2008 financial crisis;
- changes to student funding;
- changes to study and post-study work visa policies;
- changes to Initial Teacher Training (ITT) and funding for post-qualification study for teachers;
- the UK's vote to leave the EU; and
- fluctuations in the value of the pound.

The story over the last two years of data is mainly positive. The introduction of Master's loans led to strong growth among UK students.

With Government strategies now in place to boost international student numbers and improve the early-career package for new school teachers, as well as a population bulge in the age group due to reach the typical age for starting postgraduate study after 2023, the next decade could see further growth.

However, the Covid-19 crisis, which was unfolding at the time this report went to print, is likely to have a profound impact on higher education. While it is too early to make predictions, the events of the last decade – especially the 2008 financial crash – may help us to understand the connections between postgraduate study and external factors. For example, the report shows where the sector has become the most reliant on international students, whose numbers may fall, at least in the short-term. At the same time, the steady expansion of transnational education means there is more infrastructure for studying UK qualifications abroad.

In times of upheaval, societies need a resilient, highly-skilled and flexible workforce. The role of postgraduate education in developing these attributes will be more important than ever in the years to come.

By providing a detailed picture of the state of postgraduate education in the UK in the time before the pandemic hit, it is hoped this report provides a benchmark against which its impact can be measured.

Key findings

A) Who studies for postgraduate qualifications?

The cohort

- There were 566,555 postgraduate students in 2017/18, of which 356,996 were first-year starters.
- The proportion of UK citizens under 30 expected to participate in postgraduate education has risen to 11%, having increased from 9% following the introduction of Master's loans in 2016.

Level of study

- Almost two-thirds of postgraduate starters (65%) are studying for Master's degrees.
- Doctoral and other research postgraduates account for 10% of the cohort.
- 7% are on Initial Teacher Training (ITT) courses.
- The remaining 18% are studying for 'other postgraduate' qualifications, including diplomas, certificates, professional qualifications and individual modules for credits that can count towards larger qualifications.

Subject

- Business & Administrative Studies is the most popular subject (20%), followed by Education (14%) and Subjects Allied to Medicine (12%).
- Almost two-thirds of research postgraduates (64%) study STEM (Science, Technology, Engineering and Mathematics) subjects; the opposite is true for taught postgraduates, where 68% study non-STEM subjects.
- STEM study increased from 31% to 37% of the postgraduate cohort from 2008/09 to 2017/18 – and from 29% to 42% among UK-domiciled students.
- While most subjects are seeing more students, there has been a 36% decline in Education at all levels of study.

Mode of study

- Just over half (53%) of UK-domiciled postgraduate starters study full-time, representing a major shift over the study period: in 2008/09, 59% were part-time.
- Postgraduate loans for Master's degrees have had a marked impact by making it easier to study full-time, but the decline in part-time began long before they were introduced. Rising fees and gaps in student finance provision for shorter courses are among the likely deterrents affecting older part-time students.

Domicile

- 60% of the cohort is from the UK, 8% from elsewhere in the EU and 32% from non-EU countries.
- International students are particularly important in the Master's sector, where the majority (53%) are from outside the UK.
- Non-EU students, however, only outnumber UK-domiciled students in two subject areas: Business & Administrative Studies and Engineering & Technology.

Sex

- In 2017/18, the female-to-male ratio among first-year postgraduates was 60:40; among UK-domiciled students, it was 62:38.
- Females outnumber males in every course type except doctorates, where males hold a slim majority at 51%.
- The skew in UK-domiciled students is, in part, driven by very high female participation in ITT (70%) and Subjects Allied to Medicine (77%) reflecting the greater proportion of women pursuing teaching and nursing careers. Female participation is also high in Biological Sciences (69%).
- However, over the whole cohort, males remain in a clear majority in Mathematics, Computer Science, Engineering & Technology, and Architecture, Building & Planning.

- Over the study period, female participation has increased overall, while male participation has mainly flatlined. Male underachievement at school level is among the likely drivers of the latter, since males and females with equal GCSE qualifications progress to higher education at similar rates.
- At the same time, the substantial wage gap between men and women with the same qualifications may also be driving rising female participation, creating stronger incentives for women to invest in higher levels of education.

Age

- Participation by those aged over 30 has decreased from 48% to 43% over the study period.
- This is in keeping with the decline in part-time students, who are overwhelmingly older, and marks a general decline in those accessing lifelong learning opportunities.

Ethnicity

- Participation by UK-domiciled BAME (Black, Asian and Minority Ethnic) students is strong: 22% of UK postgraduates identified as coming from an ethnic minority, compared to 20% of the general population aged 20-to-34 years (the typical age for postgraduate study).
- White British students are under-represented at postgraduate level, representing 75% of the cohort but 80% of the general population.
- Black British African students are particularly strongly represented, forming 5% of the postgraduate cohort, but only 1% of the general population aged 20-to-34.

Educational (dis)advantage

- Master's loans have markedly improved participation among students from disadvantaged backgrounds: students from non-professional backgrounds now form 49% of the cohort, up from 35% in 2008/09.
- Following the introduction of these loans, the number of young entrants to eligible courses rose by 59% in POLAR quintile 1 neighbourhoods (areas with the lowest levels of participation in higher education).
- Under-participation by males is particularly pronounced in low participation POLAR quintiles.

Transnational education (TNE)

- 139 of 168 UK higher education providers are involved in providing UK qualifications to students studying wholly outside the UK.
- In 2017/18, there were more international postgraduates studying in this way (127,825) than there were EU and non-EU students in the UK (111,920).
- Transnational education student numbers have more than doubled since 2007/08, having increased by 108%.

B) Key trends in postgraduate study

Starts

- There was a 16% increase in postgraduate starters over the study period.

Level of study

- Doctoral, Master's by research and other research postgraduate numbers have increased by 17% over the study period, although they have been fairly static since 2013/14.
- The introduction of doctoral study loans in 2018/19 may have nudged UK-domiciled postgraduate research numbers up a little, but not to the dramatic increases seen with Master's loans.
- Taught Master's student numbers increased by 30% over the study period, but not consistently – there has been high volatility driven by a complex array of factors affecting both domestic and international students.
- In ITT, recruitment has been consistently below target since 2012/13, with under-recruitment in many key subjects at the same time as a population bulge hit secondary schools.
- Other types of taught postgraduate study, such as professional qualifications, certificates and diplomas – all of which are predominantly studied by older, part-time students – declined by 10% over the study period.

Domicile

- UK-domiciled postgraduate numbers have increased overall by 10% since 2008/09, but have been volatile over the research period.
- The 2008 financial crash appears to have boosted UK-domiciled postgraduate numbers in its immediate wake, while job opportunities were poor, but led to a decline in subsequent years, due to people having brought their study plans forward.
- Student loans brought about another surge in numbers: UK-domiciled Master's students increased by 29% in 2016/17.

- Although EU student numbers have risen by 11% over the research period, they have been fairly static since 2012/13.
- EU postgraduate numbers have been declining since the UK voted to leave the EU, dropping by 2% in 2017/18 and a further 2% in 2018/19.
- The decline is particularly marked among postgraduate researchers, with 9% fewer EU-domiciled starters in 2018/19 than the previous year.
- Non-EU student numbers have grown by 33% since 2008/09.
- There have been more non-EU than UK-domiciled full-time equivalent Master's students throughout the research period.
- The growth in non-EU postgraduates is mainly due to a sustained increase in postgraduates from China (up by 21% since 2014/15), which has counteracted substantial reductions from other non-EU countries (down by 10% since 2014/15).
- In 2017/18, Chinese students formed 38% of the non-EU postgraduate cohort (all years). Heavy reliance on students from a single country exposes universities to greater risk.
- The decreased diversity of the UK's international postgraduate cohort was accentuated by the abolition of post-study work visas, which negatively affected interest from certain countries, such as India. However, the 2019 decision to reintroduce them could reverse this trend in coming years.
- The crash in the pound following the EU referendum made UK fees cheaper for international students, probably contributing to the 10% rise in non-EU postgraduate numbers in 2017/18.

C) Institutional differences and regional disparities

Institutional differences

- Russell Group institutions host 59% of all postgraduate researchers.
- The top ten institutions with the most taught postgraduate students are increasingly dominated by elite pre-1992 universities, reversing a trend towards greater diversity seen in the previous HEPI *Postgraduate Education* report in 2010.
- Many specialist arts colleges host a substantial proportion of EU students, and therefore face a greater risk if Brexit acts as a deterrent to EU students.

Regional disparities

- Of the devolved administrations, Scotland retains the most locally-domiciled postgraduate students (87% study at Scottish providers), followed by Northern Ireland (75%) and Wales (67%).
- Retention of postgraduate qualifiers has increased for Wales over the study period, but decreased for Scotland and Northern Ireland.

D) Costs and benefits

Cost to students

- Master's fees for UK-domiciled students rose sharply – by 10% – when postgraduate loans were introduced. In 2019/20, average fees for classroom-based courses were close to £8,000 and nearing £9,000 for laboratory-based subjects.
- With the maximum loan available to England-domiciled students set at £10,906 (2019/20), fees now threaten to consume the entirety of the loan, leaving little or nothing to live on.
- Although non-EU Master's fees have risen by a similar amount in pounds, they have actually flatlined when considered in US dollars (or Chinese yuan), due to the falling value of the pound.
- If home Master's fees continue to rise unchecked, the benefits conferred by postgraduate loans in terms of boosting UK student numbers – especially among groups targeted for widening participation – may not be sustained.

Benefits of postgraduate education

- Postgraduates earn, on average, 18% more than those with only undergraduate qualifications.
- Women's salaries trail behind those of men with the same qualifications and are 14% lower for females with postgraduate qualifications when compared to males with postgraduate qualifications.
- Despite this, a postgraduate qualification confers greater advantages for women than men: female postgraduates earn, on average, 28% more than those with only undergraduate degrees; for males the advantage is only 12%.
- Postgraduates were more likely to be in employment than first-degree graduates throughout most of the study period, especially following the 2008 financial crisis, where postgraduate employment levels were slower to fall and recovered more quickly.
- However, in 2018 this trend reversed: employment levels among postgraduates aged 21-to-30 were 2% lower than first-degree graduates.
- Access to the professions is markedly stronger for postgraduates, having remained at over 90% of working leavers throughout the research period.
- The postgraduate advantage in this regard may be diminishing slightly, however, with more undergraduates now going straight into professional roles and graduate employers increasingly looking beyond educational qualifications to diversify their workforce.
- In particular, it appears that starting a Master's degree immediately after graduating from a first degree may be less advantageous than spending time working first (except in specialist subjects, such as Medicine, Law or Architecture, where postgraduate qualifications are a prerequisite).

E) Future demand

UK demand for postgraduate places

- There is currently a declining number of 18-to-24-year-olds passing through the university system. However, this is set to change, with the number of students of the typical age for starting postgraduate study set to increase after 2023.
- More people than ever are participating: 11% of the under-30 UK population is expected to take a postgraduate degree – up from 9% before Master's loans were available.
- If undergraduate participation continues to rise at its current rate, hitting 54% in 2030, and if progression directly from undergraduate to postgraduate study remains at 19% (the figure for 2016/17), then it would mean an additional 22,750 undergraduate leavers going directly to postgraduate study. This does not include those who start a year or more after graduating.
- If under-represented groups (males, certain ethnicities, those from low-participation neighbourhoods and older part-time students) continue to increase their participation, this will mean greater demand again.

EU demand

- Assuming first-degree EU students have to pay full international fees after the Brexit transition period, it has been predicted that numbers may decline by around 60%.
- This would translate to approximately 11,500 fewer EU postgraduates.

International demand

- If the Government's strategy to increase international student numbers is successful, the UK may see an additional 53,000 international postgraduate students by 2030.
- Meeting this target will rely on a number of factors influencing international student numbers, including: the relative strength of the pound; global macroeconomic factors; the UK's visa regime; international relations and diplomacy; and the longer-term implications of the Covid-19 pandemic on international student mobility.

Introduction

The purpose of this study is to provide an overview of the postgraduate education sector in the UK and to highlight areas that may be of interest to policymakers. It provides a continuation and extension of HEPI's previous reports on postgraduate education in the UK published in 2004 and 2010.

This report mostly looks at the sector from a UK-wide perspective, unless dealing specifically with regional differences. However, since the large majority of the students in higher education are registered at English universities, this only gives us a clear picture of what is happening in England and does not always necessarily reflect the situation in Scotland, Wales and Northern Ireland, or indeed any one of the nine English regions. The reader should bear in mind that many of the discussions focus mainly on the situation in England yet deal with issues, such as funding, which are not uniform throughout the UK. As a result, the analysis may not always be applicable elsewhere.

Most of the data used in this report come from the Higher Education Statistics Agency (HESA). Some of the figures are available in HESA's published data on students in higher education and their *Destinations of Leavers from Higher Education (DLHE)* survey.¹ However, most analyses in this report rely on a special dataset commissioned from HESA with a finer breakdown of the various types of postgraduate qualification. This was necessary because HESA's open data tables tend not to differentiate between specific postgraduate qualifications, just between research and taught postgraduate qualifications.

The specially-commissioned dataset describes first-year postgraduate students from 2008/09 to 2017/18, disaggregated according to the level of qualification being undertaken, mode of study, domicile, sex, age, ethnicity, socio-economic background, whether students are from high- or low-participation neighbourhoods and sources of funding and tuition fees. Since the last report, however, the way various course aims have been mapped to form broader 'level of study' groups has changed substantially

1 Available online at www.hesa.ac.uk and made available under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence.

for every category of postgraduate course other than doctorates and Master's degrees, to reflect changes in the courses being offered by universities and the introduction of some new course designations by HESA. As such, findings that explore trends in certificates and diplomas, professional qualifications, teaching qualifications and 'other taught postgraduate' study cannot be directly compared to those presented in HEPI's 2010 or 2004 *Postgraduate Education* reports.

Due to delays caused by the remapping process, this report was only ready for publication after the 2018/19 HESA student data became available. Reflecting this, some analyses (such as ethnicity) that do not rely on our bespoke dataset but draw on the open data have been updated to reflect the most recent figures. Where feasible, 2018/19 figures have been added to the text.

The most recent *Destinations of Leavers* data used in this report are from 2016/17. Under the normal schedule, the 2017/18 data would have been available at the point of writing, but HESA have been switching to the new *Graduate Outcomes* survey. This report therefore offers a final analysis of *DLHE* data before this switch.

The report draws on a number of other primary data sources and secondary source analyses by other authors. The reader should bear in mind that similar datasets from different agencies (such as the Department for Education and HESA) may be gathered in different ways and are not always comparable. Similarly, the methodologies used by authors of secondary sources may differ from those applied in this report, so figures may not always be comparable across the board.

Chapter 1 gives an overview of the various types of postgraduate qualification.

Chapter 2 gives a snapshot of the postgraduate cohort in 2017/18, looking at what and how people study, as well as the demographic features of the cohort.

Chapter 3 focuses on key trends over time, showing the various types of postgraduate course and changes influencing students of different domiciles.

Chapter 4 looks at institutional differences in terms of the numbers of postgraduates they attract, and also examines mobility of students and postgraduate qualifiers around the country.

Chapter 5 explains university funding structures and analyses the benefits of postgraduate education from the students' and universities' perspectives.

Finally, Chapter 6 looks at factors that may affect future demand for postgraduate education.

Special thanks are due to Nick Hillman, Emma Ma and Rachel Hewitt of HEPI, John Cater of Edge Hill University and Paul Wakeling of the University of York for editorial, statistical and stylistic advice and help finding sources and to Helen Bell for proofreading and copy editing.

Thanks are also due to the following people for their help and advice: Simon Baker (Times Higher Education); Charlie Ball (Prospects); Claire Callender (Birkbeck and UCL Institute of Education); Josh Chaplin (Jisc/HESA); Zara Green (Centre for Professional Qualifications); Stephanie Harris and Daniel Wake (Universities UK International); Tristram Hooley (Institute of Student Employers); Joey Jones (YouthSight); Michelle Morgan (Michelle Morgan, HE Transitions Specialist, creator and author of www.improvingthestudentexperience.com); Emily Raven (HESA); Gijsbert Stoet (University of Essex); and Heather Williams (Office for Students).

What is postgraduate education?

This chapter provides an overview of the postgraduate sector, defines the terms used to describe different types of postgraduate qualification and sets out how the various types of postgraduate study have been grouped for this report.

There is no single definition of the term ‘postgraduate’ although it is often used to describe further study undertaken by those who already have an undergraduate degree. It is frequently used to refer to Master’s or doctoral studies, but it also includes certificates and diplomas which are taught to a more academically demanding standard than undergraduate certificates and diplomas.

A distinction is sometimes made between courses which are postgraduate in level – which is to say that they are more advanced than undergraduate courses with similar subject matter – and courses which are postgraduate only in the sense that they are studied by people who already hold degrees (‘postgraduate in time’). This report focuses on postgraduate-level courses only.

The Quality Assurance Agency (QAA), in its 2014 *Framework for Higher Education Qualifications of UK Degree-Awarding Bodies*, defines qualification types according to eight FHEQ (Framework for Higher Education Qualifications) levels. The first three are secondary-level qualifications, the next three refer to higher education qualifications up to Bachelor’s degrees, and the highest two correspond to postgraduate study.² Scotland has a parallel system, the *Framework for Qualifications of Higher Education Institutions in Scotland* (FQHEIS), which reflects the features of its different education system while aligning it with the framework for England, Wales and Northern Ireland.

2 Quality Code for Higher Education, QAA.

At the postgraduate-level, the frameworks have common structures, qualification titles and qualification descriptors. See Table 1.1 for a comparison of these two systems.

Table 1.1 QAA Framework for Higher Education Qualifications (FHEQ), showing equivalency with the Framework for Qualification of Higher Education Institutions in Scotland (FQHEIS)

Typical higher education qualifications awarded by degree-awarding bodies within each level	FHEQ	FQHEIS
Doctoral degrees (e.g. PhD/DPhil, EdD, DBA, DCLinPsy)	8	12
Master's degrees (e.g. MPhil, MLitt, MRes, MA, MSc)	7	11
Integrated Master's degrees (e.g. MEng, MChem, MPhys, MPharm)		
Primary qualifications (or first degrees) in Medicine, Dentistry and Veterinary Science (e.g. MB ChB, MB BS, BM BSc; BDS; BVSc, BVMS)		
Postgraduate diplomas		
Postgraduate Certificate in Education (PGCE)/Postgraduate Diploma in Education (PGDE)		
Postgraduate certificates	6	10
Bachelor's degrees with honours (e.g. BA/BSc Hons)		
Bachelor's degrees		
Professional Graduate Certificate in Education (PGCE) in England, Wales and Northern Ireland		
Graduate diplomas		
Graduate certificates	5	N/A
Foundation degrees (e.g. FdA, FdSc)		
Diplomas of Higher Education (DipHE)		8
Higher National Diplomas (HND) awarded by degree-awarding bodies in England, Wales and Northern Ireland	4	N/A
Higher National Certificates (HNC) awarded by degree-awarding bodies in England, Wales and Northern Ireland		
Certificates of Higher Education (CertHE)		7

Source: QAA, *Framework for Higher Education Qualifications*, p.17

The QAA definitions are based on the 'achievement of outcomes ... and attainment, rather than years of study'.³ This means that Master's degrees – which generally require at least one full year of study – sit at the same level as shorter postgraduate courses, such as professional qualifications, which demand a comparable level of intellectual attainment but less time.

As well as defining qualification levels, the QAA *Framework* provides guidance as to qualification nomenclature, promoting 'a shared and common understanding of the demands and outcomes associated with typical qualifications by demanding a consistent use of qualification titles across the higher education sector'.⁴

These distinctions are important as they allow equivalency between postgraduate offerings that may be structured very differently. For example, the majority of taught Master's courses outside the UK are two-year rather than one-year courses. The *Framework* assures equivalency of outcomes and intellectual attainment despite the different course lengths.

The Higher Education Statistics Agency (HESA) cuts the cake slightly differently, defining four levels of postgraduate study:

- D for doctorates obtained primarily through research (FHEQ Level 8);
- L for research-based higher degrees which do not meet the criteria for a doctorate, such as Master's by research degrees (Level 7);
- E for advanced level taught postgraduate study, including taught doctorates and highly advanced diplomas (Level 8); and
- M for all other taught postgraduate qualifications, including Master's degrees, teaching qualifications and other postgraduate certificates and diplomas (Level 7).⁵

In most of HESA's public datasets, postgraduate students are presented on two levels: research postgraduate (Levels D and L) and taught postgraduate (Levels E and M). This differs from the QAA's approach, which treats all doctorates as equal, regardless of whether they are primarily research-based or taught, and groups taught and research Master's degrees together despite the very different skills involved.

3 *Framework for Higher Education Qualifications of UK Degree-Awarding Bodies*, 2014, p.4.

4 *Ibid.*

5 www.hesa.ac.uk/collection/c19051/a/courseaim

Terminology of postgraduate degrees

Doctoral degrees

A doctoral degree is awarded for the creation of new knowledge through original research or other advanced scholarship which extends the boundary of knowledge or practice within a particular discipline and merits publication. Typically, study for a doctoral degree requires the equivalent of at least three years' full-time study. It is a globally recognised qualification, and considered to represent the highest level of academic qualification in most countries.⁶

While doctoral degrees have traditionally focused on research, in recent years a number of alternatives have arisen which incorporate a substantial taught element, although the fundamental requirement for a doctoral candidate to carry out a substantial body of original research remains. For example, professional doctorates – referred to by HESA and in this report as 'taught doctorates' – aim to develop an individual's professional practice and support them in producing an original contribution to professional knowledge. Such degrees often have the name of the discipline in their title, for example, EdD for Doctor of Education or DClinPsy for Doctor of Clinical Psychology. They appear to be declining in popularity, with numbers having dropped from 817 in 2008/09 to 480 in 2017/18.⁷

Another example of a taught doctorate is the New Route PhD, a four-year programme, beginning with a one-year research Master's (MRes), which provides taught courses and practical experience alongside advanced research. New Route and professional doctorates are aimed at bridging the gap between the skills and knowledge acquired through doctoral study and their application in a non-academic work environment.

In some instances, doctorates may be awarded in recognition of a substantial body of original research conducted over many years. These PhDs by publication are usually restricted to graduates or academic staff who are well-established in their fields, and are not counted in HESA returns.

⁶ *Frameworks for Higher Education Qualifications*, QAA, p.30.

⁷ HESA, bespoke data request.

Master's degrees

A Master's degree typically requires a minimum of one year of full-time equivalent study. As with doctorates, Master's degrees can be subdivided into taught Master's and Master's by research, although in most cases both tend to incorporate a mix of taught and research-based study. In both cases, students are expected to demonstrate a systematic understanding of knowledge, and a critical awareness of current problems and/or new insights in their field. They should understand techniques applicable to their own research or advanced scholarship, show originality in the application of knowledge and in problem-solving and demonstrate understanding of how the boundaries of knowledge are advanced through research. They should also be able to critically evaluate current research/practice in their discipline and, where appropriate, offer critiques and new hypotheses.⁸

Master's courses vary enormously in terms of their function and intended outcomes. Many aim to extend students' depth of knowledge in a field in which they already have expertise, usually gained at undergraduate level. Others are essentially conversion courses, open to those with little or no prior knowledge of the subject, offering an education similar in knowledge to that of a final-year undergraduate course but broadening students' academic abilities and engagement with research. Others (such as the MRes) are specifically designed to provide the skills necessary to pursue independent research and mirror the research training provided to doctoral research students in their first year. In this report we consider research and taught Master's degrees separately.

Master's by research degrees (such as MPhil or MSc) are examined by research, but do not require candidates to produce research of sufficient weight to merit a doctoral qualification. These qualifications are sometimes used to recognise the achievement of doctoral candidates who discontinue their studies having already produced a significant piece of research.

Many universities register students intending to achieve doctoral qualifications as MPhil students. This does not necessarily imply that either party assumes that the MPhil is the ultimate objective of the student. This phenomenon has the potential to distort analyses based upon reported qualification aims, because students may be recorded as aiming for an MPhil when their actual intention is to achieve doctoral status.

⁸ *Frameworks for Higher Education Qualifications*, QAA, pp.28–9.

To avoid such confusion, many analyses in this report consider numbers of students studying for doctorates and Master's degrees by research together in a single category. This distinction is standard in HESA publications, which disaggregate postgraduates according to those studying for 'higher degree (taught)' and 'higher degree (research)', the latter grouping including both doctoral research and Master's by research students.

Taught Master's degrees are usually distinguished from other taught postgraduate qualifications such as diplomas or certificates by an increased intensity, complexity and depth of study. They may involve the completion of taught courses, research modules or a mixture of both. Typically, they involve a planned course which progresses from taught elements to research for a dissertation. These elements are generally set as a series of 'units' with a dissertation representing the equivalent of several taught units. In Science, Engineering and Mathematics, integrated Master's degrees, spanning several levels from Bachelor's to taught postgraduate level are common, typically spanning five years' study in Scotland and four elsewhere in the UK. However, they are funded like undergraduate degrees, with access to the same maintenance and tuition fee loans even in the final Master's-level year.

There are some longer taught postgraduate courses (such as the Oxford MLitt) which, while distinct from research degrees, require at least two years of full-time study. These are comparatively rare.

Non-standard nomenclatures

A notable exception in nomenclature involves first degrees in Medicine, Dentistry and Veterinary Science. The final outcome of these qualifications typically involves a level of achievement commensurate with Master's-level standards, but for historical reasons, the qualifications may retain their historical titles of Bachelor of Medicine, Bachelor of Dental Surgery and so on.

Conversely, there are exceptions where degrees are labelled 'Master's' but do not represent postgraduate-level study. A number of universities in Scotland have a tradition of awarding a 'Master of Arts' qualification for courses that do not meet postgraduate benchmarks and would normally be a Bachelor of Arts elsewhere.

Oxford and Cambridge grant a Master of Arts (MA) which is not an academic qualification: it can be applied for by first degree graduates after a certain amount of time has elapsed since matriculation. It requires no further assessment, and is not counted among postgraduate qualifications. To further confuse matters, they also use the designation MPhil (usually reserved for a research Master's) for taught Master's

qualifications to distinguish them from the non-postgraduate MA title. There are a number of other anachronisms in Oxford and Cambridge qualification nomenclatures, but the statistics used in this report register students by the level of qualification attained and method of attaining it (taught or by research) rather than the name of the degree awarded.

Postgraduate diplomas and certificates

Postgraduate diplomas and certificates – not including Initial Teacher Training (ITT) qualifications, which are dealt with separately – generally require a shorter period of study, with certificates typically requiring fewer credits than diplomas. Unlike Master’s degrees, they tend not to require a substantial dissertation or piece of original research. The QAA *Framework* requires that in order to be designated as ‘postgraduate’ qualifications, they must offer a level of study that goes beyond that of undergraduate diplomas and certificates.

They are extremely diverse – some are awarded on the basis of the completion of units which can form part of a longer course (usually a taught Master’s); others, particularly those focused upon professional vocations, are designed specifically to provide a grounding in a subject at postgraduate or practitioner level in a relatively short space of time.

Professional qualifications

Professional qualifications are vocational training courses that lead to accreditation within a specific industry or career path. Most are regulated and awarded by the relevant professional bodies and provide training in the necessary expertise and standards for that job. This report only covers professional courses accredited by higher education providers.

Although they tend to be more specific than Master’s degrees, there is some overlap: some Master’s courses are accredited by professional bodies and count as professional qualifications. In this report, only courses which specifically mention professional or vocational aims in the course title are counted as professional qualifications, so the actual numbers undertaking courses for accreditation may be greater.

Initial Teacher Training (ITT)

In England and Wales, Initial Teacher Training refers to courses leading to Qualified Teacher Status (QTS), a legal requirement for teaching in maintained schools. The vast majority of those wishing to train as a teacher undertake a Postgraduate Certificate of Education (PGCE). The PGCE considered in this report should not be confused with the undergraduate-level Professional Graduate Certificate of Education, which confusingly

shares the same acronym but sits a level lower on the QAA's qualifications *Framework* (see Table 1.1).

In Scotland the nomenclature differs slightly: Initial Teacher Education (ITE) is usually provided through a Professional Graduate Diploma in Education (PGDE) which must be followed by a probationary teaching year. This should not be confused with the Postgraduate Diploma in Education, a two-year course worth twice as many credits as a PGCE; these extra credits can count towards an eventual Master's qualification. There are also undergraduate routes to Qualified Teacher Status, such as Bachelor of Education, though these are not covered in this report.

ITT qualifications are different from other postgraduate certificates and diplomas in almost every respect. They typically represent a year's full-time study, which may be university-led (though with a substantial school-based component) or primarily based in a school – a track that has become more common in the last decade. Unlike other types of postgraduate course, the number of available places and funding is controlled by the government based on the Teacher Supply Model, which assesses gaps and predicts future shortfalls in staffing, subject by subject. Unlike other postgraduate certificate and diploma students, PGCE students are overwhelmingly full-time and seven-out-of-ten students are female (compared to six-out-of-ten of all postgraduates).

Modules for credit towards a degree

A number of people study at postgraduate level in order to obtain credits but without a specific qualification aim being formally named. The accumulation of credits may eventually lead to the award of a formal qualification. A substantial component of this categorisation is made up of Open University students who are registered on modules rather than courses, regardless of whether they have expressed clear qualification aims. Visiting students from universities outside the UK undertaking modules for credit towards degrees awarded in their home institutions are also counted here.

Massive Open Online Courses (MOOCs)

In recent years, online provision has become a significant path of access to postgraduate qualifications. Providers include Future Learn, a digital education platform founded in 2012 by The Open University and 11 other UK universities, and edX, which offers MOOCs from Harvard and Massachusetts Institute of Technology. Participants can develop standalone skills for career advancement or earn graduate-level credentials from the respective universities, equivalent to a semester of a full Master's degree. However, as participation in MOOCs is not registered in HESA statistics, or through any other centralised body, MOOCs are only mentioned in passing in this report.

Definitions used in this report

For this report, we requested a special postgraduate student dataset from HESA, covering first-year postgraduate students, with course aims disaggregated. This request went further than the 2010 HEPI report, for which the commissioned dataset came grouped into bespoke levels similar to those described above.

The main driver behind this was that numbers in the 'other postgraduate' category had grown substantially over the research period, becoming the second largest category after taught Master's. Opening the lid on its contents revealed that a number of newly-designated course aims had been assigned to it by default and needed recategorisation. However, the main cause of growth was a major increase in part-time study for modules which can count towards a postgraduate qualification (such as a certificate or a Master's). To highlight this shift, a separate category was created for 'taught courses for provider credit'.

The new mapping is set out in full in Appendix 1. The new categories are:

- i. Doctorate (research)
- ii. Master's (research)
- iii. Other postgraduate (research)
- iv. Master's (taught)
- v. Postgraduate certificates and diplomas
- vi. Professional qualifications
- vii. Initial Teacher Training (ITT)
- viii. Taught courses for provider credit
- ix. Other postgraduate (taught)

As a result, figures for qualifications other than Master's degrees and doctorates in the last HEPI report are not directly comparable with those presented here. However, it is hoped that these decisions will provide deeper insight into the UK's postgraduate terrain.

Who studies for postgraduate qualifications?

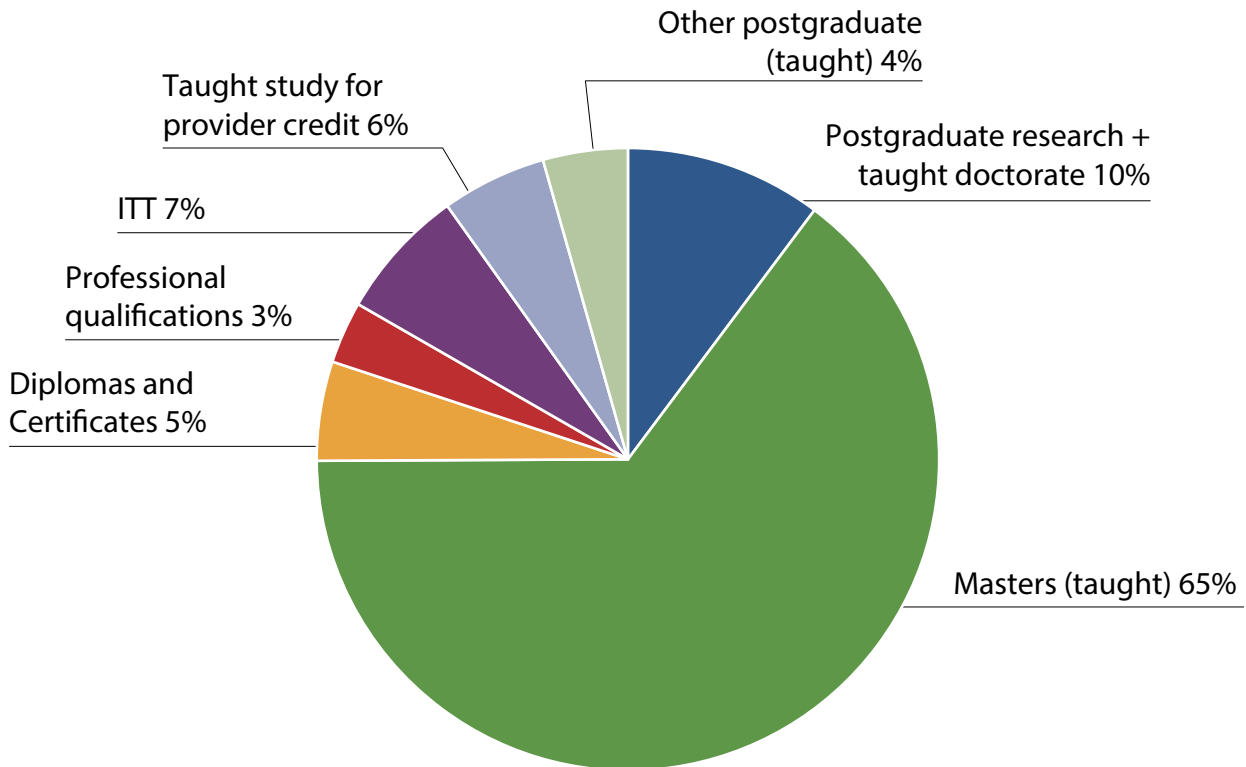
This chapter provides a snapshot of the 2017/18 population of postgraduate students and explores how the cohort has changed since HEPI's previous *Postgraduate Education* report. It examines the types of postgraduate course that students are enrolled on, what subjects they study, whether they are part-time or full-time and typical qualifications on entry. It looks briefly at participation by UK, EU and other international students – a topic explored more fully in the next chapter. It then explores the demographic makeup of the postgraduate cohort, looking at the balance of sex and age across different course types. It examines how the ethnicity of UK students relates to that of the general population, attempts to examine the levels of educational (dis)advantage among the cohort and how the diversity of the cohort has changed over the research period. Finally, it examines the increasingly important area of transnational education – overseas provision to students studying wholly abroad – and briefly looks at postgraduates at alternative providers.

In 2017/18, there were 566,555 full-time and part-time postgraduate students registered in UK higher education providers across all years.⁹ Of these, 356,996 or 63% were first-year postgraduates (also referred to as 'starters' in this report). This is an increase of 16% since 2008/09, the beginning of the period covered in this report. In 2017/18, postgraduate participation stood at 11% of the under-30 population of the UK, having increased from 9% following the introduction of Master's loans in 2016/17.¹⁰

9 HESA *Students* SB255 Figure 4, 2017/18.

10 *Participation rates in higher education: Academic years 2006/07–2017/18 (provisional)*, Department for Education, 2019. The Higher Education Initial Participation Rate (HEIPR) cited here is an estimate of the likelihood of a young person participating in Higher Education by age 30, based on current participation rates. It is not a measure of participation by particular entry cohorts.

Figure 2.1 First-year postgraduates in 2017/18



Source: HESA bespoke dataset¹¹

Taking mode of study into account, Table 2.1 shows that the largest group in postgraduate education (183,279 individuals) consists of full-time taught Master's students, representing 51% of all starters in 2017/18, up from 37% in 2008/09.

UK-domiciled part-time female students, representing 18.5% of the cohort (66,136 individuals), form the largest group studying for postgraduate qualifications, but only just: full-time female UK and non-EU students represent 18.4% and 18.3% of the cohort respectively. When further disaggregated by level of study, full-time female non-EU Master's students are the largest group, at 59,520 individuals, or 16.7% of the cohort.

11 Unless otherwise stated, all first-year postgraduate student numbers given in this report are sourced from this bespoke dataset.

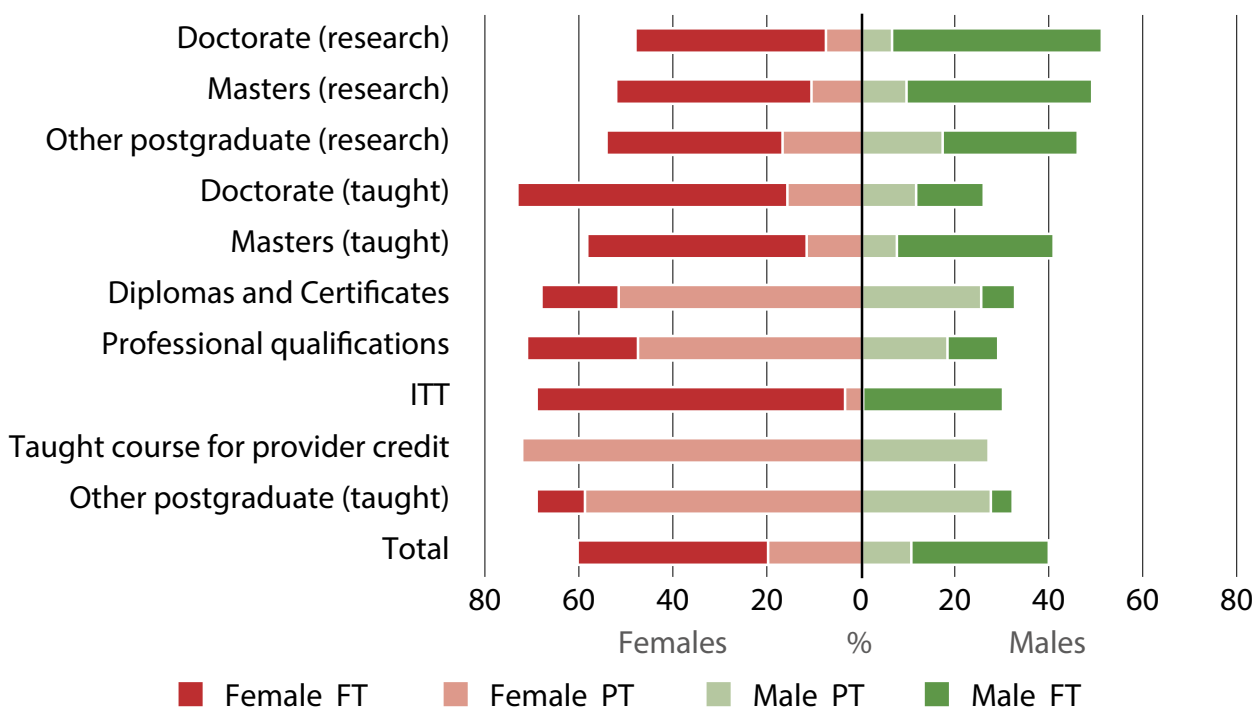
Table 2.1 First-year postgraduates in UK HEIs, 2017/18 by mode of study, domicile and sex

	UK						Other European Union						Non-European Union			Total*
	Female		Male		Other		Female		Male		Other		Female	Male	Other	
Doctorate (research)	Full-time	5,926	6,366	41	1,587	1,814	19	4,069	4,728	4	24,554					
	Part-time	1,984	1,760	13	158	187	1	156	213	-	4,472					
Master's (research)	FT	1,543	1,565	3	329	295	1	756	652	1	5,146					
	PT	626	556	3	22	29	-	33	40	-	1,309					
Other postgraduate (research)	FT	68	50	-	64	46	-	78	63	-	369					
	PT	21	24	-	49	49	-	25	27	-	195					
Doctorate (taught)	FT	242	51	-	9	1	-	22	16	-	341					
	PT	70	42	1	3	2	-	6	15	-	139					
Master's (taught)	FT	36,100	29,222	189	10,184	8,604	63	59,520	39,341	55	183,279					
	PT	26,247	17,399	78	1,020	814	4	923	1,180	5	47,670					
Diplomas and Certificates	FT	2,424	939	7	52	39	-	379	292	-	4,132					
	PT	8,933	4,281	14	286	187	-	295	271	-	14,267					
Professional qualifications	FT	2,294	910	2	111	74	-	242	211	-	3,844					
	PT	5,323	1,991	2	65	37	3	131	122	-	7,675					
ITT	FT	15,694	6,914	6	314	114	-	148	70	-	23,261					
	PT	827	309	1	7	2	-	6	1	-	1,153					
Taught study for provider credit	FT	44	37	-	21	31	-	23	12	-	168					
	PT	13,233	4,786	26	337	217	6	427	268	3	19,304					
Other postgraduate (taught)	FT	1,346	425	3	59	31	-	116	109	-	2,089					
	PT	8,872	4,025	4	183	115	-	226	203	-	13,629					
All postgraduates	FT	65,681	46,479	251	12,730	11,049	83	65,353	45,494	60	247,183					
	PT	66,136	35,173	142	2,130	1,639	14	2,228	2,340	8	109,813					
Total		131,817	81,652	393	14,860	12,688	97	67,581	47,834	68	356,996					

* Totals include 12 individuals of unknown domicile not listed elsewhere in the table.

Percentages generated from Table 2.1 are visualised below to show the balance of gender and mode of study in each course type. As well as the prevalence of females compared to males, it is notable that the majority of those studying for non-teaching certificates, diplomas, professional qualifications and so on are part-time, while those on Initial Teacher Training (ITT) courses are more likely to be full-time.

Figure 2.2 First-year postgraduates by level of study, mode of study and sex, 2017/18



Subject of study

Table 2.2 First-year postgraduates by subject of study, 2017/18

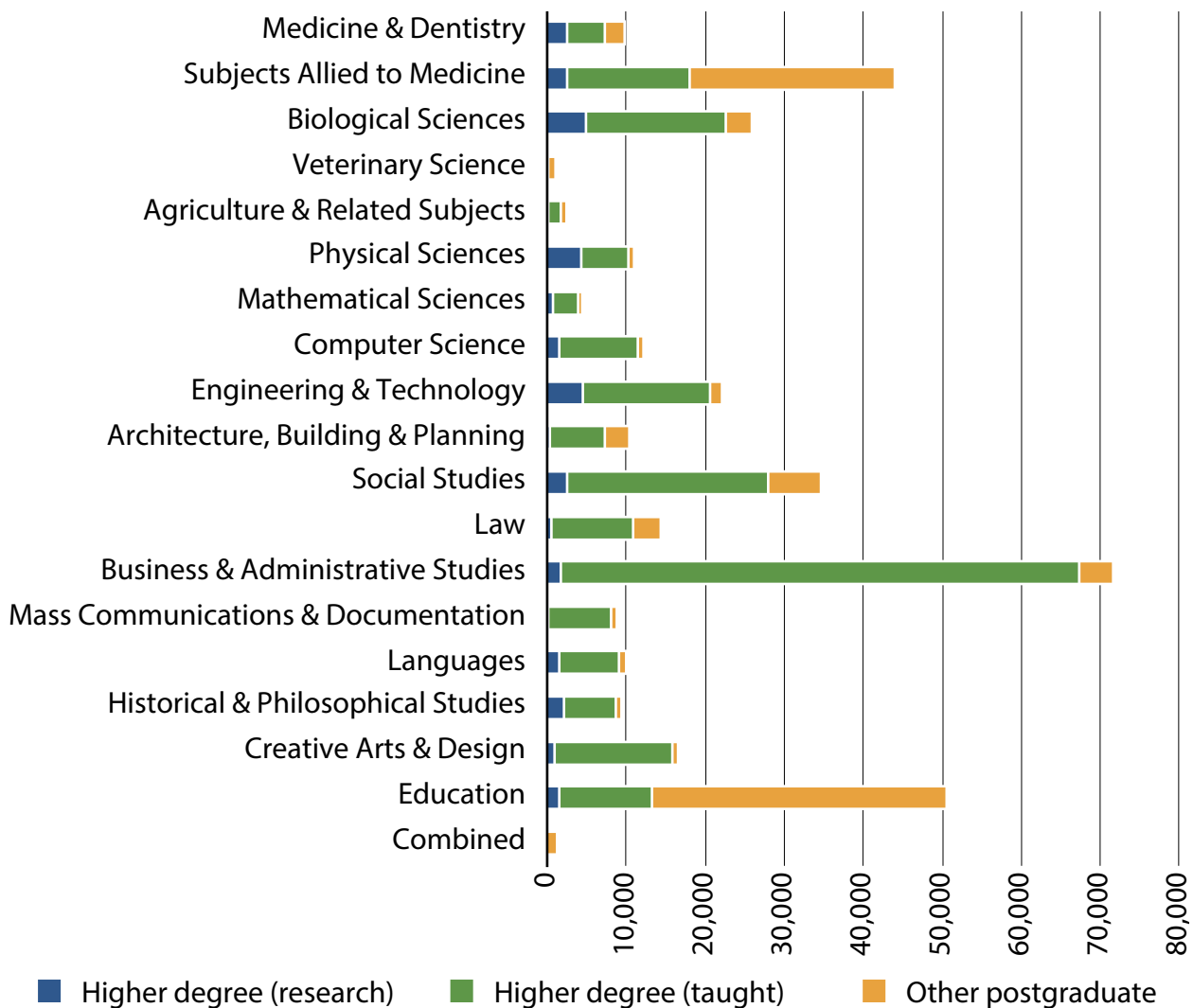
	Higher degree (research)	Higher degree (taught)	Other post-graduate	Total post-graduate	% of the post-graduate cohort
Medicine & Dentistry	2,631	4,731	2,274	9,635	3
Subjects Allied to Medicine	2,668	15,436	25,724	43,828	12
Biological Sciences	5,120	17,602	2,952	25,674	7
Veterinary Science	116	108	697	921	<1
Agriculture & Related Subjects	297	1,623	305	2,225	1
Physical Sciences	4,488	5,914	334	10,735	3
Mathematical Sciences	953	3,078	107	4,138	1
Computer Science	1,619	9,913	410	11,943	3
Engineering & Technology	4,653	16,201	1,049	21,903	6
Architecture, Building & Planning	574	6,917	2,699	10,190	3
Social Studies	2,740	25,284	6,371	34,395	10
Law	620	10,382	3,271	14,274	4
Business & Administrative Studies	1,955	65,483	4,098	71,535	20
Mass Communications & Documentation	368	7,918	251	8,536	2
Languages	1,729	7,561	619	9,909	3
Historical & Philosophical Studies	2,213	6,625	438	9,276	3
Creative Arts & Design	1,147	14,810	508	16,465	5
Education	1,588	11,794	37,055	50,437	14
Combined	4	48	925	977	<1
Total – all subject areas	35,481	231,429	90,086	356,996	100
% STEM	64	32	38	37	
% Non-STEM	36	68	62	63	

Among first-year postgraduates, the largest group (20%) are studying for a qualification in Business & Administrative Studies, usually at Master's level, followed by Education (14%) and Subjects Allied to Medicine (12%). The majority of research degree students –

64% – are studying STEM (Science, Technology, Engineering and Mathematics) subjects. The reverse is true among taught postgraduates: 68% study non-STEM subjects. Overall, STEM students account for two-thirds (37%) of the cohort.

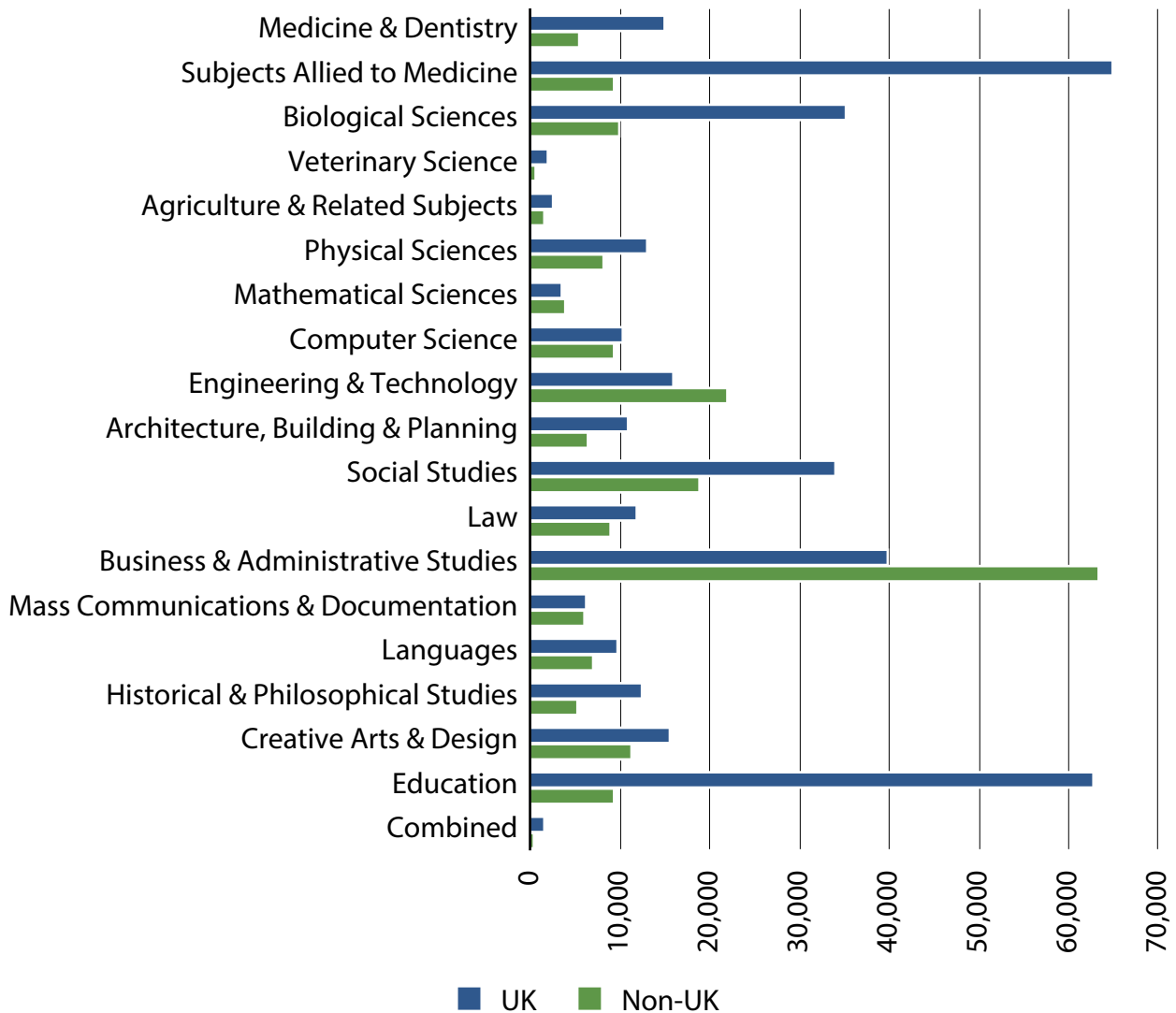
The subjects with the greatest proportion of students not studying for a higher degree – that is, with course aims other than a doctorate or Master’s – are Education and Subjects Allied to Medicine, suggesting they are mainly taken by teachers and nurses engaged in professional development.

Figure 2.3 Number of first-year postgraduates by subject area and level of study



When broken down into UK and non-UK students, it can be seen that the bulk of those studying Business & Administrative Studies (61%) are non-UK students, emphasising how important international student provision in this area is to the sector. The other subject area dominated by overseas students is Engineering (58%). Courses leading to qualifications required for working in the UK, such as Education and Medicine-related subjects, are mainly populated by UK-domiciled students. Biological and Social Sciences are also particularly popular among UK students.

Figure 2.4 All postgraduates by domicile and subject of study, 2017/18



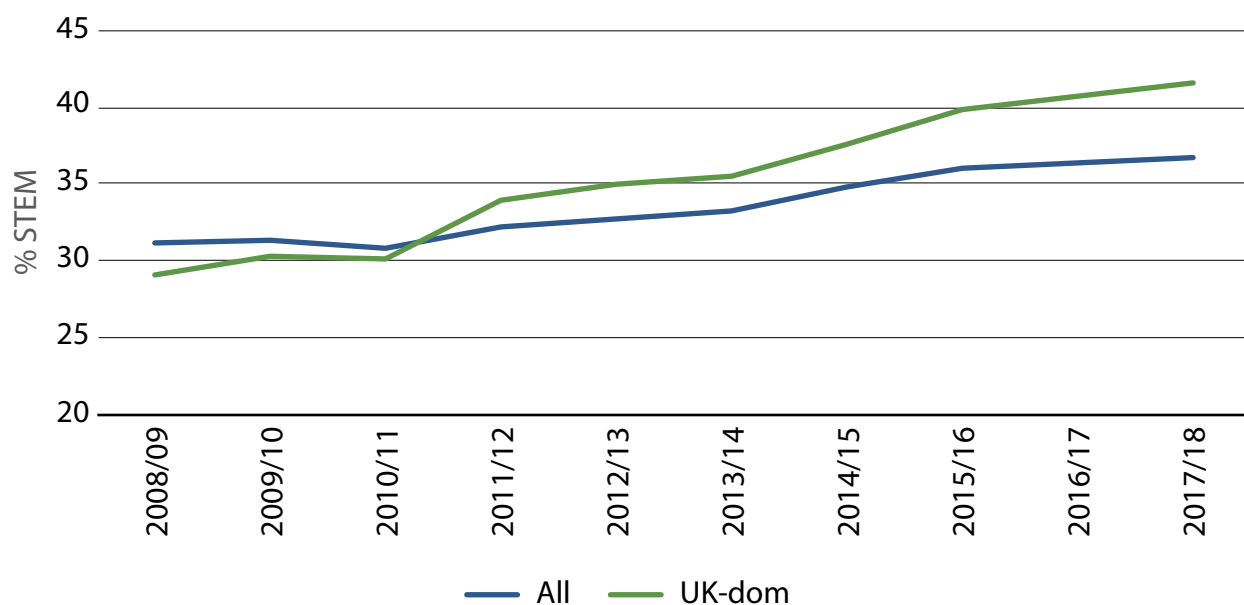
Over the last nine years, there has been an increase in postgraduate numbers in most subject areas except for Education (examined further below), Computer Science and Combined (from an already low base).

Table 2.3 Change in popularity of subject areas among first-year postgraduates between 2008/09 and 2017/18

	2008/09	2017/18	% change
Medicine & Dentistry	8,903	9,635	8
Subjects Allied to Medicine	27,019	43,828	38
Biological Sciences	14,041	25,674	45
Veterinary Science	457	921	50
Agriculture & Related Subjects	1,379	2,225	38
Physical Sciences	8,683	10,735	19
Mathematical Sciences	2,422	4,138	41
Computer Science	12,291	11,943	-3
Engineering & Technology	20,361	21,903	7
Architecture, Building & Planning	8,176	10,190	20
Social Studies	24,523	34,395	29
Law	14,163	14,274	1
Business & Administrative Studies	60,556	71,535	15
Mass Communications & Documentation	5,725	8,536	33
Languages	8,763	9,909	12
Historical & Philosophical Studies	8,007	9,276	14
Creative Arts & Design	10,931	16,465	34
Education	68,702	50,437	-36
Combined	1,554	977	-59
% STEM	31	37	
% non-STEM	69	63	

The proportion studying STEM has increased from 31% to 37% – a change which is even more marked when we consider the UK-domiciled cohort alone, which went from 29% to 42% STEM over the research period (Figure 2.5). The strong growth in Subjects Allied to Medicine probably reflects the increasing role of higher education in training nurses. Although not shown in the graph below, UK-domiciled Computer Science postgraduate numbers increased from 3,729 to 5,833 (by 21%) in this period, so the 3% decline recorded in Table 2.3 is due to falling international participation.

Figure 2.5 Change in proportion of first-year postgraduates studying STEM subjects, 2008/09 to 2017/18

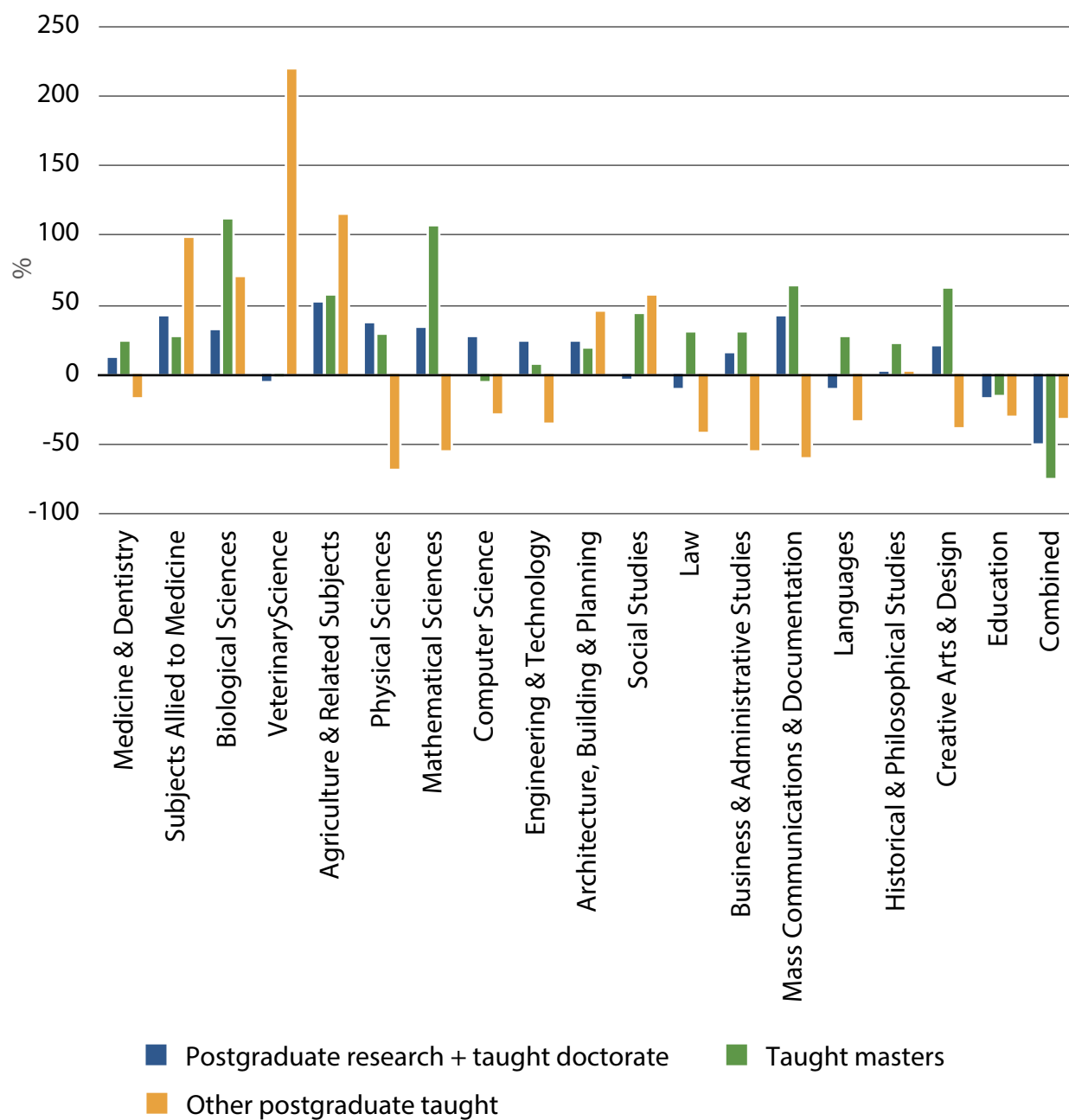


Broken down by level of study, we can see a shift towards higher degrees – doctorate and Master’s – and away from shorter course types. The field of Education has declined across the board, not just in Initial Teacher Training courses. Much of this relates to government cuts in funding for professional development for qualified teachers in 2011.¹² The Government’s new *Teacher Recruitment and Retention Strategy* is set to put money back into this, as part of a £130 million per year investment to support early-career teachers. So we may see an increase in Education numbers in the next few years.¹³

¹² John Cater, email to the author, 16 December 2019.

¹³ *Teacher Recruitment and Retention Strategy*, Department for Education, 2019, p.21.

Figure 2.6 Percentage change in subject area of first-year postgraduates between 2008/09 and 2017/18



Mode of study

Since relatively few non-UK students (8%) are part-time, this section focuses on UK-domiciled students only.

A little over half (53%) the UK-domiciled postgraduate population studies full-time. The majority of those studying for higher degrees (Master’s degrees and doctorates) study full-time. ITT students are particularly unlikely to be part-time, due in part to relatively

abundant funding in the form of both fee and maintenance scholarships for trainee teachers (though there has been a recent shift towards loan-based finance with ‘loan forgiveness’ packages for teachers who stay in the job). Conversely, those aiming for professional qualifications, diplomas and certificates, provider credit and other taught qualifications are overwhelmingly part-time, reflecting the fact that such courses are typically undertaken while working, often as part of a career development plan.

Table 2.4 Mode of study among UK-domiciled first-year postgraduate students, 2017/18

	% full-time	% part-time
Doctorate (research)	77	23
Master’s (research)	72	28
Other postgraduate (research)	72	28
Doctorate (taught)	72	28
Master’s (taught)	60	40
Diplomas & Certificates	20	80
Professional qualifications	30	70
ITT	95	5
Taught study for provider credit	<1	>99
Other postgraduate (taught)	12	88
All	53	47

The Open University is by far the biggest provider serving part-time students, with 8,615 UK-domiciled postgraduate students across all years (not just first-years) compared to 5,320 at its nearest competitor, University College London.¹⁴

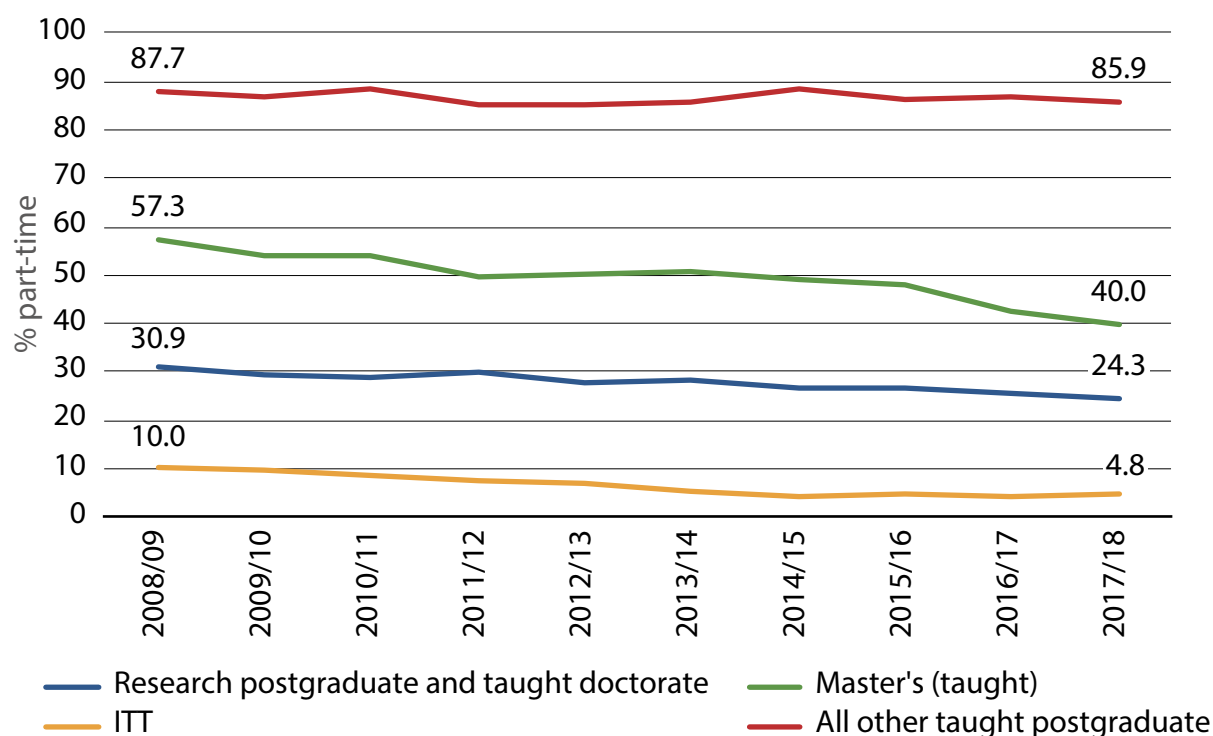
There has been a marked overall shift from part-time to full-time study over the research period – a trend that has been much commented on with regards to undergraduate students, but less studied at the postgraduate level.¹⁵

14 HESA *Students* DT051 Table 1.

15 See, for example, C. Callender and J. Thompson, *The Lost Part-timers: The decline of part-time undergraduate higher education in England*, The Sutton Trust, 2018.

Back in 2008/09, part-time study was the norm among UK-domiciled postgraduates, with 59% of first-years studying in this way. By 2016/17 (the same year Master’s loans were introduced), the balance had shifted to 50:50, and by 2017/18 only 47% were studying part-time. While the loans appear to have had an effect, making full-time study more feasible for many, Figure 2.7 illustrates that the trend away from part-time study began much earlier: part-time Master’s study had already dropped from 57% to 48% before the loans kicked in.

Figure 2.7 Change in proportion of UK-domiciled first-year postgraduates studying part-time, 2008/09 to 2017/18



The decline in part-time Master’s and doctoral study may be related to declining numbers of part-time undergraduates – and by extension the available pool of potential postgraduates – following undergraduate fee cap rises. Such students are typically older, and the decline in part-time study – particularly at undergraduate and taught Master’s level – speaks of fewer people accessing lifelong learning opportunities, such as those offered by the Open University, which raised its annual fees from £1,500 to £5,000 in 2012/13.¹⁶

16 On the decline on part-time study generally, see N. Hillman (ed.), *It's the finance, stupid! The decline of part-time higher education and what to do about it*, HEPI, 2015.

For full-time – and also part-time – students doing their first undergraduate or Master’s degree, student loans have kept the option of university study open despite fee rises. But those wishing to take a second degree at the same level as one they already hold are not eligible, nor are those wishing to take individual modules that can count towards a full degree.¹⁷ This makes the higher fees unaffordable to many, which has an impact on anyone considering a career change, as well as anyone needing to retrain in response to increased automation.

Another factor may be the rise of ‘unrecorded learning opportunities’ such as MOOCs, which may conceivably have reduced demand for traditional university-based options.¹⁸

The fact that loans have enabled more people to study full-time is essentially a good thing. However, it leaves behind those who would be better served by dipping in to part-time study for higher qualifications while working or raising a family. In light of this, Philip Augar called for funding to support part-time, modular, lifelong learning opportunities.¹⁹

The introduction in 2018/19 of a new maintenance loan for part-time undergraduate study may help reverse the trend away from lifelong learning pathways. However, further support – for example, through a career development student loan that does not discriminate against modular or second-degree study – would help keep options for lifelong learning more open and support the flexible workforce needed to cope with twenty-first century challenges.

17 Funding for those wishing to take a second degree at the same level was phased out by the Labour Government in 2008/09 and not replaced when fee levels rose in 2012. P. Horrocks in Hillman (ed.), *It's the finance, stupid!* p.12.

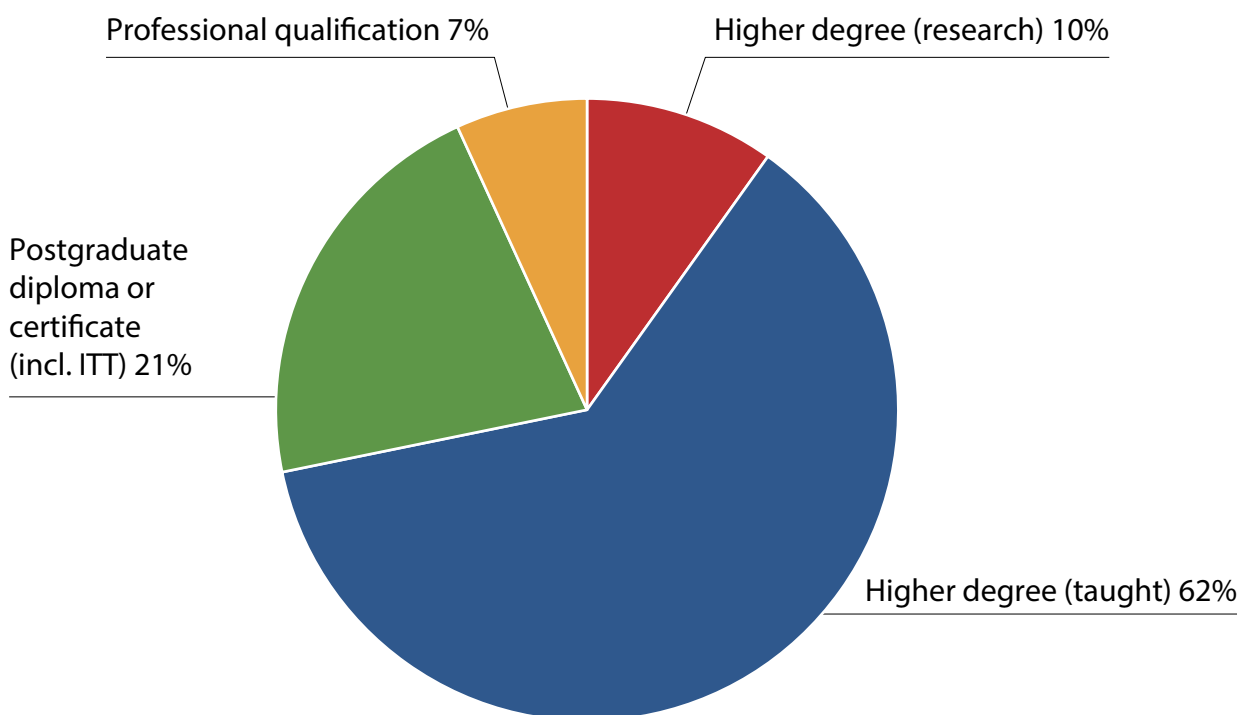
18 Callender and Thompson, *The Lost Part-timers*, p.3.

19 Augar P. et al. *Independent Panel Report to the Review of Post-18 Education and Funding (The Augar Review)*, UK Government Publications 2019. See also Michelle Morgan, ‘Time to “remaster” postgraduate study’, *Wonkhe*, 23 February 2018.

Qualifications on entry

Among respondents to HESA's 2016/17 *Destination of Leavers from Higher Education (DLHE)* survey, 19% of full-time equivalent (FTE) students graduating with an undergraduate degree progressed to a postgraduate course within six months of graduation – an increase from the 2007/08 progression rate of 17%.²⁰

Figure 2.8 Progression of undergraduate leavers to postgraduate study within six months of graduation



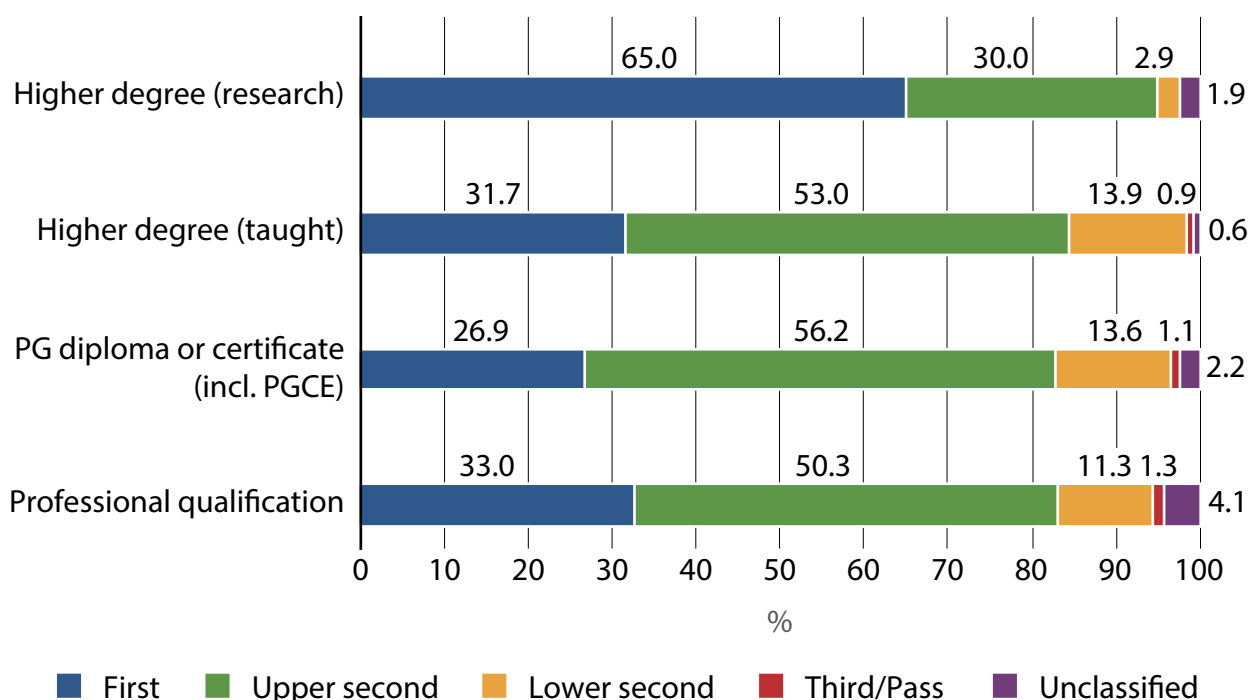
Source: DLHE 2016/17

HESA's definition of professional qualifications in the DLHE may differ slightly from that used elsewhere in this report.

²⁰ DLHE 2016/17, Table J. Full-time equivalent is calculated as full-time students + (part-time students ÷ 2).

The few students who go directly from undergraduate to postgraduate research degrees such as doctorates are much more likely to have attained a first-class degree than other entrants. Such students are less likely to go on to study for postgraduate diplomas, certificates or professional qualifications. The reverse is true for students who attained a lower second or third-class degree at undergraduate level, who are much more likely to pursue taught qualifications than research degrees if they progress to postgraduate study.

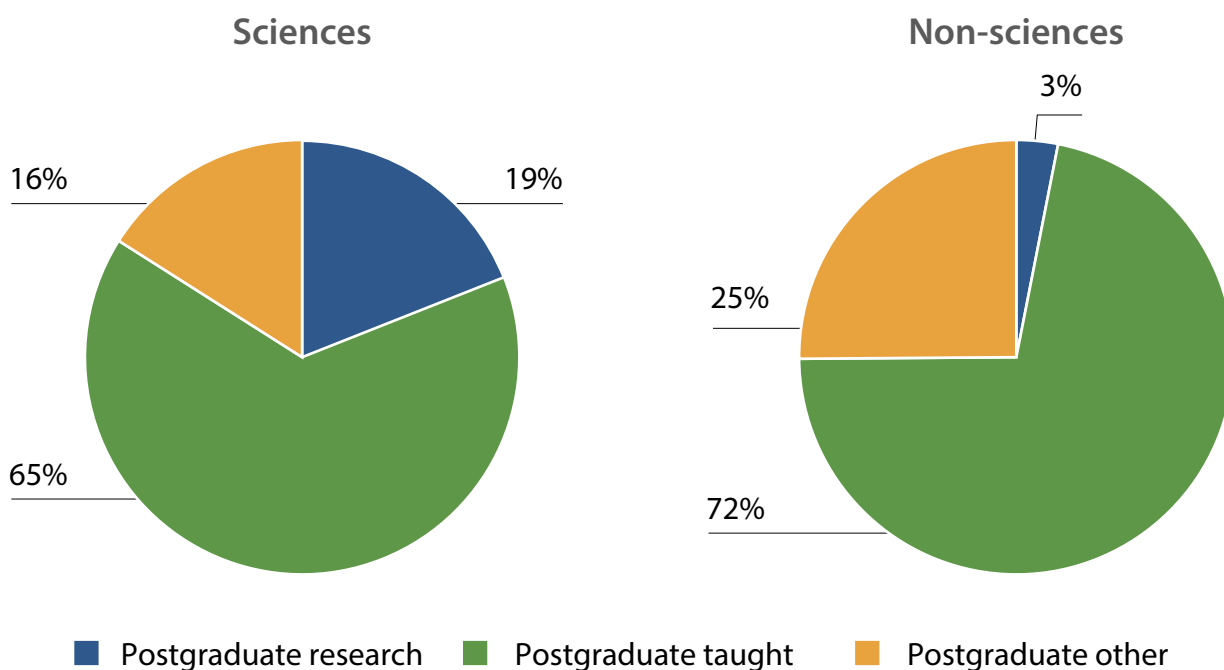
Figure 2.9 Destination of UK and other EU-domiciled FTE first-degree leavers who went on to study at postgraduate level, by first degree classification (percentage), 2016/17



Source: DLHE 2016/17

Progression directly from a first degree to a research postgraduate degree is far more common in STEM subjects, but generally rare, as most Research Councils consider a Master’s-level degree a prerequisite for doctoral funding. Nevertheless, the proportion of UK-domiciled full-time equivalent leavers progressing straight from a first degree to a research degree has increased slightly: in 2007/08, the figure was 1.8% of respondents in further study (3,588 individuals); in 2016/17, it was 2.1% (5,505).

Figure 2.10 Destinations of leavers from science and non-science first degrees who went on to postgraduate study, 2016/17²¹



Source: DLHE 2016/17

Domicile

The UK has shown great success in positioning itself as a global leader in higher education, and UK qualifications are highly valued abroad. Non-UK domiciled students are an integral part of the higher education system, especially at postgraduate level, where other EU and non-EU students represent 40% of all first years.

Table 2.5 First-year postgraduate students by domicile, 2017/18

	No. of students	% of cohort
UK-domiciled	213,862	60
Other EU-domiciled	27,645	8
Non-EU domiciled	115,483	32
Unknown	6	0
Total	356,996	100

21 HESA's published DLHE dataset does not disaggregate full- and part-time study, so these figures are for all leavers, regardless of mode of study.

At taught Master's level, international students are particularly important, with a majority (53%) from outside the UK – up from 50% in 2007/08, at the time of the previous HEPI *Postgraduate Education* report. International students also represent a significant proportion – 43% – of research postgraduates. EU-domiciled students are particularly well represented at postgraduate research level, representing 13% of the cohort, although there are signs of the numbers declining slightly since the UK's vote to leave the EU in 2016. If the final outcome of negotiations with the EU leads to a sharp drop-off in EU research students, this may leave universities with difficulties filling these places, with potential knock-on effects on other early-career researcher and academic teaching posts.²² Other qualifications, such as PGCEs and professional qualifications specific to working in the UK and not necessarily recognised internationally, are studied primarily by UK-domiciled students.

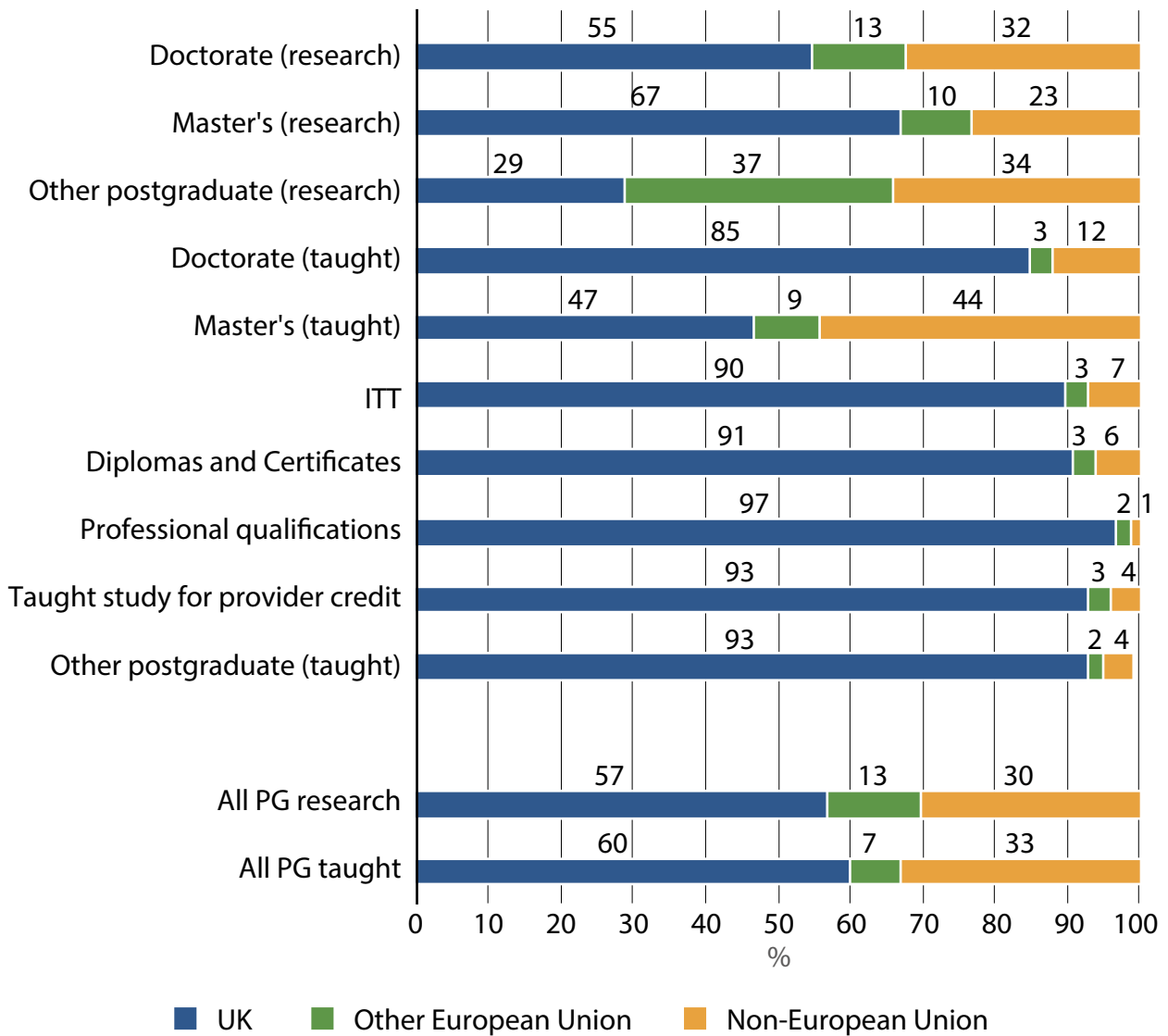
Table 2.6 First-year postgraduates by domicile, 2017/18

	UK	Other EU	Non-EU	Total
Doctorate (research)	16,090	3,766	9,170	29,026
Master's (research)	4,296	676	1,482	6,455
Other postgraduate (research)	163	208	193	564
All postgraduate researchers	20,549	4,650	10,845	36,045
Doctorate (taught)	406	15	59	480
Master's (taught)	109,235	20,689	101,024	230,949
Diplomas and certificates	16,598	564	1,237	18,399
Professional qualifications	10,522	290	706	11,519
ITT	23,751	437	225	24,414
Taught study for provider credit	18,126	612	733	19,472
Other postgraduate (taught)	14,675	388	654	15,718
All taught postgraduate	193,313	22,995	104,638	320,951
Total *	213,862	27,645	115,483	356,996

* Including 6 students of unknown domicile.

22 A modelling of the potential impacts on student numbers and university finances if fees for EU students are harmonised with the higher non-EU fees is presented by Gavan Conlon et al., *The determinants of international demand for UK higher education*. HEPI, Kaplan and London Economics, 2017, pp.36–43.

Figure 2.11 Percentage of first-year postgraduates by domicile 2017/18

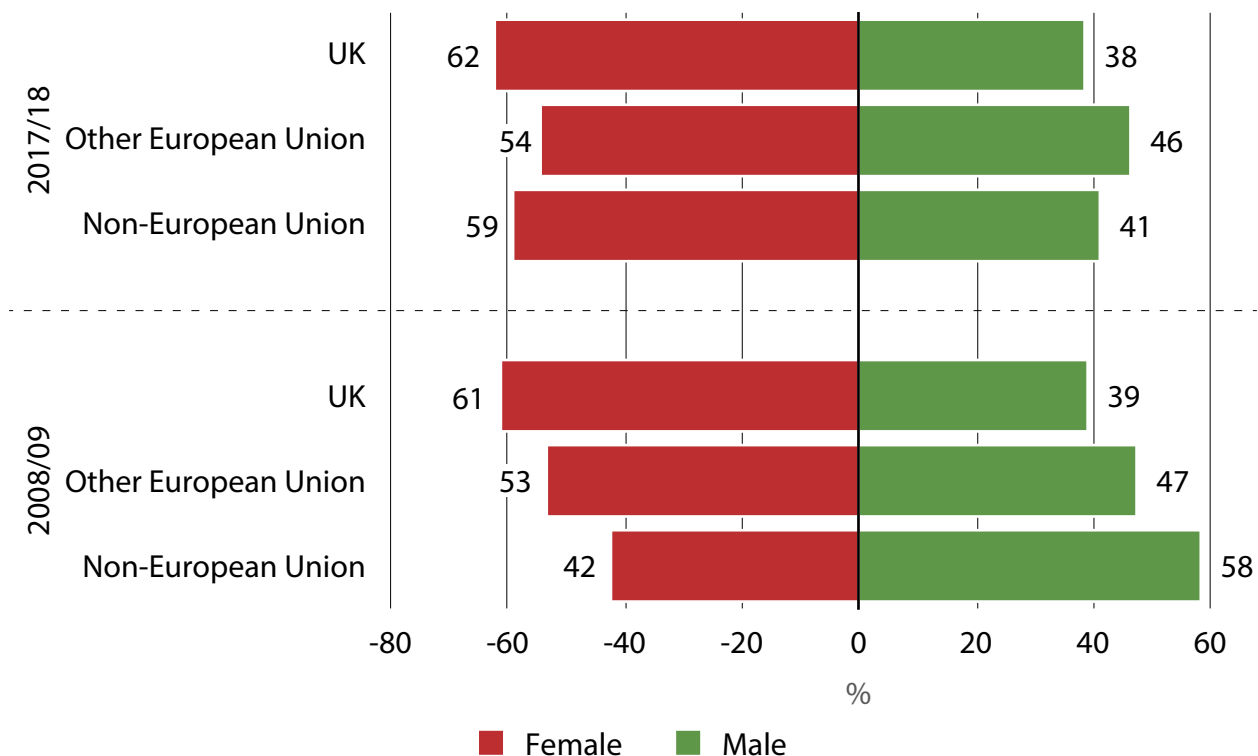


Further analysis of the factors influencing trends in the UK, other EU and non-EU postgraduate numbers is given in Chapter 3.

Sex

In 2017/18, the female-to-male ratio among first-year postgraduates was 60:40, compared to 57:43 at undergraduate level. This is a noticeably larger skew than in 2008/09, where the balance was 55:45 female-to-male. A significant aspect of this change is that the non-EU domiciled cohort has followed trends previously seen within the UK and other EU cohorts towards more female postgraduates than male, with the non-EU gender skew almost a mirror image of what it was nine years ago. The gender imbalance has become only slightly more strongly pronounced within the UK-domiciled cohort, which was 62% female in 2017/18. This is part of a wider global trend towards more women than men in higher education.²³

Figure 2.12 Gender balance among first-year postgraduates at UK institutions by domicile in 2017/18 compared to 2008/09



Since factors affecting sex ratio differ (to an extent) from country to country, the following analysis focuses on the UK-domiciled cohort only.

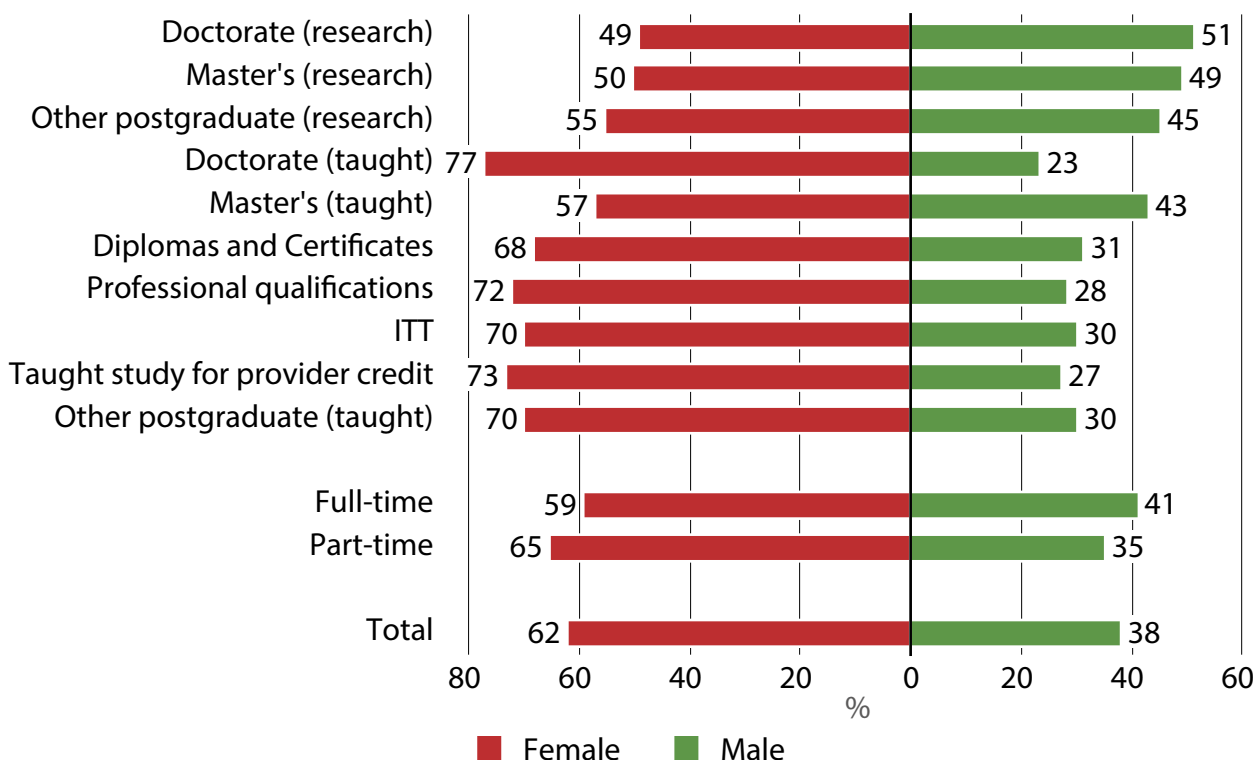
Broken down by level of qualification, it can be seen that the only qualification where men still slightly outnumber women is the research doctorate. Although a substantial majority (77%) of taught doctorate students are female, the sample is very small (406

²³ *Education at a Glance 2019*, OECD, p.198.

people or 0.1% of the cohort) as taught doctorates have all but died out in most subject areas other than Education and Clinical Psychology, which are more heavily favoured by females. The 70:30 female-to-male ratio in ITT is much the same as at the time of the previous HEPI postgraduate report in 2007/08, reflecting that teaching remains a much more popular choice of career among women than men.

Gender differences in mode of study are pronounced, with almost two-thirds of the part-time cohort being female.

Figure 2.13 Gender balance among first-year UK-domiciled postgraduates by level of study, 2017/18

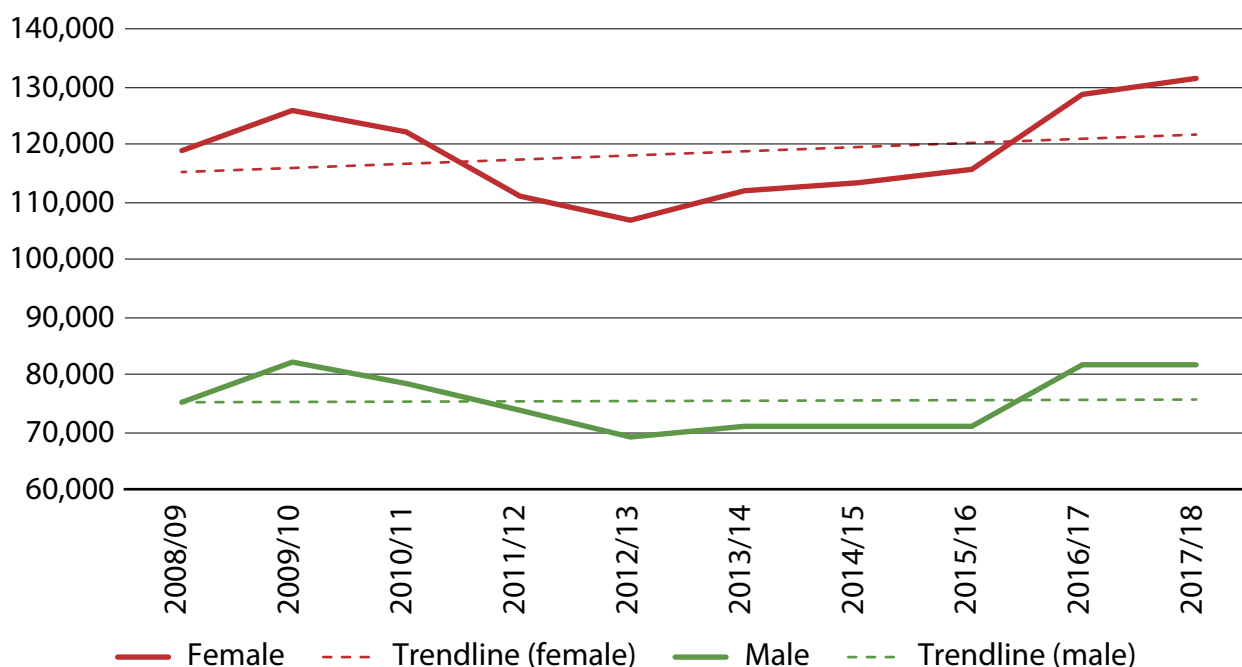


The under-participation of men in postgraduate education is arguably the single biggest inequality in the system, and one which becomes starker when social disadvantage (see Figure 2.24) and ethnicity (Table 2.9) are also taken into account, with particularly low participation among white males from disadvantaged backgrounds. A succession of reports and studies have highlighted this over the past two decades; notable recent examples include HEPI's *Boys to Men* report (2016) and a fourteen-point plan from the

Men and Boys Coalition.²⁴ A solution has yet to be found: the gender gap continues to widen, beginning at pre-school²⁵ and continuing to university entry²⁶ and beyond. While university Access and Participation Plans can help, solving disparities much earlier in the system is also vital. Results at GCSE correlate strongly with progression to university: males attaining high GCSE grades are as likely to progress to university as female peers with comparable grades – but fewer boys are achieving these grades. Therefore, targeting male attainment at school is likely to have a positive impact on male entry to undergraduate and, eventually, postgraduate education.²⁷

At the same time as male participation has stalled overall, female participation is rising.

Figure 2.14 Trendlines for UK-domiciled first-year postgraduate participation by gender, 2008/09 to 2017/18



24 N. Hillman and N. Robinson, *Boys to Men: The underachievement of young men in higher education – and how to start tackling it*, HEPI, 2016; *Creating a more positive future for boys and young men: Fourteen point plan*, Men and Boys Coalition briefing paper, 2018. See also, S. Broecke and J. Hamed, *Gender gaps in higher education participation: An analysis of the relationship between prior attainment and young participation by gender, socio-economic class and ethnicity*, DIUS, 2008; and *Missing Talent*, The Sutton Trust, 2015.

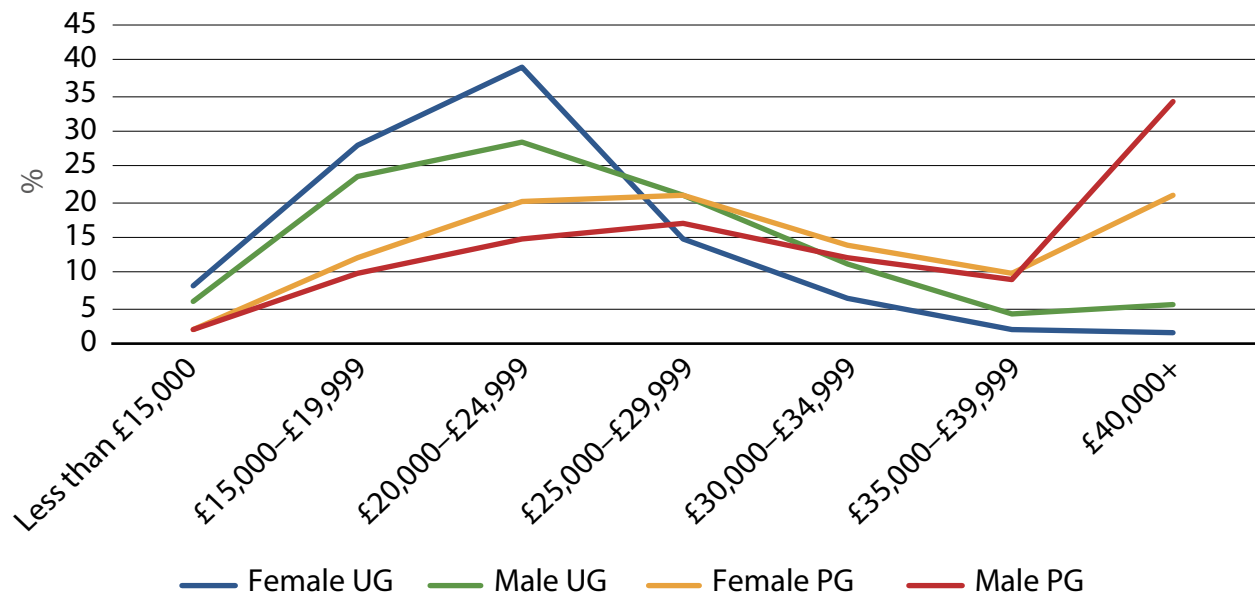
25 G. Stoet and J. Yang, *The boy problem in education and a 10-point proposal to do something about it*, 2016.

26 See, for example, *End of Cycle Report 2018*, UCAS, Section 4: Gender.

27 Hillman and Robinson, *Boys to Men*, p.27.

The reasons why the drive to increase participation in higher education has been more successful with women than men are doubtless complex. However, one possible driver of this imbalance is the marked salary gap that still exists between males and females at all levels of work, with women earning notably less than males with the same qualifications.

Figure 2.15 Salary of undergraduate and taught postgraduate leavers (excluding ITT) six months after qualifying, 2016/17



Source: DLHE 2016/17

The Department for Education estimates that, after accounting for differences in pre-university characteristics such as family affluence, taking a degree confers a mere 6% salary advantage on a male by the age of 29, compared to 26% for a female.²⁸ At the postgraduate level, labour market statistics show the median salary for female postgraduates is 28% higher than for female undergraduates; for males the advantage is only 12%.²⁹ These disparities mean the economic case for investing in higher levels of education rather than going straight into the workplace is markedly stronger for women than men. This could be driving rising female participation at the same time that male participation has flatlined.

28 Chris Belfield et al., *The impact of undergraduate degrees on early-career earnings: Research Report*, Institute for Fiscal Studies, 2018.

29 *Graduate Labour Market Statistics 2018*, Department for Education, April 2019.

Staying with the focus on UK-domiciled postgraduates, women are no longer under-represented in STEM subjects, at least up to taught postgraduate level, where 57% of first-year STEM students are female. Looking at the subjects within STEM, women are over-represented in Biological Sciences, while the non-organic subjects – Physical Sciences, Mathematics, Computer Science and Engineering – remain predominantly male. Although women form a large majority in Veterinary Science, the numbers are small (921 students or 0.3% of the cohort).

At research degree level, only 47% of STEM students are female, partly accounted for by relatively low participation in the non-organic STEM subjects, which represent one-third of all research degrees undertaken in the UK. Females represent the majority of postgraduate researchers in Medicine and Allied Subjects, Biology, Veterinary Science and Agriculture.

The strong gender imbalance favouring females in Subjects Allied to Medicine and Education – especially at the ‘other taught postgraduate’ level – reflects the larger number of women working in the Nursing and Teaching sectors. Outside of STEM subjects, there is also a strong gender skew in Social Studies, where 80% of the UK cohort is female.

Table 2.7 Gender balance among UK-domiciled first-year postgraduates across subject areas

	Postgraduate Research		Taught Master's		Other taught postgraduate		All postgraduate	
	F	M	F	M	F	M	F	M
Medicine & Dentistry	60	40	63	37	60	40	61	39
Subjects Allied to Medicine	60	40	75	25	79	21	77	23
Biological Sciences	62	38	69	31	80	20	69	31
Veterinary Science	71	29	84	16	71	29	72	28
Agriculture & Related Subjects	60	40	63	37	60	40	62	38
Physical Sciences	35	65	48	52	38	62	42	58
Mathematical Sciences	22	78	30	70	42	58	29	71
Computer Science	24	76	23	77	31	69	24	76
Engineering & Technology	25	75	22	78	23	77	22	78

	Postgraduate Research		Taught Master's		Other taught postgraduate		All postgraduate	
	F	M	F	M	F	M	F	M
Architecture, Building & Planning	42	58	39	61	43	57	40	60
Social Studies	55	45	62	38	80	20	67	33
Law	55	45	60	40	58	42	59	41
Business & Administrative Studies	45	55	47	53	57	43	49	51
Mass Communications & Documentation	51	49	60	40	69	31	60	40
Languages	61	39	67	33	67	33	66	34
Historical & Philosophical Studies	48	52	52	48	62	38	52	48
Creative Arts & Design	54	46	60	40	61	39	60	40
Education	66	34	73	27	69	31	70	30
Combined ³⁰	–	–	–	–	63	37	64	36
Total STEM	47	53	57	43	75	25	62	38
Total non-STEM	54	46	57	43	68	32	62	39
All subjects	50	50	57	43	71	29	62	38

Figures in red and green highlight gender disparities of 70% or over for females and males respectively.

³⁰ Numbers studying for Combined subjects are so low – 916 in total, with 864 of those classified under 'other postgraduate' – that male/female percentages have been omitted for research and taught Master's degrees.

Age

The earliest age for starting postgraduate education is usually 21, after leaving school aged 18 and spending three years as an undergraduate – there are very few exceptions to this.³¹ The predominance of full-time postgraduate starters aged 21–24 indicates that it is still common to progress fairly fast from school to undergraduate to a full-time postgraduate degree, sometimes with one year out of education before or after a first degree. The age profile of part-time postgraduates is more evenly distributed, with a greater proportion of participants aged over 30 compared to full-time students.

Figure 2.16 Age bands of all first-year postgraduates, 2017/18

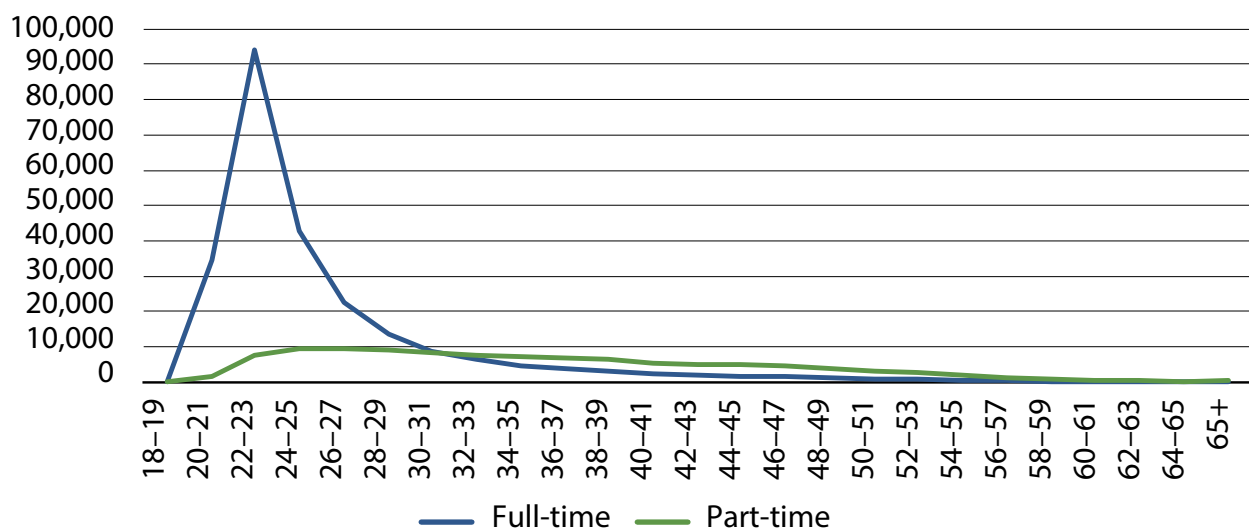


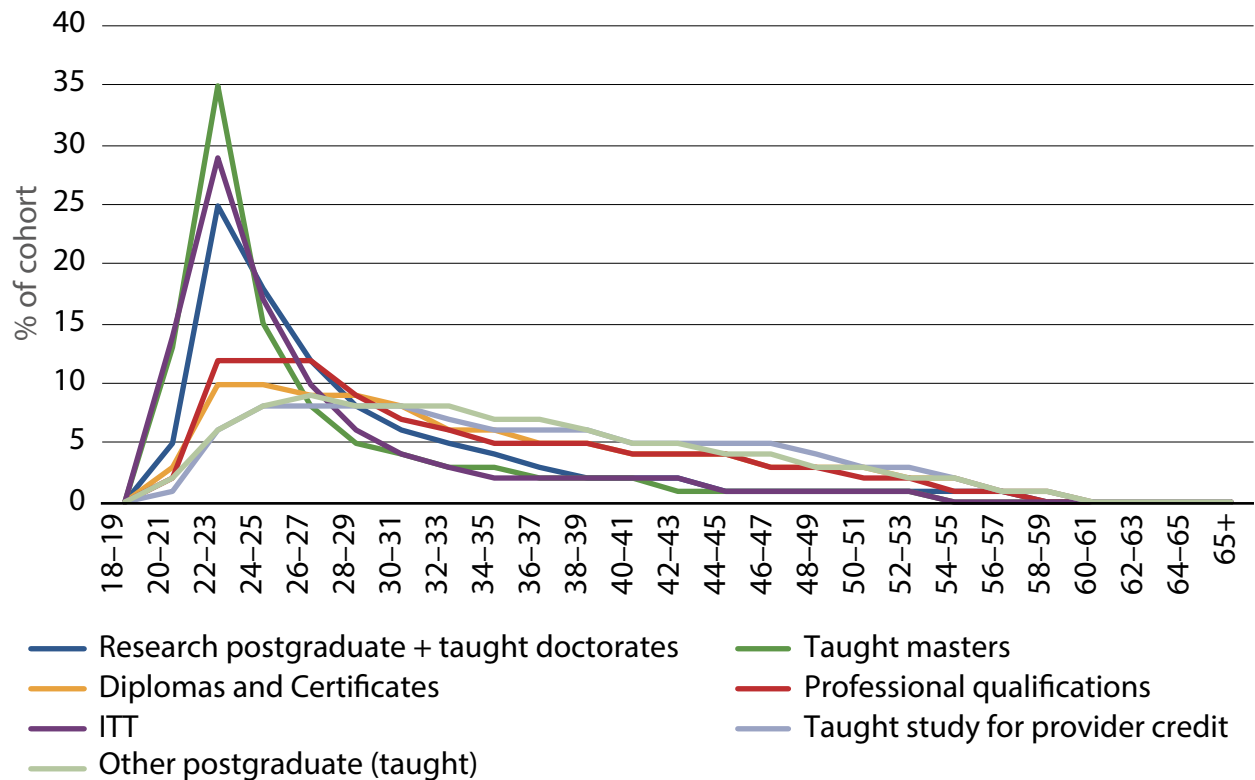
Table 2.8 Median age among full- and part-time first-year postgraduates, 2017/18

	Full-time	Part-time
Taught Master's	22–23	32–33
Research degree + taught doctorate	24–25	36–37
ITT	24–25	30–31
All other taught postgraduate	26–27	34–35

31 In Scotland students can finish school aged 17, but undergraduate courses in Scottish universities take four years, so the earliest common age to enter postgraduate education remains the same.

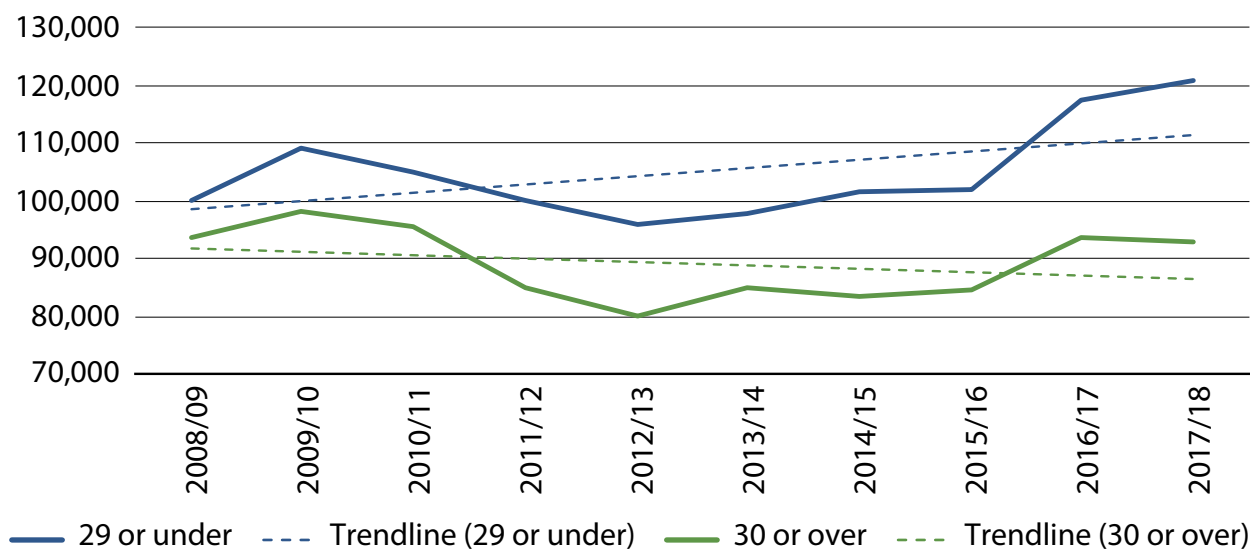
Looking at age profiles across the various levels of study, although all those studying for a specific qualification are most likely to start by the age of 23, doctoral and research postgraduates are more widely spread across age bands than taught Master's students and trainee teachers, though over two-thirds (68%) still start in their twenties. After the age of 30, professional qualifications, diplomas, certificates, provider credit and so on all become more common aims than Master's degrees and doctorates, as the cohort shifts to those studying part-time, often for vocational purposes, while working.

Figure 2.17 Age distribution of first-year postgraduates by level of study, 2017/18



In keeping with the trend of fewer part-time students, who tend to be older, a greater proportion of the postgraduate cohort (57%) is now under 30, compared to 2008/09 (52%). This emphasises the decline in people accessing lifelong learning opportunities – at least through traditional university-based routes.

Figure 2.18 Trends in age of UK-domiciled first-year postgraduates, 2008/09 to 2017/18



Ethnicity

In the 2011 census, 19.5% of the population of England and Wales said they were from an ethnic minority or of mixed ancestry. Narrowed down to the age group most likely to be undertaking postgraduate study (20-34 years), the figure is 19.7%.

HESA's latest release – using the newly published 2018/19 figures – show that among UK-domiciled postgraduates, 22.1% identified as ethnic minorities, so it seems that BAME (Black, Asian and Minority Ethnic) students are over-represented compared to the general population.³² However, 2.7% of the cohort is of unknown ethnicity, and while it is unlikely that all those who declined to answer the ethnicity question were White British, it means we cannot say with absolute certainty that the BAME population are over-represented.

On the other hand, the figures for White British students are well clear of this margin: we can say confidently that White British students are under-represented at the postgraduate level (75.2%) compared to the general population (80.3%), and that Black African students represent a substantially larger proportion (5.4%) of the postgraduate

³² HESA *Students* DT051 Table 14.

cohort than in the general population (1.0%). This does not mean that other populations that appear to be marginally under-represented really are: their numbers may be made up from among the substantial proportion of ‘unknowns’.

Table 2.9 Percentage of UK-domiciled first-year postgraduates by ethnicity in 2017/18, compared to the general population of England and Wales aged 20–34

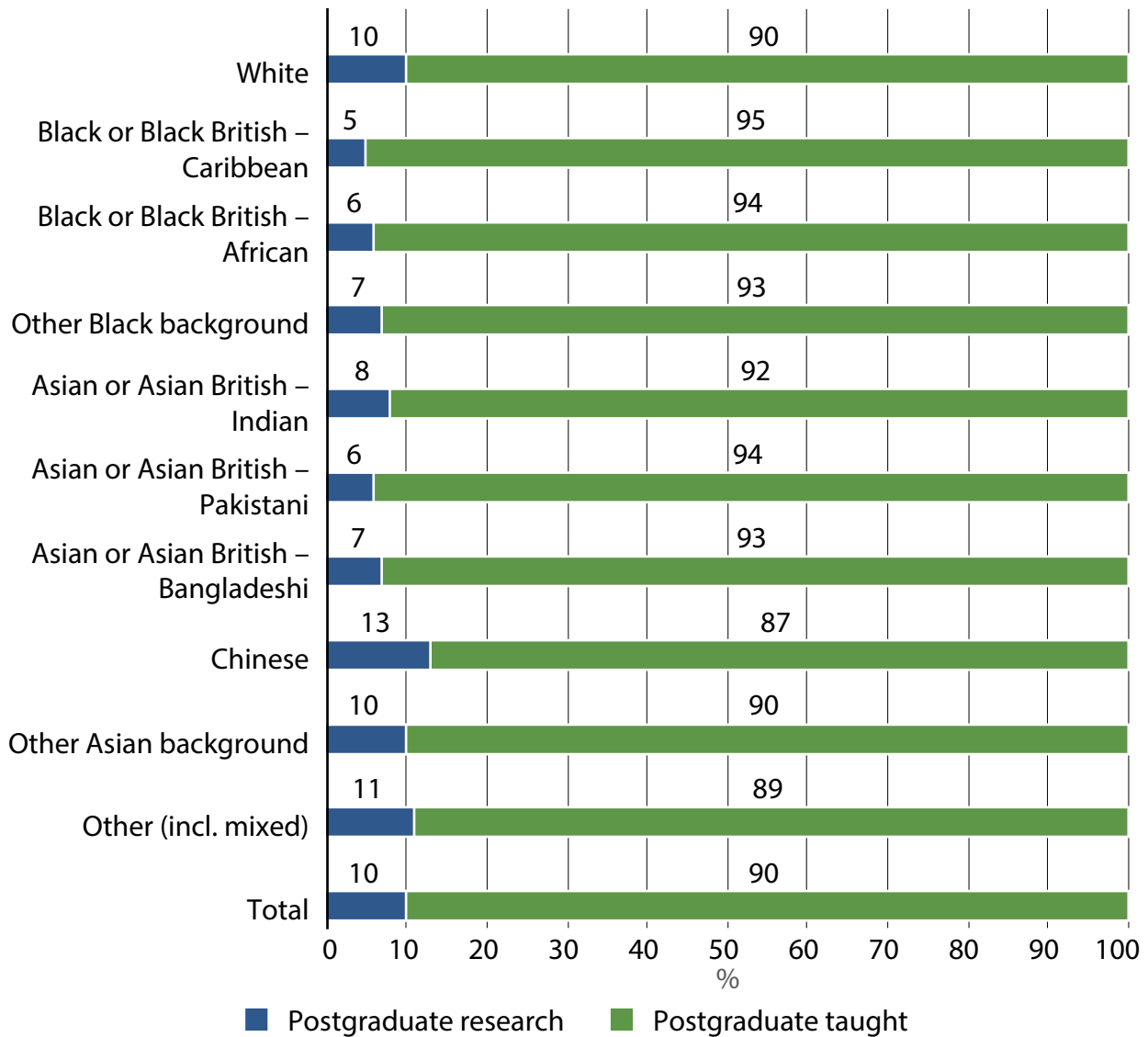
	Postgraduate research %	Postgraduate taught %	All postgraduate %	Over-represented (>) or under-represented (<)*	Pop. of England and Wales aged 20–34 %
White	78.0	74.9	75.2	<	80.3
Total ethnic minorities	18.8	22.5	22.1	>	19.7
Ethnicity not known	3.2	2.6	2.7		–
Black or Black British – Caribbean	0.6	1.3	1.2	<	2.4
Black or Black British – African	3.5	5.6	5.4	>	1.0
Other Black background	0.2	0.3	0.3	<	0.5
Asian or Asian British – Indian	2.6	3.5	3.4	<	3.8
Asian or Asian British – Pakistani	1.7	2.7	2.6	<	2.9
Asian or Asian British – Bangladeshi	0.6	0.9	0.9	<	1.2
Chinese	1.6	1.2	1.2	<	1.5
Other Asian background	1.8	1.8	1.8	<	2.2
Other (including mixed)	6.1	5.3	5.3	>	4.2

* Symbols in red (< and >) indicate unambiguous over- or under-representation, clear of the 2.7% margin represented by the ‘unknown ethnicity’ component of the HESA data.

Sources: HESA *Students* DT051 Table 14; ONS *England and Wales 2011 Census*, 2018

Figure 2.19 shows that postgraduate research students make up 10% of the UK-domiciled cohort, but a greater proportion of Chinese British (14%) and 'other (including mixed)' (11%) students are undertaking a postgraduate research degree than average.

Figure 2.19 UK-domiciled first-year postgraduates by ethnicity and level of study, 2018/19



Source: HESA *Students* DT051 Table 14

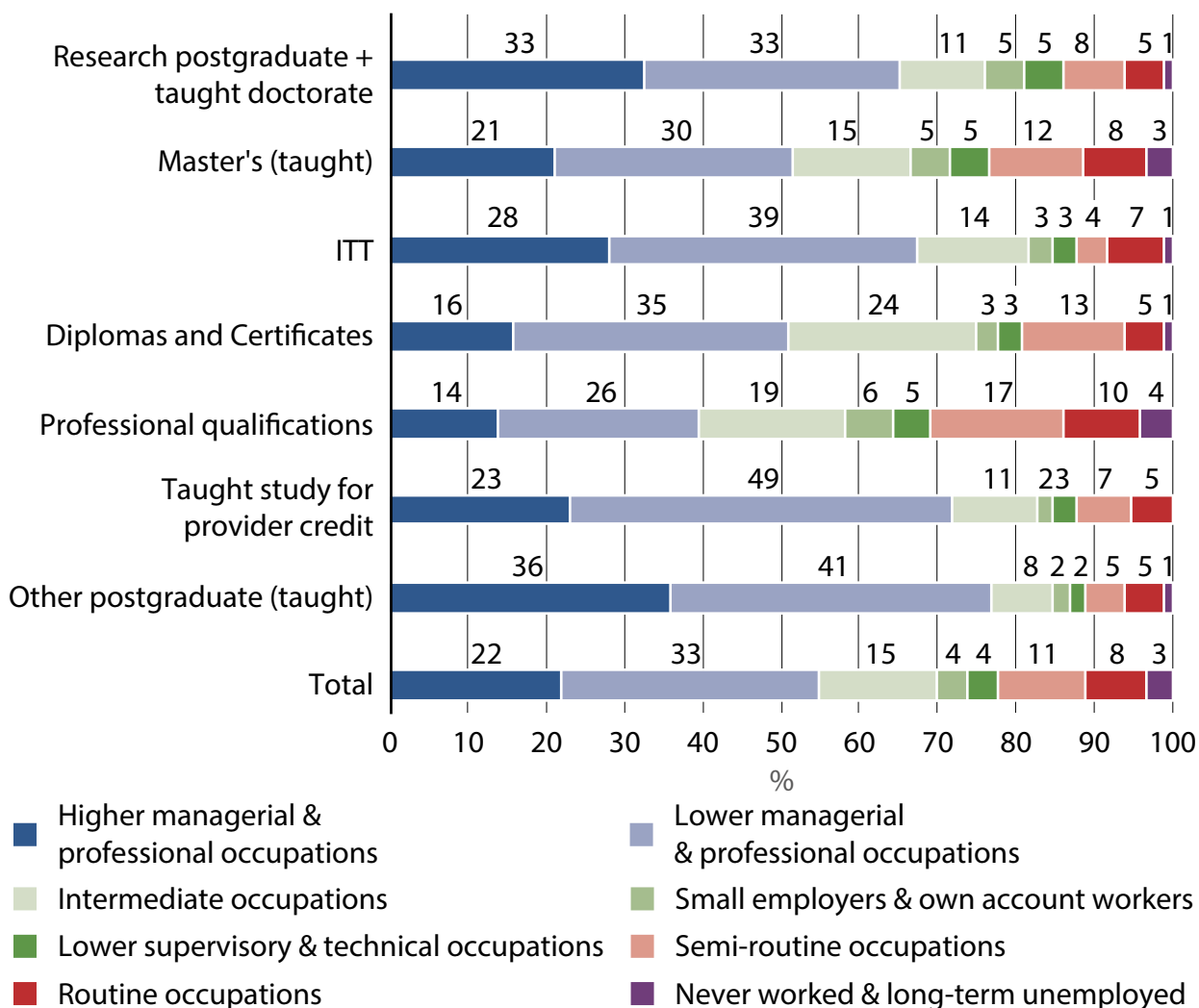
Educational (dis)advantage

HESA uses several measures to indicate the level of advantage conferred by students' backgrounds; none is perfect, and all are particularly poor at capturing the background of postgraduate students, most of whom have lived away from the parental home for some years. The main three parameters are attendance at a state or private school, socio-economic background and the POLAR data, which measure participation in higher education within a particular postcode area.

The first measure is not used in this report, as its limited two-tier classification – state or independent school – offered little in the way of useful insights. The previous HEPI postgraduate reports relied on the socio-economic classification (SEC). HESA records the SEC of the parents of students aged under 21, or of the student him/herself if aged 21 and over – which describes the vast majority of the postgraduate cohort. As such, SEC data for postgraduates tends to describe the student's socio-economic status immediately prior to studying, rather than family background. For students from less advantaged backgrounds, their classification may have already risen as a result of their undergraduate qualifications; for the children of professionals and higher managers, it may well have declined if they are only at the start of their working life. To further compound the problem, only 10% of the 2007/08 cohort answered the SEC background question, a situation that had improved only marginally in 2017/18, with an 18% response rate.

However, for comparison's sake, the following graph gives the SEC data for the 18% of UK-domiciled first-year postgraduates who did answer this question in 2017/18. It can be seen that ITT is the only area where more than 50% of the cohort are from intermediate to lower SEC backgrounds, though professional qualifications and taught Master's degrees are not far behind, with 49% of the cohort from non-professional backgrounds.

Figure 2.20 Percentage of UK-domiciled first-year postgraduates by socio-economic background, where known, 2017/18³³



³³ Based on parents' occupation if under 21 years old or their own activities before study if 21 or over.

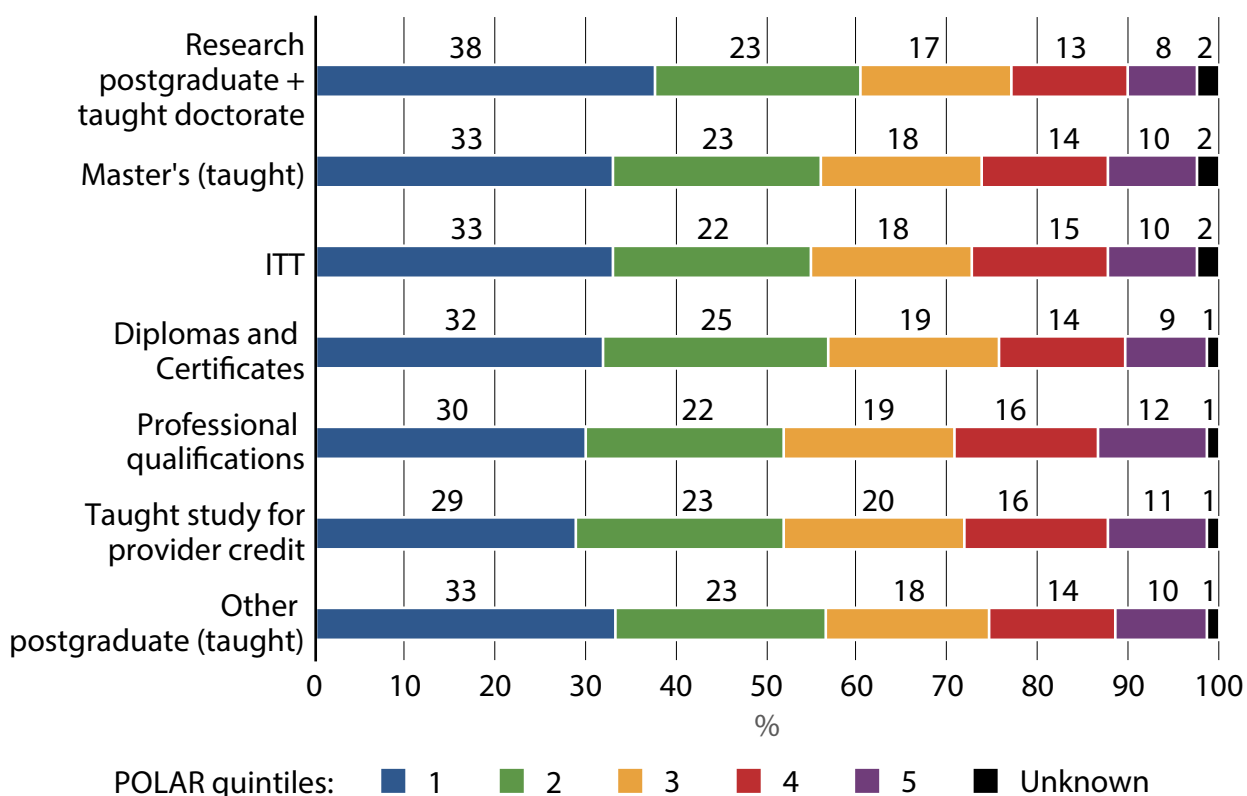
Due to the numerous limitations of SEC data, POLAR – based on how many people living in a particular postcode have participated in higher education – has become a more common way of examining social mobility through higher education.³⁴ POLAR categories are determined by dividing postcodes into five quintiles, from 1 (low participation) to 5 (high participation). POLAR has its own limitations: gentrification can change neighbourhoods rapidly and, in some cities, London being a classic example, participation levels can vary massively within a small area, along a single street or even within a single building where affordable housing has been included within luxury apartment blocks. With regards to postgraduate education, it offers similar problems to SEC figures, in that most of the cohort is over 21 and has therefore already moved away from the family home. However, POLAR's biggest advantage is that it covers 98% of the cohort, instead of 18%.

Reassuringly, the POLAR4 data for 2017/18 in Figure 2.21 shows similar trends to the SEC data with regards to ITT, with a relatively high proportion of the cohort (47%) from quintiles 1, 2 and 3. Doctorates and other research degrees are dominated by those from the two highest POLAR quintiles (61%) and those from professional SEC backgrounds (66%).

34 The Scottish Government uses an alternative measure: the Index of Multiple Deprivation. However, HESA applies POLAR data throughout the UK, so that data are presented here.

However, other aspects of the data seem quite different, with POLAR figures showing relatively strong lower-quintile (1 and 2) participation in study for provider credit (which is dominated by older, part-time students), but 72% from professional occupations. This may reflect the fact that slightly older students (late-twenties to mid-thirties), who typically study part-time while working, are already likely to be in professional jobs yet may still be living in cheaper areas as they establish their careers and pay off debts. For practical purposes, the only conclusion that can be drawn from the disparity is that neither measure is particularly useful for looking at older part-time students.

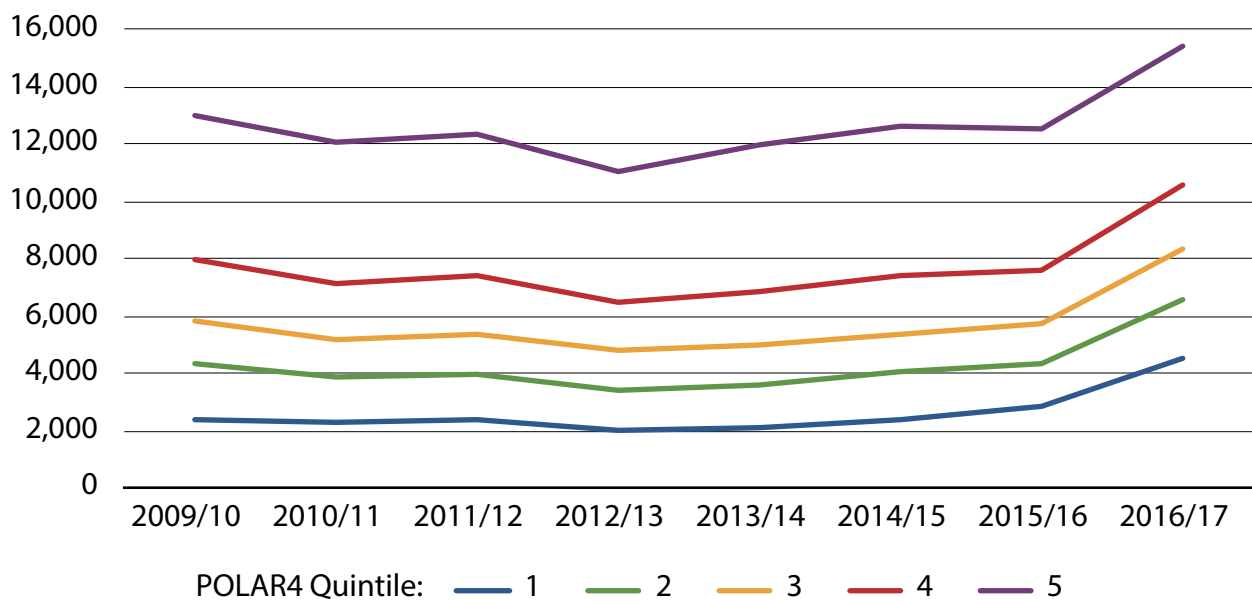
Figure 2.21 POLAR 4 quintiles of UK-domiciled first-year postgraduates, 2017/18



One of the key findings of the previous HEPI *Postgraduate Education* report was related to under-participation by students from less advantaged backgrounds, at a time when participation in higher education at undergraduate level was on the rise and competition for graduate jobs was increasing. With a Master's degree increasingly looking like the gateway to the professions, yet with little funding available other than market-rate bank loans, those from disadvantaged backgrounds were facing a new barrier to accessing these jobs.

In 2016, loans of £10,000 were introduced to cover fees and some living expenses for UK- and EU-domiciled Master’s students, with the aim of giving students from all backgrounds equal access to postgraduate education (see Chapter 5 for more details). This immediately broadened the diversity of the cohort, with increased participation on eligible courses highest among the least advantaged. The number of young entrants to eligible courses (mostly Master’s degrees, excluding those funded by the NHS) went up by 24% for quintile 5, 38% for Q4, 45% for Q3, 53% for Q2 and 59% for Q1.³⁵

Figure 2.22 Change in participation on courses eligible for Master’s loans by POLAR4 quintiles among young UK-domiciled first-year postgraduates



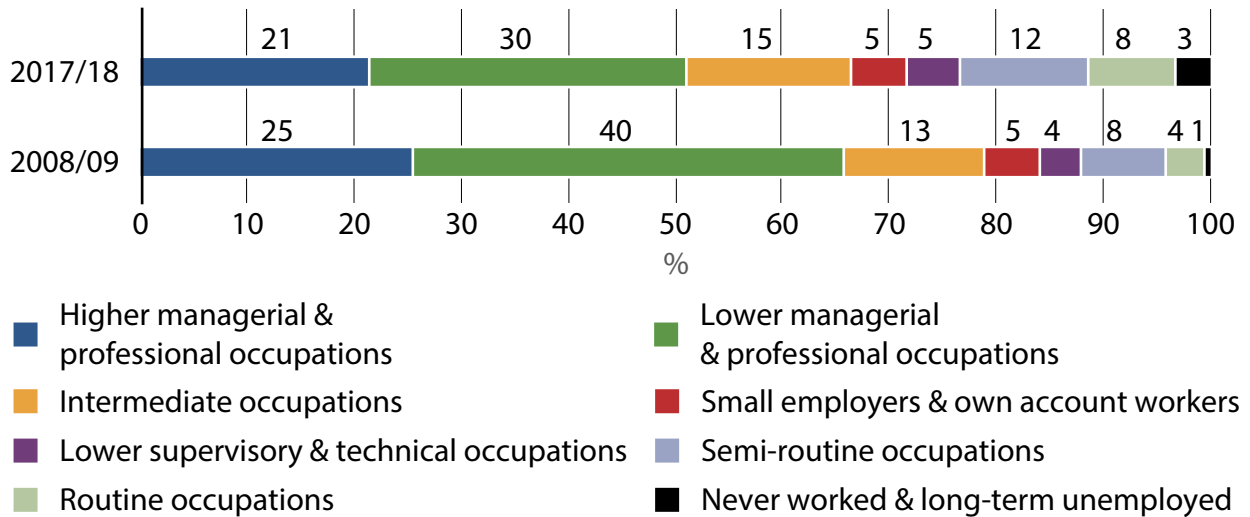
Source: Office for Students’ analysis of HESA data

Quintile 5’s share dropped from 39% of those of known POLAR background in 2009/10 to 32% in 2017/18, while the proportion of postgraduates from quintile 1 backgrounds increased from 7% to 10%.

35 *The Effect of Postgraduate Loans*, Office for Students, 2018.

The change is also reflected in the socio-economic data: the backgrounds of UK-domiciled Master’s students (where known) does seem to have become substantially more mixed since 2008/09, with the proportion from the highest two SEC bands having declined from 65% to 51%.

Figure 2.23 Change in socio-economic background of UK-domiciled first-year taught Master’s students, where known



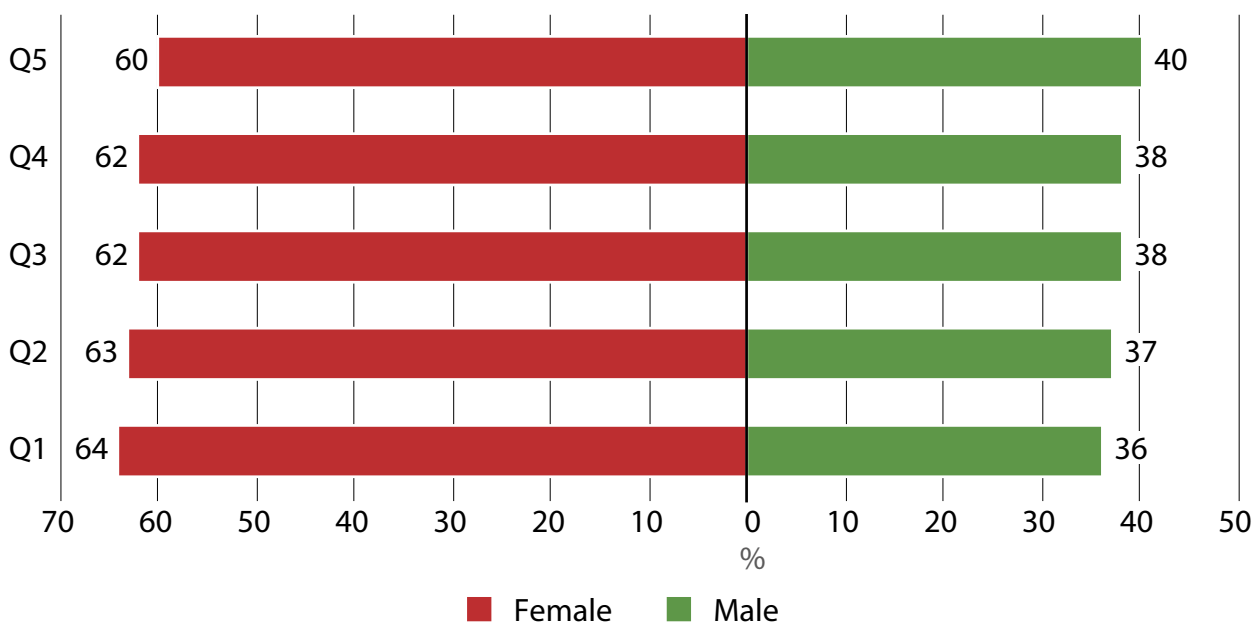
In terms of subject areas, Medicine, Mathematical Sciences, History & Philosophy, Architecture, and Languages are the most popular for students in quintile 5, suggesting they may be more ‘elite’ subjects. Social Studies, Education and Subjects Allied to Medicine have the highest participation from quintile 1, reflecting the higher proportion of teachers and nurses from less advantaged backgrounds compared to other professions – or, to put it another way, the importance of these careers in terms of access to the professions. However, even in these subjects, participation from the lower three quintiles is below the 20% that would represent equal participation across the board. It is also worth recalling that Subjects Allied to Medicine and Education are the most popular postgraduate subject areas overall, with 18% and 21% of the cohort respectively.

Table 2.10 Subject of study by POLAR data for first-year UK-domiciled postgraduates, 2017/18, ordered according to participation from quintile 5 to highlight 'elite' subjects

	5 (%)	4 (%)	3 (%)	2 (%)	1 (%)	Unknown (%)
Medicine & Dentistry	42	24	16	10	7	1
Mathematical Sciences	38	23	17	12	8	2
Historical & Philosophical Studies	38	23	17	14	8	1
Architecture, Building & Planning	37	25	17	12	8	1
Languages	37	23	17	12	9	1
Agriculture & Related Subjects	34	24	17	14	10	2
Physical Sciences	34	23	18	14	9	2
Law	34	23	17	14	10	2
Business & Administrative Studies	34	23	17	13	9	3
Mass Communications & Documentation	34	23	18	13	11	2
Creative Arts & Design	34	24	18	14	10	1
Engineering & Technology	33	22	19	14	10	2
Combined	33	20	19	15	12	0
Biological Sciences	32	23	18	15	11	1
Veterinary Science	32	22	19	10	7	11
Computer Science	32	24	18	13	11	2
Education	31	23	19	16	11	1
Subjects Allied to Medicine	30	23	20	16	11	1
Social Studies	30	23	19	15	12	1

Although women participate more than men across all quintiles, the imbalance is even more pronounced in the lowest-participation neighbourhoods, echoing findings elsewhere in this report (and across the literature and press) that suggest the education system is currently failing to lift up many young males from disadvantaged backgrounds.

Figure 2.24 First-year postgraduates in 2017/18 by POLAR4 quintile and sex



Transnational higher education

One major area of expansion in higher education in the last few years has been the provision of UK qualifications to students studying wholly outside the UK (not including those who come to the UK for a year as part of a sandwich course). In 2017/18, 139 of the 168 higher education providers were offering some form of transnational provision (up from 111 in 2007/08), with 130 offering postgraduate qualifications.³⁶

There are now more students enrolled in transnational education (known as TNE) courses overseas than there are overseas students within the UK. In 2017, there were 127,825 studying for postgraduate qualifications based wholly abroad – almost 16,000 more than the total number of other EU and non-EU students studying for postgraduate degrees within the UK (111,920). This is an increase of 108% since the previous *Postgraduate Education* report, when numbers stood at 61,420.

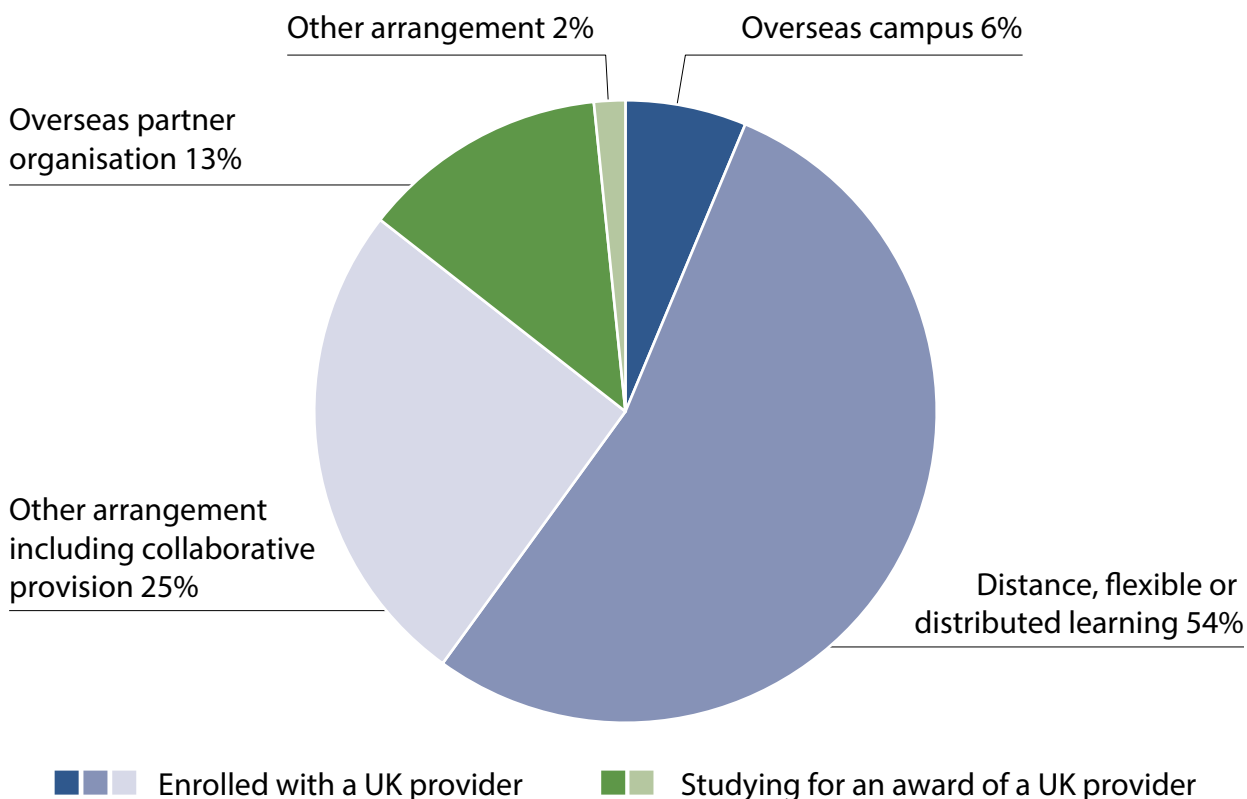
³⁶ All data for this section is from HESA's *Aggregate Offshore Record*; www.hesa.ac.uk/data-and-analysis/students/where-from/transnational

Several methods of provision have been developed, some of which involve students being registered as students of the UK provider, while others involve students registered at a partner organisation overseas studying for UK qualifications. Arrangements for provision include universities setting up branch campuses abroad, distance learning packages modelled on the Open University and collaborative (or 'franchised') provision where students are supported and/or assessed through a partner institution abroad.

Table 2.11 Number of students studying wholly abroad by type of provision, 2017/18

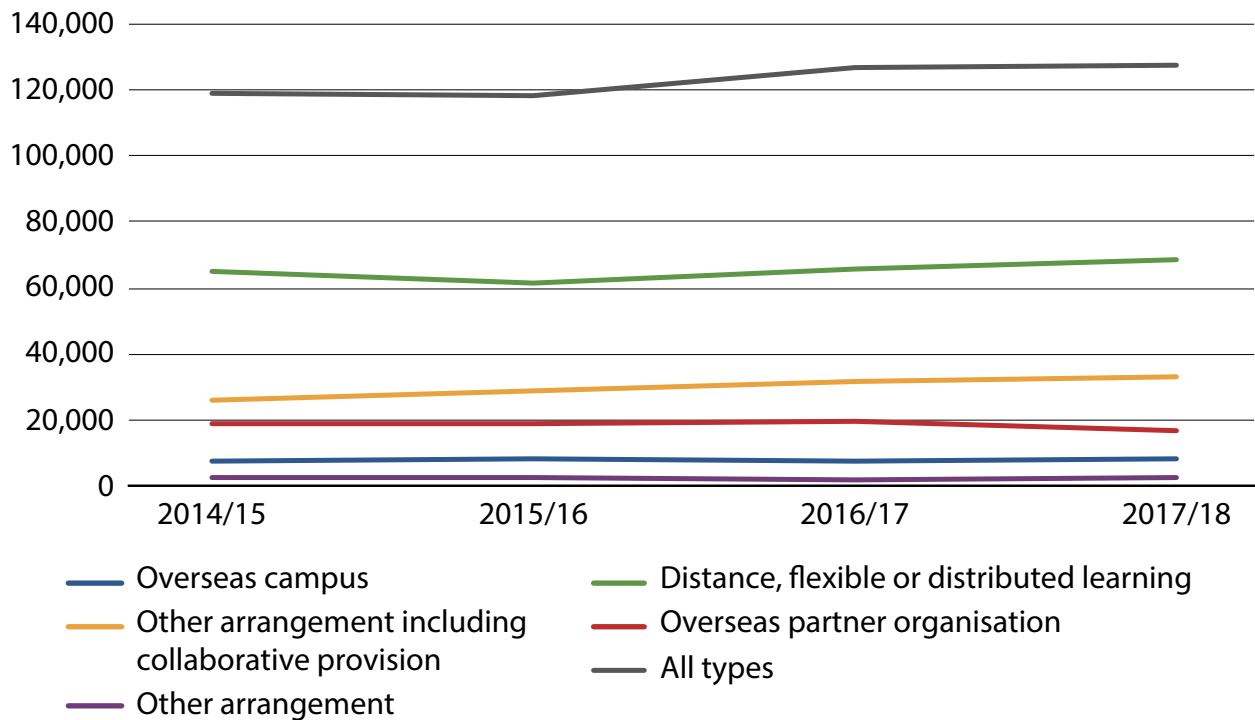
		PGR	PGT	Total
Students registered at a UK higher education provider	Overseas campus	865	7,180	8,045
	Distance, flexible or distributed learning	3,995	64,645	68,640
	Other arrangement including collaborative provision	1,290	31,390	32,680
Students studying for an award of a UK higher education provider	Overseas partner organisation	420	15,965	16,385
	Other arrangement	–	2,075	2,075

Figure 2.25 Proportion of postgraduate students by type of transnational provision



There has been a general increase in the number of students undertaking postgraduate transnational education, though there has been a shift away from those studying for an award from a UK provider while registered at a local institution towards students actually being registered with the UK provider, with a 12% decline in the former and a 27% increase in the latter.

Figure 2.26 Number of postgraduate students studying via UK transnational education



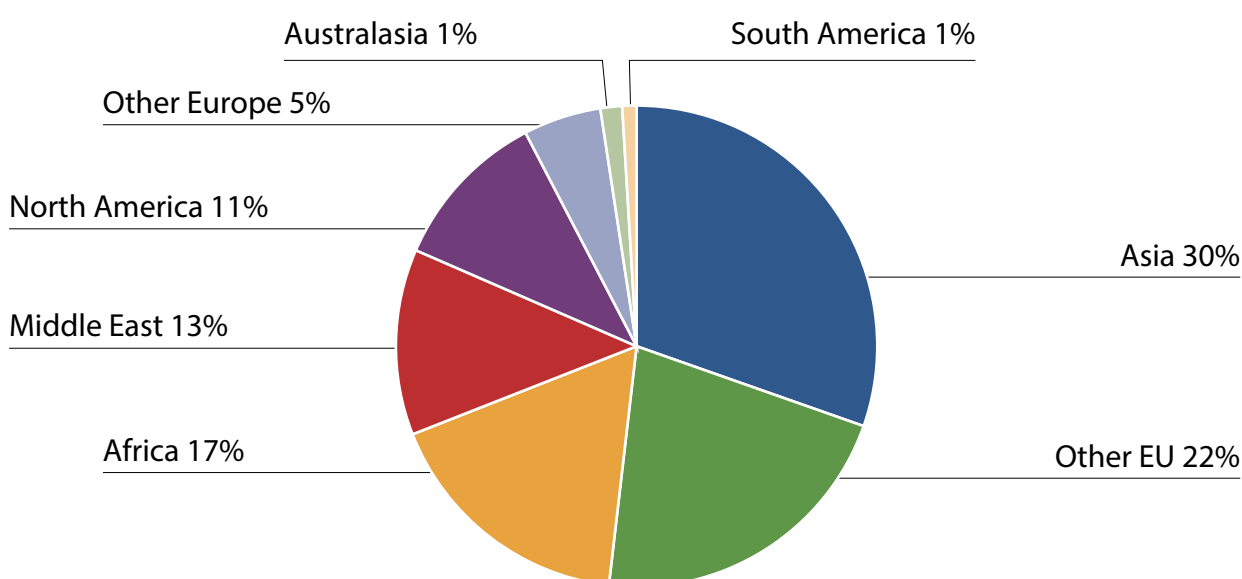
The profile of universities involved in overseas provision is very mixed, with many newer universities among the top providers. This suggests that overseas provision has allowed post-1992 institutions to expand their international reach through the transnational education market. The following table shows the top ten institutions according to how many postgraduate students they are providing for.

Table 2.12 Top ten institutions for postgraduate UK transnational education students, 2017/18

Postgraduate research		Postgraduate taught	
Institution	No. students	Institution	No. students
Nottingham	740	Heriot-Watt	8,460
Liverpool	515	University of London Institute in Paris and School of Advance Study	7,455
Heriot-Watt	370	Roehampton	6,130
Middlesex	370	Liverpool	5,885
Cambridge	365	South Wales	5,280
Open University	285	Cardiff Metropolitan	4,440
Gloucestershire	265	Nottingham	4,105
Leicester	235	Coventry	3,880
Wales Trinity Saint David	205	Salford	3,690
Bath	200	Anglia Ruskin	3,495

Students in Asia and other EU countries together account for over half of the 2017/18 postgraduate cohort, followed by Africa (17%) and the Middle East (13%). The country with the most transnational education postgraduates is Sri Lanka, followed by the United Arab Emirates, Malaysia, Cyprus and China, in that order.

Figure 2.27 Postgraduate transnational higher education students by domicile



Alternative providers

HESA defines alternative providers as institutions which offer higher education courses but do not receive recurrent funding from the funding councils or other public bodies and which are not further education (FE) colleges. However, of the multitude of alternative providers, only those that have successfully applied to join the Office for Students' Register³⁷ are required to submit data to HESA.³⁸

In 2017/18, there were 15,850 taught postgraduates and 190 research postgraduates at alternative providers; for designated courses only, the numbers were 15,050 and 90 respectively. Three-quarters of this cohort were studying at only three specialist institutions.

Table 2.13 Number of postgraduate students, all years, at alternative providers, 2017/18

	UK	EU	Non-EU	Total Non-UK	Total
The University of Law	4,875	220	410	635	5,505
BPP University	3,795	260	1,390	1,650	5,450
University College of Estate Management	1,080	0	0	0	1,080
Other 45 providers	2,630	305	1,035	1,350	4,005
Total	12,395	800	2,845	3,640	16,040

Although currently a minor area of the postgraduate landscape, provision at alternative providers looks set to increase over coming years, and may form a more significant part of any future reports.

37 www.officeforstudents.org.uk/advice-and-guidance/the-register/the-ofs-register

38 www.hesa.ac.uk/news/14-02-2019/sb254-higher-education-student-statistics-APs/notes
The University of Buckingham is an alternative provider but returns data through the HESA Student record and is therefore not covered in Table 2.13.

Key trends in postgraduate study

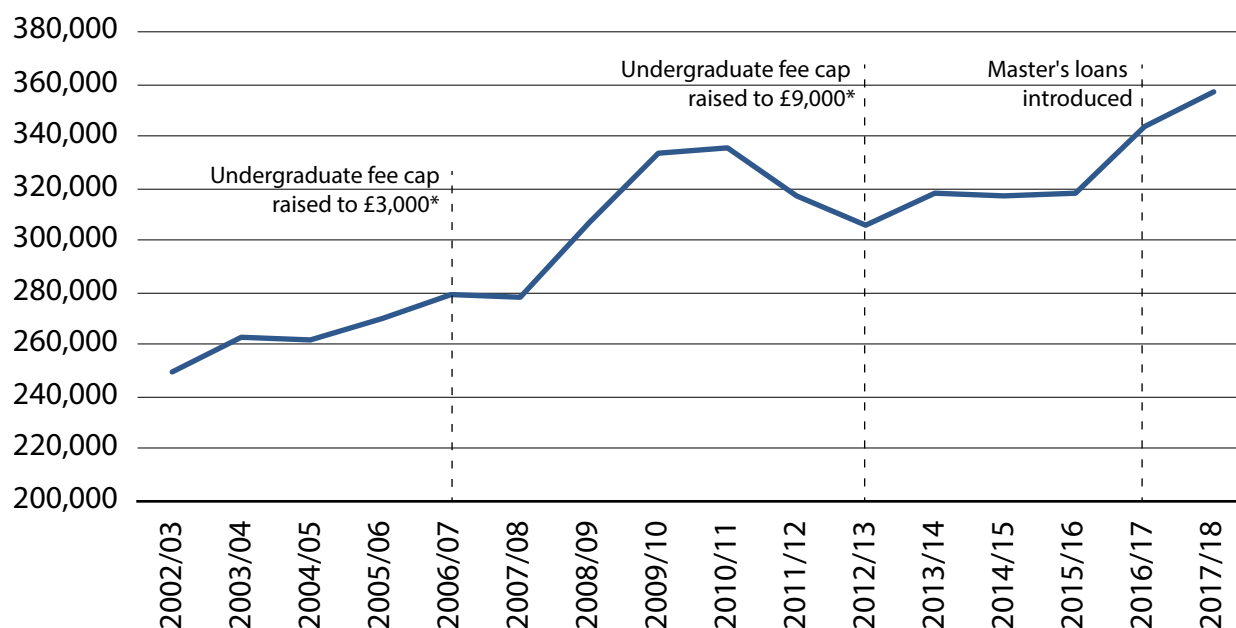
The following chapter explores trends in postgraduate student numbers between 2008/09 and 2017/18, showing overall trends in the various qualification types. It shows that while postgraduate numbers have increased, there has been a great deal of volatility in student numbers, especially within the taught Master's cohort, and with changes particularly pronounced among UK-domiciled students. It explores a decade of major changes to Initial Teacher Training and seeks the story behind changes in other types of postgraduate course. It goes on to examine trends according to domicile, poring over the many policy changes over the last decade which have driven fluctuations in UK, EU and other international student numbers.

In 2008/09, at the start of the study period, there were 306,654 first-year postgraduates studying in the UK. By 2017/18, this had grown by 16% to 356,996. However, numbers have not increased as smoothly as in preceding years, but risen and fallen due to a variety of factors, some domestic and some affecting international students. These include:

- the 2008 financial crash;
- the introduction of Master's loans in 2016/17;
- changes to undergraduate fee, loan and repayment terms;
- changes to provision for Initial Teacher Training and funding for post-qualification study;
- the UK's 2016 vote to leave the EU; and
- changes to immigration and visa policies affecting overseas students.

The interactions of these factors are not straightforward and have had effects in both directions. For example, the UK's 2016 vote to leave the EU could be behind a trailing off in interest from EU-domiciled postgraduate researchers, but is also probably indirectly involved in increased demand from overseas students due to the reduction in the value of the pound, making UK courses cheaper from an overseas perspective.³⁹

Figure 3.1 First-year postgraduate students at UK higher education providers 2002/03 to 2017/18



* Initially, in England only.

Level of study

The 16% growth in postgraduate numbers has mainly been driven by taught Master's enrolments, which have grown by 30%. Overall, there has been a 17% increase in doctoral (research + taught) and other types of research degree, though there have been some changes to the specific degree types that students are registering for.

The same period has seen a 10% decline in other types of taught postgraduate degree (excluding Master's and ITT). These are the courses more often taken by older part-time students, so the trend reflects a decline in those cohorts, as discussed in more detail below.

39 See also Conlon et al., *The determinants of international demand*.

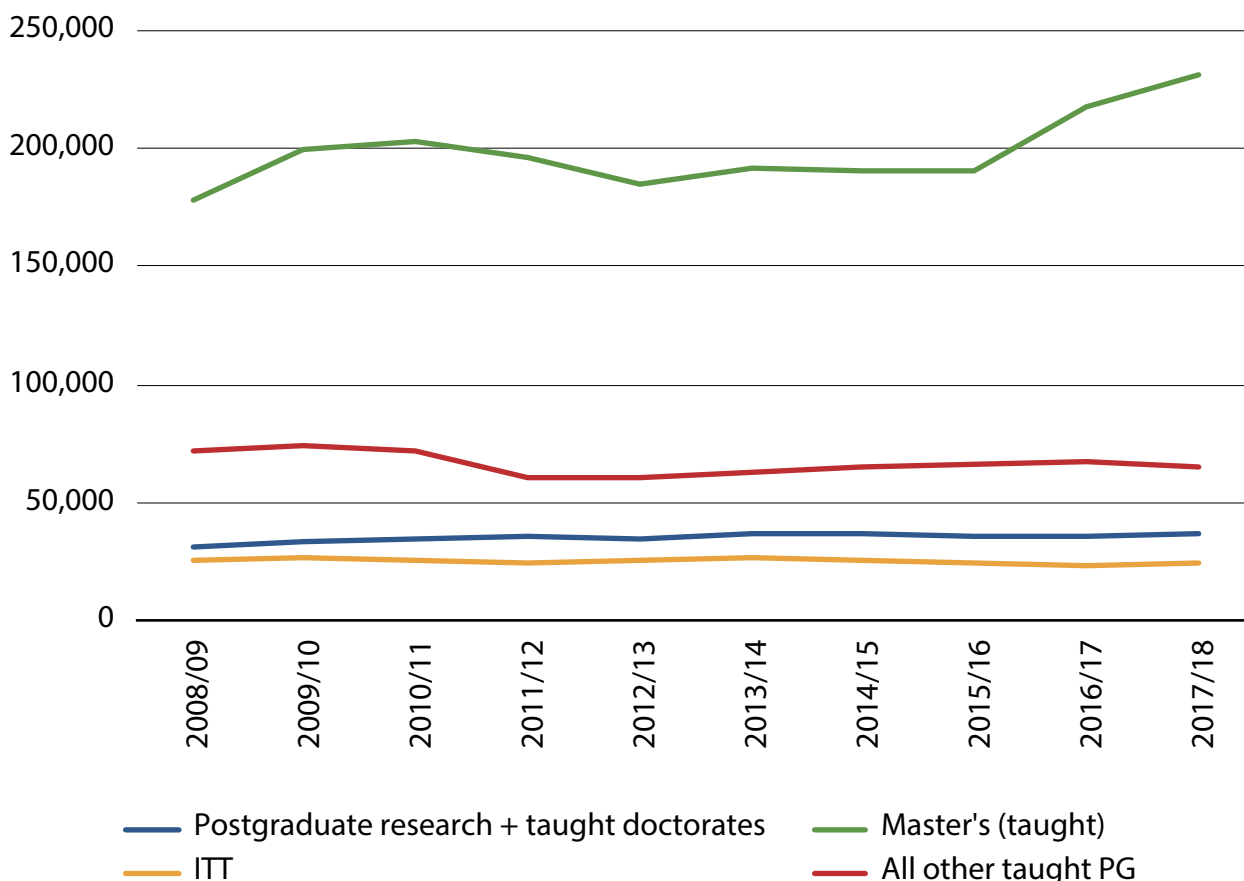
The relatively small decline (-4%) in ITT masks some serious under-recruitment problems in certain subject areas. This is discussed further below, using Department for Education data, since HESA does not capture data for all pathways into teaching.

Table 3.1 First-year postgraduate students by qualification aim, 2008/09 and 2017/18

	2008/09	2017/18	Change (n)	Change (%)
Doctorate (research)	21,876	29,026	7,150	33
Master's (research)	8,066	6,455	-1,611	-20
Other postgraduate (research)	378	564	186	49
Doctorate (taught)	817	480	-337	-41
Total postgraduate research + taught doctorate	31,137	36,525	5,388	17
Master's (taught)	177,713	230,949	53,236	30
ITT	25,392	24,414	-978	-4
Diplomas and Certificates	5281	18,399	13,118	248
Professional qualifications	19,919	11,519	-8,400	-42
Taught course for provider credit	14,657	19,472	4,815	33
Other postgraduate (taught)	32,555	15,718	-16,837	-52
Total all other taught postgraduate	72,412	65,108	-7,304	-10
Total	306,654	356,996	50,342	16

Looking at year-on-year trends, there has been great volatility in taught Master's numbers. Research degree numbers have been largely unaffected by these shifts, probably because the majority (at least 59%) of doctoral students are funded by the Research Councils or other sources, rather than directly by students themselves and the number of available grants is tightly controlled.

Figure 3.2 Trends in first-year postgraduates by level of study, 2008/09 to 2017/18



Postgraduate research degrees and taught doctorates

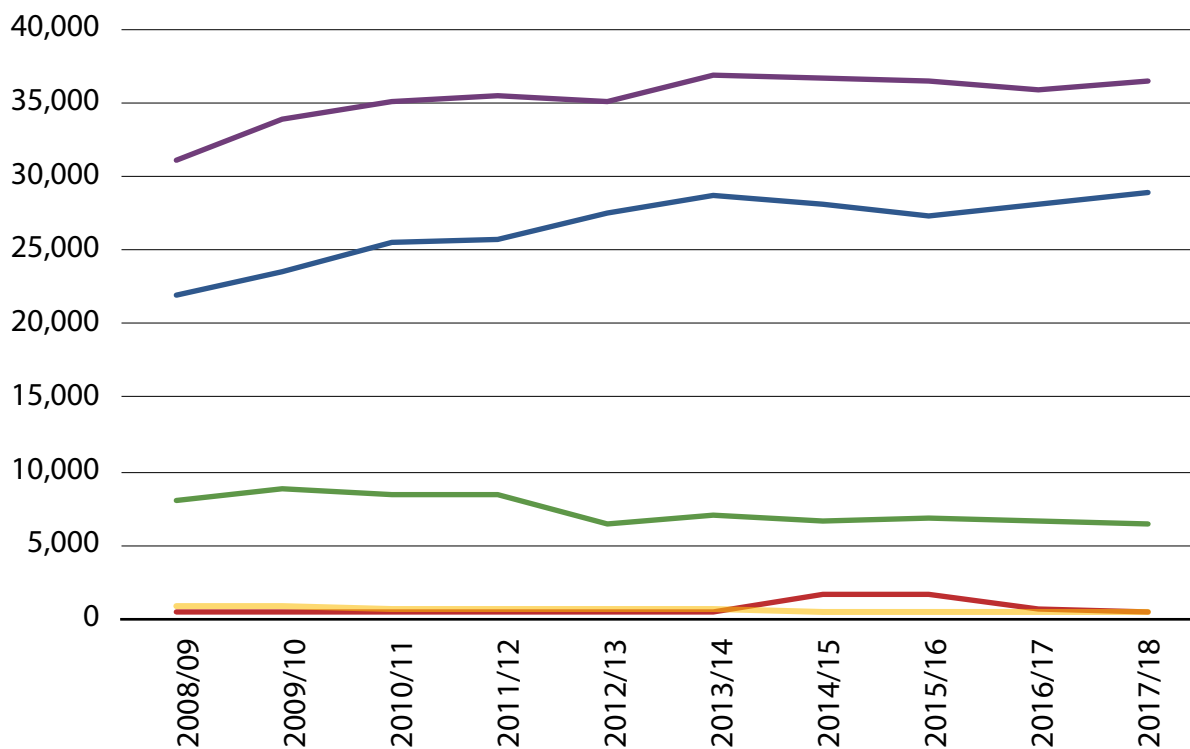
It is worth bearing in mind that those starting doctoral studies are often registered as Master's by research students for their first year or two, until it is clear their research will lead to a viable doctoral degree.

Overall, the number of first years registered for research doctorates has risen by 33% since 2008/09, although the period of growth was mainly up to 2013/14.

The brief decline in research doctorate starters in 2014/15 and 2015/16 is partially matched by an increase in the 'other postgraduate research' category – specifically in a category for those beginning a course that may ultimately lead to a Master's by research or a doctorate. In other words, it may be an artefact of how students were being registered rather than a substantial shift in uptake. Similarly, the dip in research

Master's numbers in 2012/13 may, to some extent, reflect more students aiming for doctorates being registered as such, though further research would be needed to confirm this.

Figure 3.3 Research postgraduate and taught doctorate trends since 2008/09



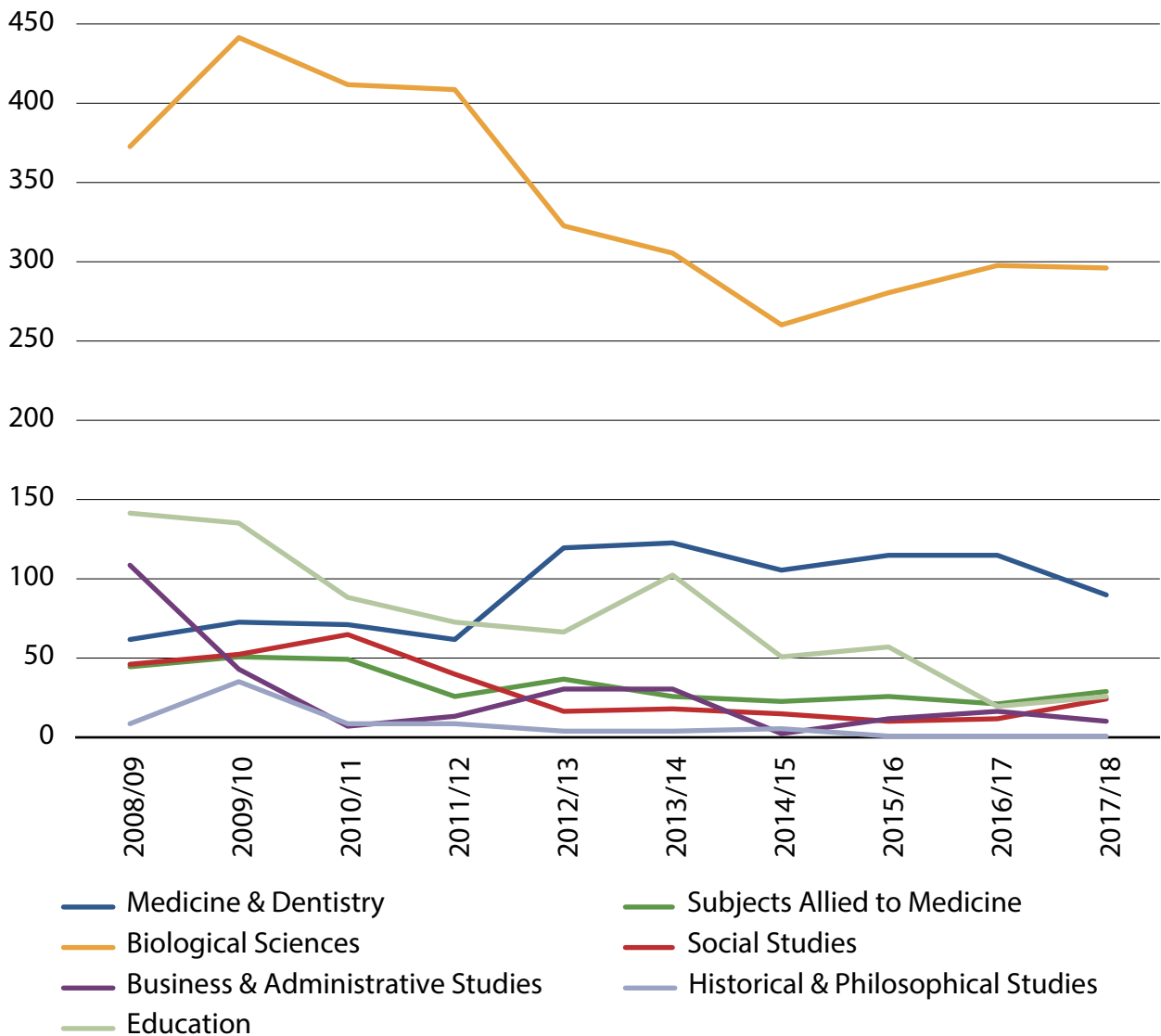
Doctorate (research)	21,876	23,586	25,562	25,770	27,622	28,775	28,159	27,410	28,101	29,026
Master's (research)	8,066	8,831	8,440	8,466	6,489	7,117	6,558	6,864	6,632	6,455
Other postgraduate (research)	378	567	397	541	461	393	1,601	1,702	605	564
Doctorate (taught)	817	874	711	634	600	609	463	507	484	480
Total	31,137	33,858	35,110	35,411	35,172	36,894	36,781	36,483	35,822	36,525

- Doctorate (research)
- Master's (research)
- Other postgraduate (research)
- Doctorate (taught)
- Total

One clear trend is that taught doctorate numbers, which were on the increase at the time of the 2010 *Postgraduate Education* report, are in decline across all subject areas, suggesting that this in-between degree that tries to straddle the worlds of vocational study and research might be on the way out.

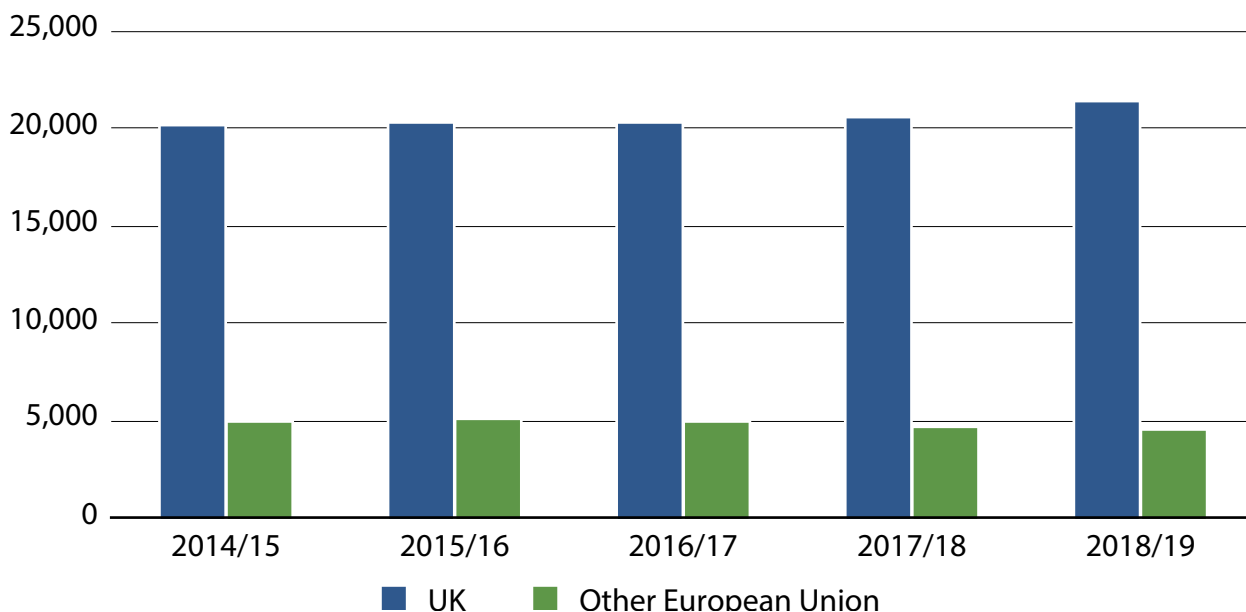
The decline in taught doctorates has been particularly marked in Education, suggesting the EdD (Doctorate of Education) has either become less popular or has been hit by the aforementioned cuts to funding for teachers' professional development. Generally speaking, the numbers are so low that taught doctorates cannot be said to represent an important part of the postgraduate landscape and are therefore mainly considered alongside research doctorates in this report.

Figure 3.4 Trends in first-year taught doctoral students by subject area, excluding subjects with fewer than 20 students in any year



Arguably, the biggest story in research degrees lies just off the edge of these charts: in 2018/19 loans of up to £25,700 over the entire period of study became available for doctoral study, theoretically opening the field up to more students who are unable to obtain Research Council funding. HESA’s 2018/19 student data release (which came out shortly before publication of this report and is thus not included in the bespoke dataset) suggests these loans may have led to a modest rise in UK-domiciled research students (3.6% on the previous year), although numbers were already on the increase. Interest from potential PhD students may be tempered by the fact that these loans only partially cover the full costs – including living expenses – of doctoral study.⁴⁰ The availability of loans has not, however, reversed the decline in EU student numbers, which have been in decline since the Brexit referendum (down 9% since 2016/17), as discussed further below.

Figure 3.5 UK- and EU-domiciled first-year postgraduate research students 2014/15 to 2018/19



Source: HESA *Students* SB255 Figure 8

40 Indicated in a survey run by FindaUniversity; see Mark Bennett, ‘Doctoral loans have not radically changed PhD recruitment’, *Wonkhe*, 11 March 2020.

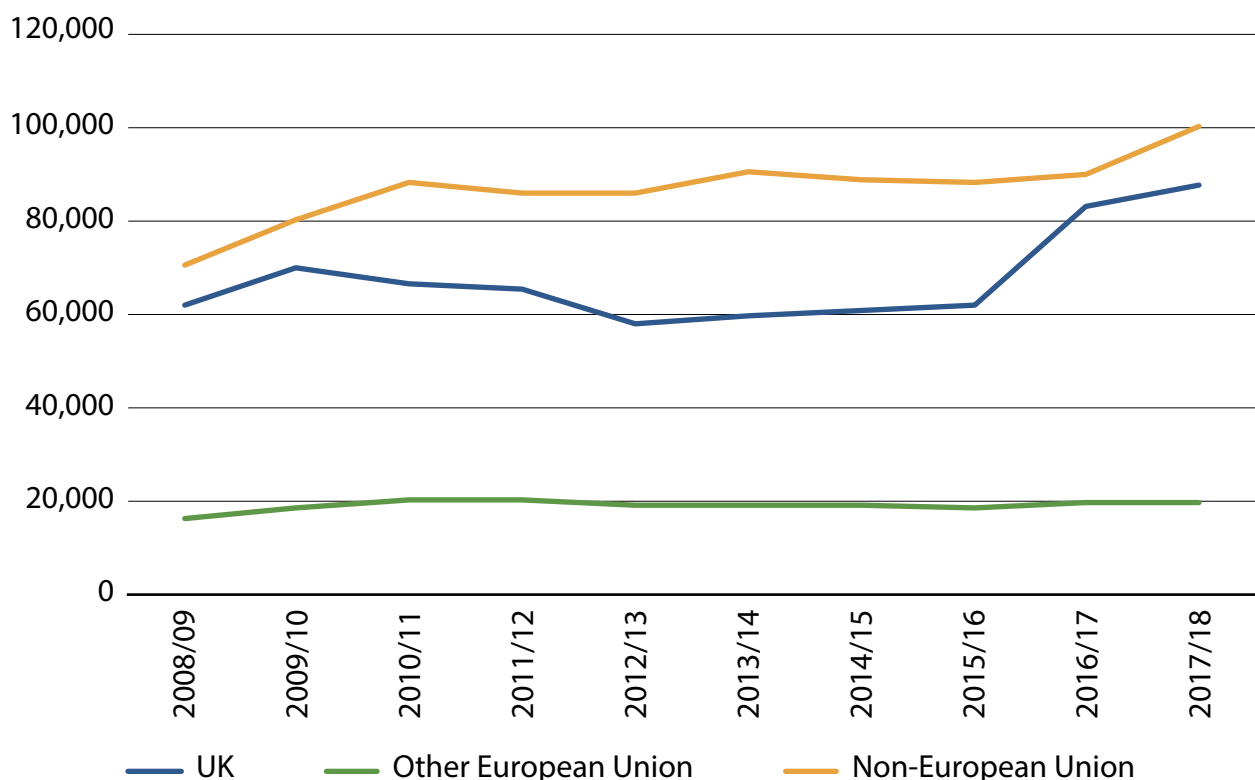
Taught Master's trends

The taught Master's degree is the most sizeable area of postgraduate provision in the UK. Very few students manage to get funded places – such as university fee waivers – so numbers are strongly affected by market forces.

Given that 40% of UK-domiciled Master's students are part-time, compared to 3% of international students, we can get a better idea of the actual mix, and the implications for universities' finances, by looking at assumed full-time equivalent (FTE) numbers, counting those studying part-time as 'half'.

Looked at this way, non-EU postgraduates have outnumbered UK students throughout the research period, with the gap particularly marked between 2010/11 and 2015/16. This highlights universities' increasing reliance on international students over a period when participation by home students was declining. However, UK student numbers recovered after the introduction of Master's loans in 2016/17, closing the gap with non-EU students once again.

Figure 3.6 Trends in full-time equivalent first-year taught Master's students by domicile



Initial Teacher Training

Initial Teacher Training (ITT) is the segment of higher education responsible for training the next generation of teachers. The Postgraduate Certificate of Education (PGCE) and its Scottish equivalent, the Professional Graduate Diploma in Education (PGDE), is the most important and widely-sought of several postgraduate options leading to Qualified Teacher Status (QTS). Since 2016/17, two-year Postgraduate Diploma of Education courses have also been offered, providing double the number of credits compared to a PGCE. In 2017, 3% of first-year ITT students were studying for these (727 students).

The following discussion focuses primarily on the English system, bearing in mind the devolved administrations have autonomy over teacher training and in some cases present quite a different picture.⁴¹

The number of available ITT places and bursaries is determined using the Teacher Supply Model, which assesses gaps and predicts future shortfalls in staffing, subject by subject, based, among other factors, on population change and the attrition rate of teachers leaving the profession. At the time of the previous report, the Training and Development Agency for Schools was responsible for allocating places; from 2013 to 2018, it was handled by the now defunct National College for Teaching and Leadership. Both were semi-autonomous bodies, but in 2018, the Department for Education took over the responsibility directly.⁴²

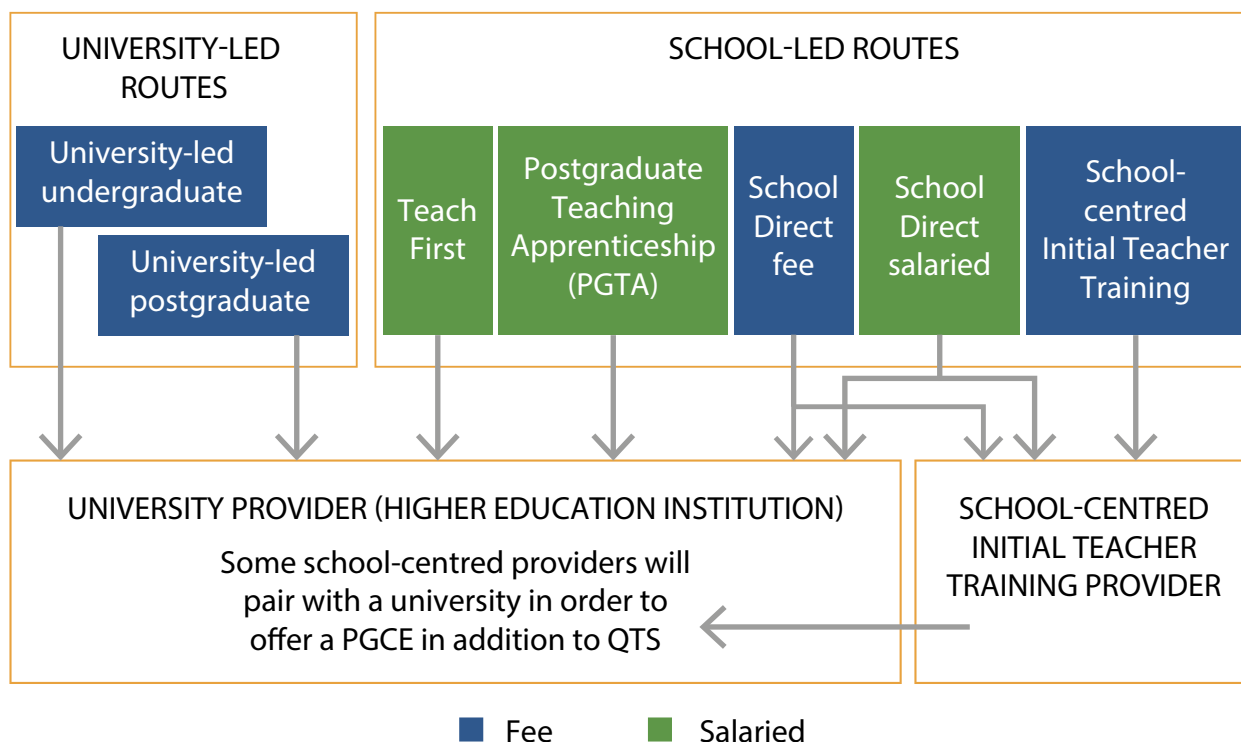
Another major change over the last decade has been the shift from university-based study (which still involves a substantial school-based component) towards school-based pathways for gaining Qualified Teacher Status, either as a salaried trainee teacher, or as a fee-paying (but usually funded) student teacher. Most school-based pathways are operated in partnership with and accredited by higher education institutions, but they involve a greater balance of classroom time and are usually based in a single school, whereas university-led courses tend to involve placements across several institutions and more time is spent with peers in lectures taught by Education specialists.⁴³

41 For Wales, see <https://gov.wales/initial-teacher-education-ite>; for Scotland, see www.gov.scot/policies/schools/teachers; and for Northern Ireland www.education-ni.gov.uk/topics/teaching-staff/teacher-qualifications-and-registration

42 For a thorough account of ITT policy and bodies going back to 1994, as well as the pros and cons of independent versus government-run oversight, see John Cater, *Whither Teacher Education and Training?* HEPI, 2017.

43 *Training new teachers*, Department for Education and National Audit Office, 2016.

Figure 3.7 The main routes to Qualified Teacher Status



Sources: NAO, *Training new teachers*, p.9; *ITT Census for 2018 to 2019, England*, Department for Education

This rapid shift from provision by universities began in 2012, when the then Secretary of State for Education, Michael Gove, declared that by 2015, 50% of all teacher training should take place in schools.⁴⁴ As a result, the proportion of ITT students based in universities dropped from 80% in 2011/12 to 45% in 2019/20.⁴⁵ This shift may well speak more of the existence of the target and the way bursaries have been allocated to meet it than it does about the preferences of trainee teachers, though the qualitative analysis needed to assess this goes beyond the scope of this report.

Although most (but not all) school-based trainees are still registered with an accrediting university, universities can no longer rely on predictable fee income from ITT due to fluctuations in allocations and demand, causing ITT provision to be seen as ‘medium to high risk’ by several higher education institutions.⁴⁶ This may have led to the closure of a small number of courses (for example, at the University of Bath) and is likely connected to the Institute of Education’s merger with University College London.⁴⁷

44 Cater, *Whither Teacher Education*, p.16.

45 *Initial Teacher Training (ITT) Census for 2019 to 2020, England*, Department for Education, November 2019.

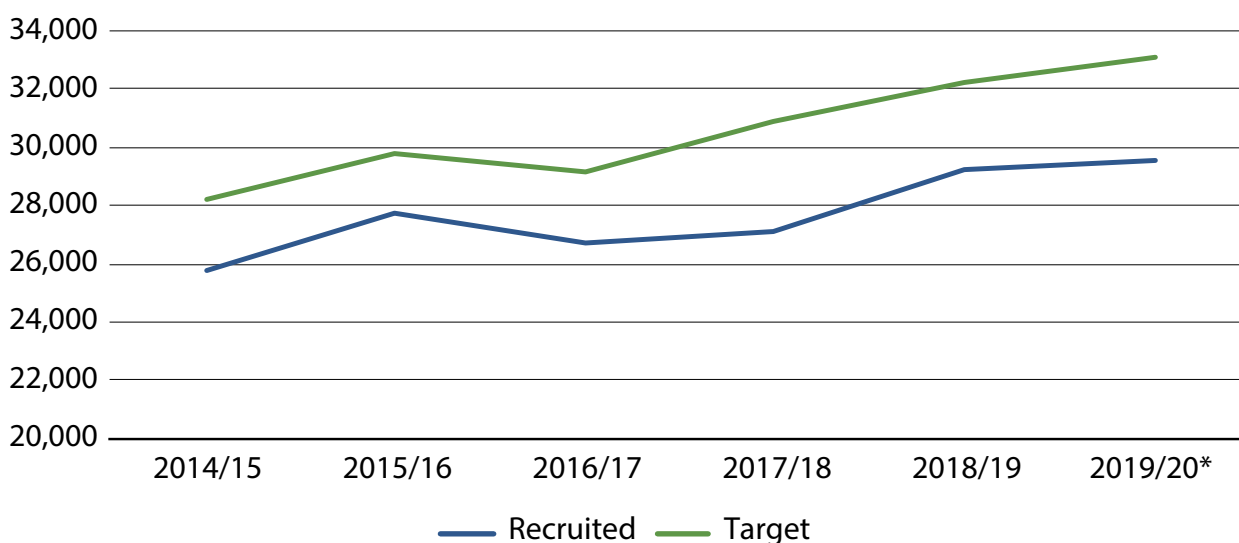
46 *The Impact of Initial Teacher Training Reforms on English Higher Education Institutions*, Universities UK, 2014, p.16.

47 John Cater, email to the author, 27 February 2020.

Another important reform is the raising of the entry bar to teacher training: from 2013/14, applicants were required to hold at least a 2:2 degree in the relevant subject and pass a pre-study numeracy and literacy test.⁴⁸ Amid concerns the new entry requirements were damping demand during a recruitment crisis, the test is being dropped from April 2020 and replaced by a basic skills assessment at the end of training.⁴⁹

Over the last decade, there has been a dual crisis in both recruitment and retention of teachers, with recruitment consistently below target since 2012/13.⁵⁰

Figure 3.8 Postgraduate ITT new entrants and targets for England, 2014/15 to 2019/20⁵¹



* 2019/20 total includes forecast trainees.

Source: *ITT Census for 2019 to 2020*, Department for Education

Recruitment is more successful in some subjects than others, with Biology, History, Geography and English exceeding their targets in 2018/19. However, Physics, Modern Languages, Mathematics, Chemistry, Computing, Music and many other subjects remain below target.⁵²

48 *The Impact of Initial Teacher Training Reforms*, p.17; Cater, *Whither teacher education*, p.18.

49 www.gov.uk/government/news/changes-to-the-professional-skills-test-for-teachers

50 D. Foster, *Teacher recruitment and retention in England*, House of Commons Briefing Paper, February 2019, p.4.

51 2019/20 total includes forecast trainees.

52 *Initial Teacher Training (ITT) Census for the academic year 2019 to 2020, England*, Department for Education, 2019, p.4.

The joint problems of under-recruitment and poor teacher retention are particularly pressing, as a population bulge is currently making its way through schools. With secondary school pupil numbers set to rise by 15% between 2018 and 2024, it is essential that this gap is closed soon.⁵³ A number of government initiatives and pilot schemes are being rolled out to address this:⁵⁴

- a two-year package of additional early-career support, including time outside the classroom for professional development;
- early-career retention bursaries three and five years into the job for target subjects;
- a student loan reimbursement programme;
- reducing workload pressures created by the accountability system; and
- the creation of a centralised teaching vacancy website.⁵⁵

It is worth noting that recruitment problems are not confined to England: Scotland⁵⁶ and Wales⁵⁷ are also struggling to meet teacher recruitment targets.

Other types of taught postgraduate study

There has been a substantial increase in numbers studying for diplomas and certificates (248%), following the introduction of a new HESA designation for 'certificates at level M' (ordinary taught postgraduate level) in 2012/13. Over half (9,191) the students in the 'diplomas and certificates' group are classified under this course aim. It is possible that this accounts for some of the decline in 'other postgraduate (taught)' numbers, if a previously undefined course aim was given this designation.

53 Ibid. p. 7.

54 See *Teacher Recruitment and Retention Strategy*, Department for Education, 2019.

55 <https://teaching-vacancies.service.gov.uk>

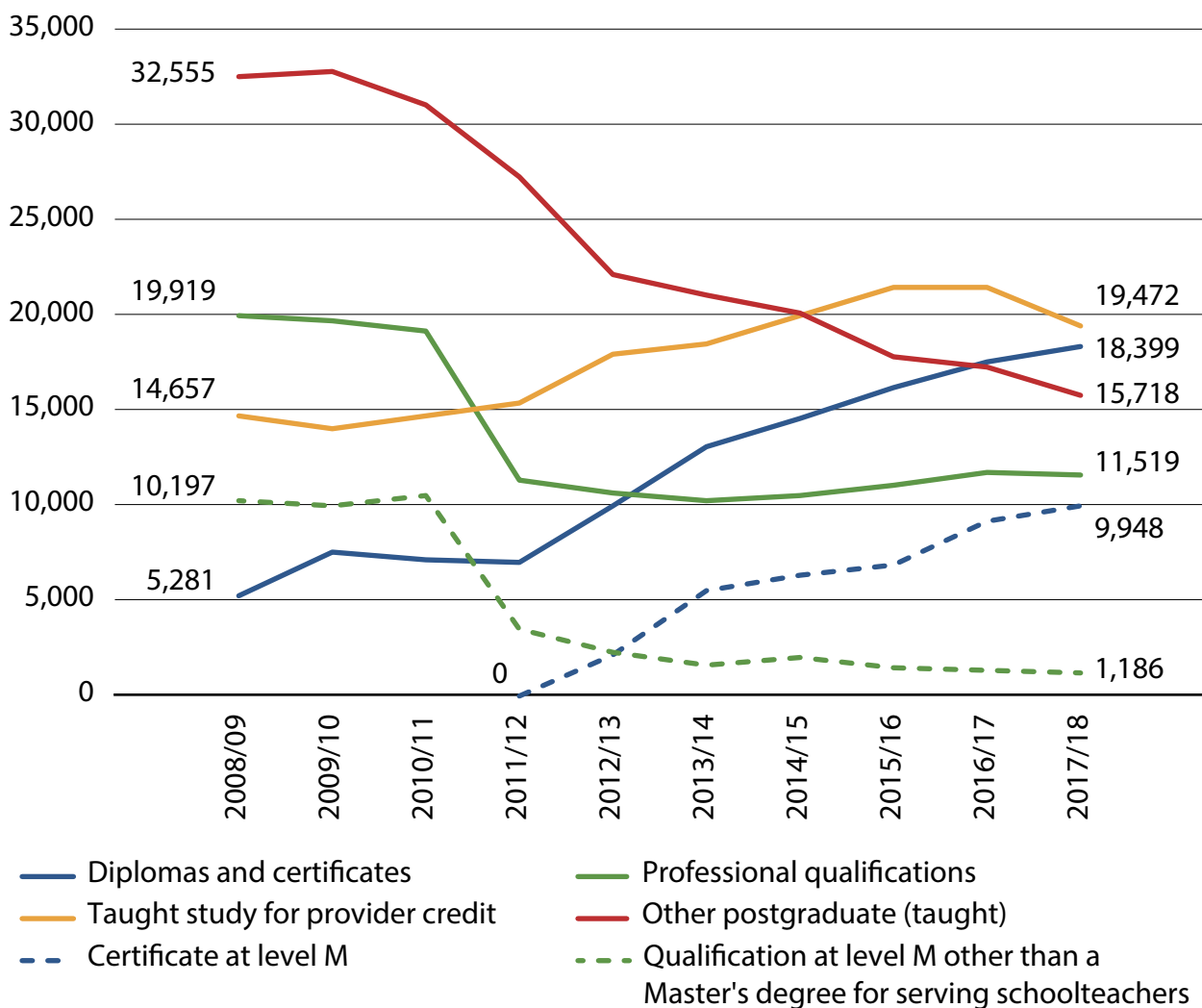
56 *Schemes/progress tackling teacher shortages in priority subject areas: FOI release*. Scottish Government, 22 May 2019.

57 *Initial Teacher Education Wales, 2017/18*. Welsh Government, 30 May 2019.

The 42% decline in professional qualifications is due entirely to falling uptake of non-ITT Education courses for qualified teachers, which nosedived after government funding for post-qualification teacher training was cut in 2011. These courses tended to be specific modules, such as Literacy, early-years Mathematics and Special Educational Needs, which could count towards an eventual Master’s award if desired.⁵⁸ This decline may well reverse in the next few years, with new funding for ongoing career development announced in the Government’s strategy for teacher recruitment and retention.⁵⁹

If Education courses are removed from the statistics, professional qualification enrolment actually increased by 6% over the research period.

Figure 3.9 Trends in first-year taught postgraduates excluding Master’s and ITT



58 John Cater, email to the author, 16 December 2019.

59 *Teacher Recruitment and Retention Strategy*. Department for Education, 2019.

Domicile

The last decade has seen a dizzying number of changes to government policies across multiple departments that have affected UK, EU and other international students in different ways. Factors such as the 2008 global financial crisis and the UK's decision to leave the EU have also had major effects on student numbers. The following section attempts to unpick some of these changes to make sense of how they have affected student numbers within the main domicile groups.

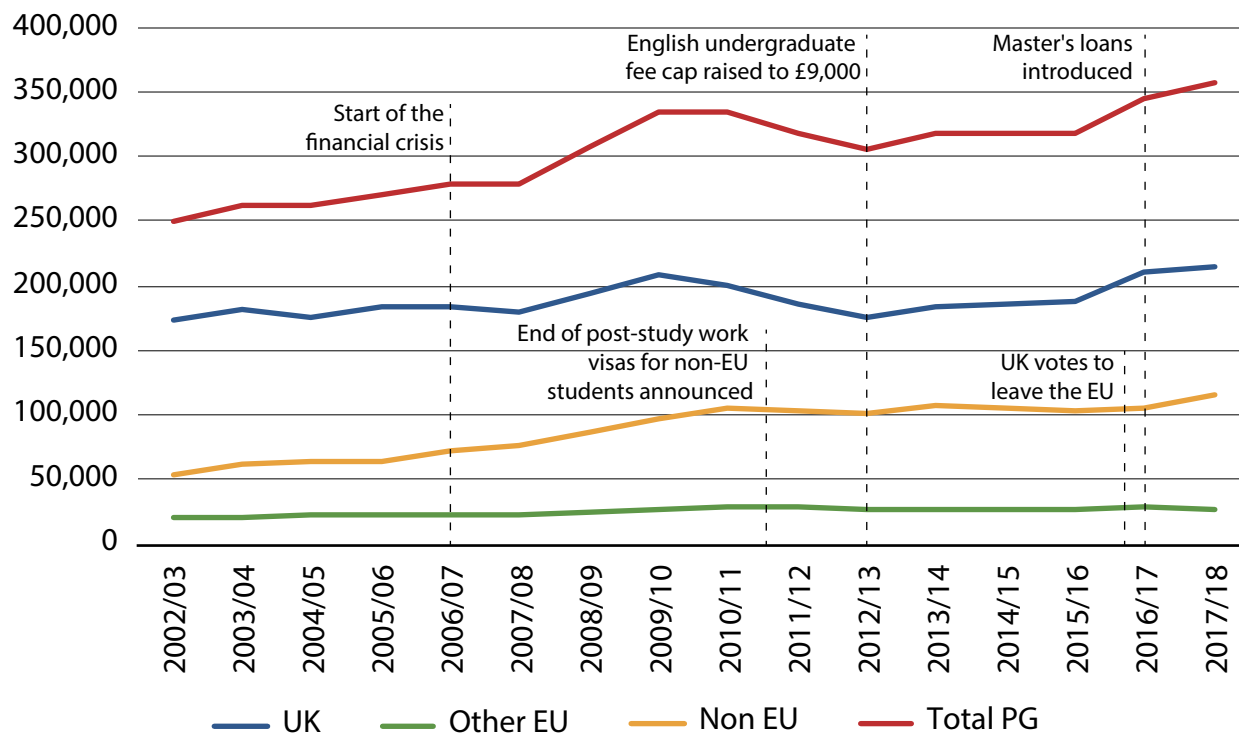
Although first-year postgraduate numbers have grown overall by 16% since 2008/09, the bulk of the growth has been driven by non-EU students, whose numbers have expanded by 33%. However, this expansion is mainly driven by the recruitment of Chinese students and hides substantial reductions from countries such as India that have been adversely affected by Home Office immigration policies since 2010.

Table 3.2 Percentage change in first-year postgraduate numbers by domicile

	2008/09	2017/18	% change
UK	194,326	213,862	+10
Other EU	24,958	27,645	+11
Non-EU	86,962	115,483	+33
All domiciles	306,654	356,996	+16

Figure 3.10 shows that most of the fluctuations in postgraduate numbers over the last decade have been driven by UK-domiciled students, since they are both the most numerous and the most affected by domestic policies, such as changes to fees and loans.

Figure 3.10 Trends in first-year postgraduate numbers by domicile



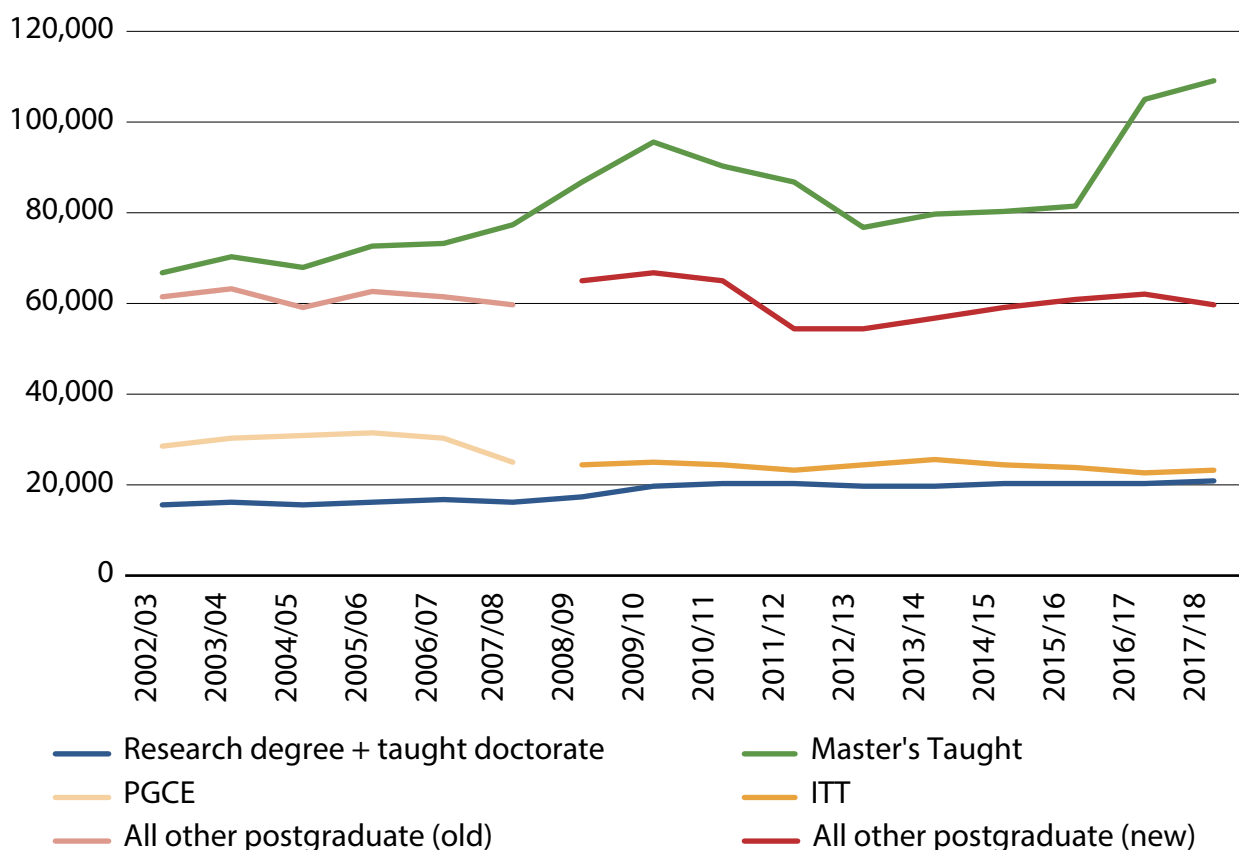
The volatility in UK postgraduate student numbers highlights the pressures faced by universities over the last decade to adapt rapidly to fluctuations. Most universities have become increasingly reliant on the recruitment of overseas students, who are less affected by domestic changes to higher education policy and funding. EU and non-EU students together now represent 40% of the postgraduate cohort, up from 30% in 2002/03, when the very first HEPI *Postgraduate Education* report was published.

However, even here, policy changes have caused disruption. The increased difficulty of obtaining student and post-work visas under the Home Office’s ‘hostile environment’ policy stymied international student recruitment and somewhat damaged the UK’s reputation abroad as a desirable study destination, contributing to stagnant international student numbers between 2010/11 and 2016/17. At the same time, increasing competition from other Anglophone countries – most notably Australia – has threatened the UK’s once-secure position as the second-most popular destination for international students.⁶⁰ On the other hand, the decline in the value of the pound following the 2016 Brexit referendum is a likely cause of the growth in international student numbers in 2017/18.

⁶⁰ See, for example, S. Marginson, *The UK in the global student market: second place for how much longer?* Centre for Global Higher Education, 2018.

UK-domiciled student trends

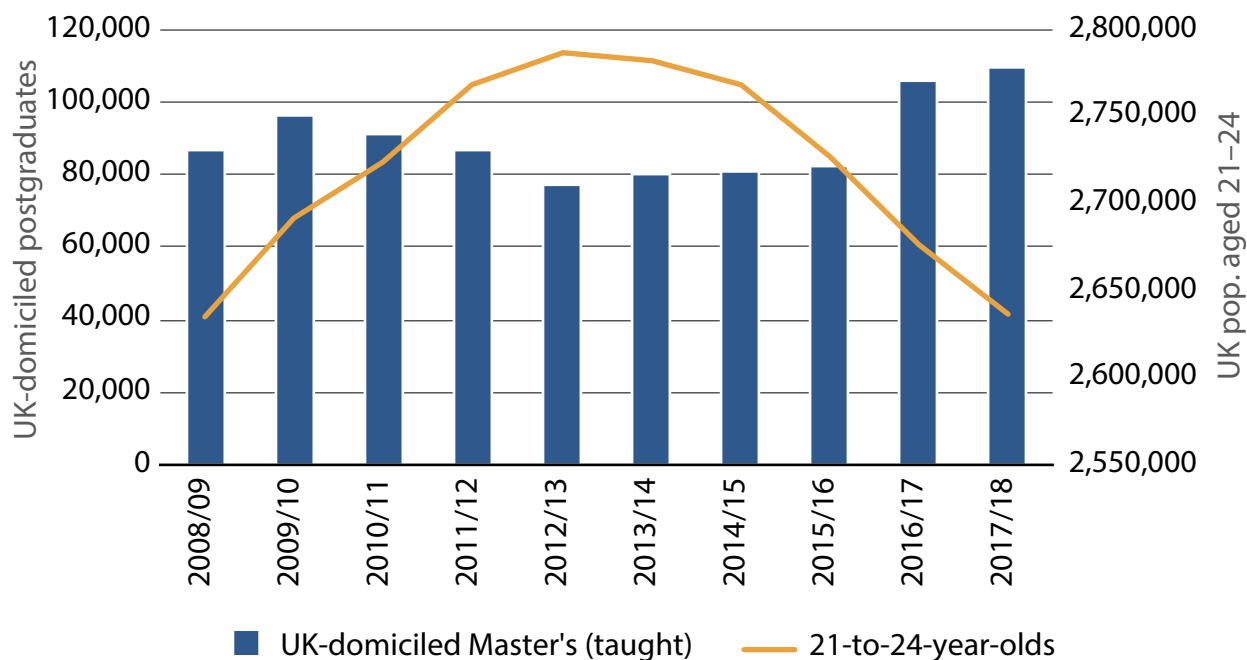
Figure 3.11 UK-domiciled first-year postgraduate trends by level of study



*Breaks in lines indicate where the data collection methodology changed.

Over the ten-year study period, from 2008/09 to 2017/18, UK-domiciled taught Master's numbers have fluctuated wildly. The first factor to consider when explaining this is population size. But based on the Office for National Statistics (ONS) live birth rates, we see that despite an increasing number of 21-to-24-year-olds (the typical age for starting a full-time Master's) peaking in 2012, postgraduate student numbers followed the opposite pattern, declining to their lowest ebb that same year, and not recovering until the introduction of Master's loans in 2016/17. We can therefore more-or-less eliminate population change as a major driver here.

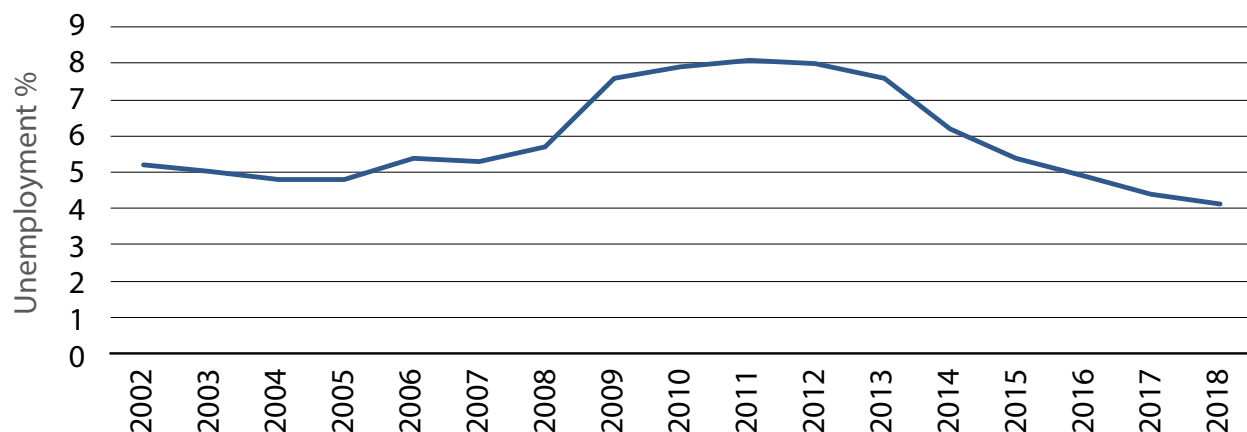
Figure 3.12 Comparison of UK-domiciled first-year taught Master's students against predicted population of 21-to-24-year-olds born in England and Wales, based on live birth rates



Source: Population estimate calculated from ONS live birth rates, assuming 100% survival

There was a marked rise in Master's, research degree and other postgraduate enrolments in 2008/09 and 2009/10, correlating with a rise in unemployment following the 2008 crash. It is likely that, faced with restricted employment opportunities, many who had been considering doing a Master's at some point opted to start one in 2009 (indeed, this author started her PhD in 2009 for precisely this reason).

Figure 3.13 UK unemployment rate, aged 16 and over



Source: ONS, Unemployment rate (aged 16 and over, seasonally adjusted)

UK-domiciled Master's numbers dropped again after 2009/10, hitting 77,105 in 2012/13 – the lowest level since 2006/07 (73,704). Some of this fall can be attributed to the peak in

enrolment following the 2008 crash, when a certain proportion who would have eventually taken a postgraduate course did so early. However, the fall and stagnation in UK Master's numbers lasted well beyond that point, suggesting other factors were also at play.

The question of whether rising undergraduate fees and debt levels affect progression to postgraduate education is generally under-explored. HESA data alone provide a poor guide, due to compounding factors such as the 2008 crash, which affected the decisions of the first graduating cohort to have paid £3,000 fees. Similarly, the introduction of Master's loans in 2016, a year after the first cohort to pay £9,000 fees graduated, makes it difficult to draw conclusions from the numbers alone.

Results from the few qualitative studies looking at debt and postgraduate progression are also inconclusive. For example, Wakeling et al. found some association of higher debt levels with lower rates of progression to postgraduate study, but this reduced after controlling for other factors, such as degree-level attainment and subject discipline, yielding no clear answer on the question of debt – though students' underlying financial resources did seem to be a factor.⁶¹

The assertion that student debt on its own might not be a deterrent to postgraduate study, as long as suitable student finance is available, appears to have been borne out by the success of the Master's loan in 2016, following which UK-domiciled Master's starters increased by 29%. A bigger issue may be rising Master's fees – which, unlike undergraduate fees, are not capped. In some cases, these fees already consume or exceed the maximum £10,000 loan.

This may be one factor in the trailing off of growth in UK-domiciled Master's numbers in 2017/18, with only a small increase on the previous year's figures. However, this again is hard to determine from the data alone: for a start, slower growth is to be expected following the initial surge of people who had been waiting for the loans to kick in. Other factors are no doubt at play, but will be easier to assess with a few more years' worth of post-loan data. More qualitative data on the factors affecting people's decisions to engage in postgraduate education would also help.⁶²

61 P. Wakeling, G. Hampden-Thompson, S. Hancock, 'Is undergraduate debt an impediment to postgraduate enrolment in England?' *British Educational Research Journal*, Vol. 43, No. 6, December 2017. See also, C. Callender and G. Mason, 'Does student loan debt deter higher education participation? New evidence from England', *The Annals of American Political Social Science*, Vol. 671, No. 1, 2017.

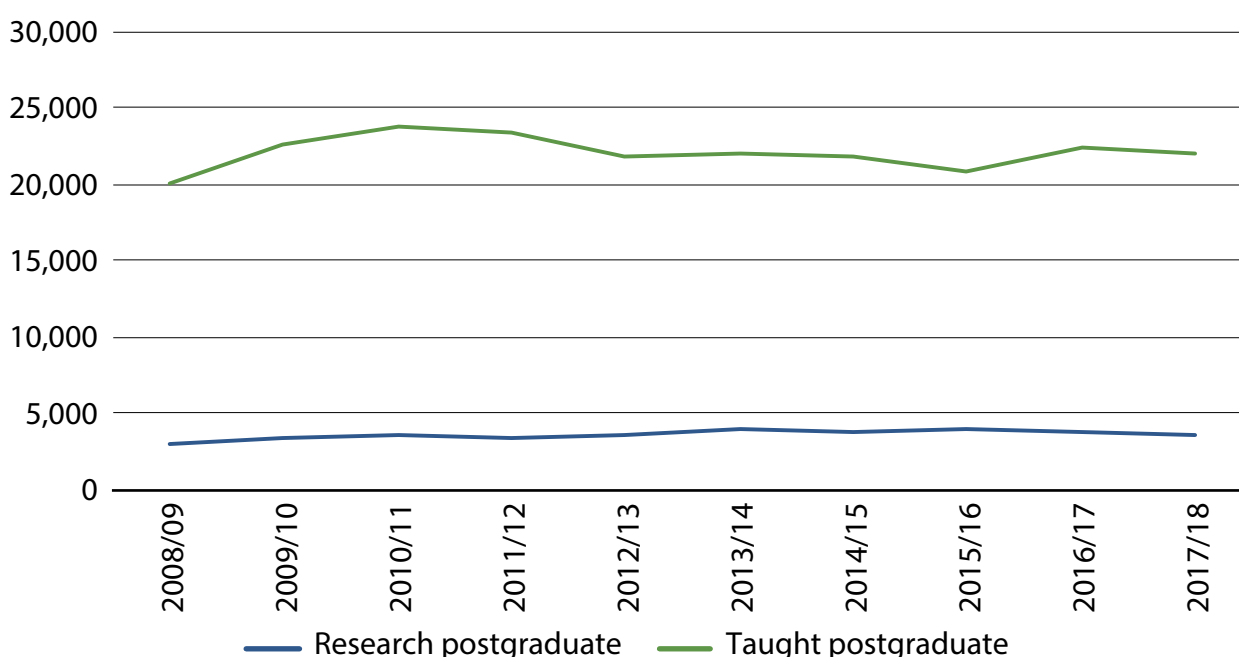
62 The long-term sustainability of Master's enrolments is discussed in Michelle Morgan, 'Time to "remaster" postgraduate study', *Wonkhe*, 23 February 2018.

Other EU-domiciled student trends

EU-domiciled researchers contribute considerably to the UK's research capacity and academic body. One-in-six academic staff at UK universities are from other EU countries and their presence in UK universities is an important factor in cross-border research collaborations, both present and future.⁶³

Although the number of postgraduates from the EU has increased by 20% over the research period (Table 3.2), figures have been fairly static since 2012/13. In 2017/18, the number of EU students dropped by 2.3% from the previous year. The latest HESA data release shows that they dropped by a further 1.7% in 2018/19.⁶⁴

Figure 3.14 Trends in EU-domiciled postgraduate starters, 2008/09 to 2017/18



Although it may be too soon to assess whether this relates directly to the fallout from the Brexit referendum, the failure of EU-domiciled numbers to pick up despite EU students being eligible for Master's loans might suggest a waning of interest in the UK as a destination, or be a response to the ongoing uncertainty about EU students' status post-Brexit. This is backed up by the *International Student Survey 2019*, in which one-in-five respondents said the UK's decision to leave the European Union had made them less interested in studying in the UK.⁶⁵

⁶³ HESA *Staff numbers and characteristics*, 2017/18.

⁶⁴ For 2018/19, figures are taken from the latest HESA *Higher Education Student Statistics* release.

⁶⁵ www.internationalstudentsurvey.com/international-student-survey-2019

Relatively speaking, EU-domiciled students are more heavily represented at postgraduate research level, where they represent 12% of the cohort (compared to 8% of all postgraduates; see Table 2.5). The decline in EU-domiciled students is, however, pronounced among researchers, the cohort having contracted by almost 9% between 2016/17 (4,835 students) and 2018/19 (4,405 students).⁶⁶

This may reflect the fact that many, especially in the Sciences, see a doctorate as a first step on an academic career that will continue through fellowships, collaborative projects and academic posts, often involving their host institution or the contacts made there. With the UK's future relationship with the EU – both in terms of research funding and work visas – yet to be settled, the UK may represent a more risky choice for those interested in building relationships for such future collaborations.⁶⁷

Non-EU students

UK higher education is hugely successful on the global stage. Despite its relatively small size, the UK has retained its place as the second most popular destination for international students, after the US. It has also retained 11% of the market share of international students, the same proportion it attracted in 2001, despite greater competition from countries such as Australia, Canada, Japan and China, which are increasing their market share of the international student cohort.⁶⁸

Nevertheless, as seen in Figure 3.10, even recruitment of non-EU students, so long a core source of growth in the higher education sector, stagnated between 2010/11 and 2016/17. These years coincided with two major factors: a rise in the value of the pound, making UK fees less affordable, and some major upheavals to immigration and visa policies. Universities UK's conservative estimate is that the immigration rule changes may have led to a loss of around £8.2 billion to the UK economy between 2013 and 2017 alone.⁶⁹

66 HESA *Students* SB255 Figure 8.

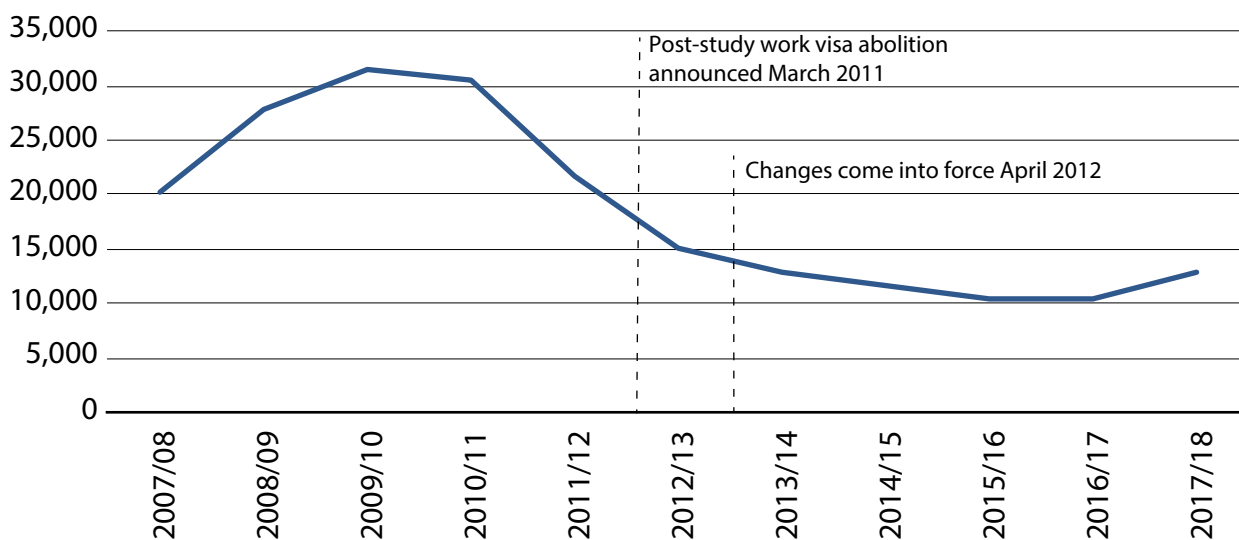
67 The UK currently receives over £1 billion a year in research funding for cross-border collaborations from the European Horizon programme; *Horizon 2020 in full swing three years on: Facts and figures 2014–2016*, The European Commission, 2017.

68 *Up and down the table: Growth trends across major international study destinations*, ICEF Monitor, 2018. <https://monitor.icef.com/2018/08/up-and-down-the-table-growth-trends-across-major-international-study-destinations>

69 Rachel Brooks, *Estimates of Lost Higher Education Export Revenue: Effect of Immigration Rule Changes*, Universities UK, 2018. See also, *The impact of UK immigration policies on students and staff in further and higher education*, University and College Union, 2014, p.5.

Restrictions on visas for students wishing to stay in the UK and work after graduation acted as a particular deterrent to students from certain countries, such as India, whose students appear to value highly the opportunity to work in the UK for a year or two after graduating, not just to earn back course fees but to gain overseas work experience.⁷⁰

Figure 3.15 Impact of visa regime change on Indian first-year postgraduate numbers



Source: By special request from Universities UK International

The creation, in 2012, of the 'Appendix H' list of 'low-risk' countries made it harder for students from certain countries to obtain visas.⁷¹ The list excludes, among others, several Commonwealth countries such as India and Nigeria, whose citizens have traditionally favoured the UK as a study destination. Applicants from countries not on the list are subject to 'credibility interviews'.⁷² Negative outcomes of these interviews are difficult to appeal and put the sponsoring institution at risk, since universities that exceed a cap on failed visa applications risk losing their Highly Trusted Sponsor status, thus hampering their ability to recruit and teach overseas students. The combination of these factors has acted as a chill on the sector, dissuading universities – especially smaller institutions – from actively encouraging recruitment from non-Appendix H countries.⁷³

70 For examples of this, see *International Graduate Outcomes (i-GO) 2019*, Universities UK International, 2019.

71 www.gov.uk/guidance/immigration-rules/immigration-rules-appendix-h-tier-4-documentary-requirements See also Appendix 3 of this report.

72 *Tier 4 Credibility Interviews: UKCISA Survey Report*. UKCISA, 2013.

73 *The student visa system: Principles to Reform*, UUK, 2019.

All these factors have had a detrimental effect on universities' ability to recruit international students, and impacted perceptions of the UK brand abroad.⁷⁴ They have also placed a major administrative burden on university staff and budgets, with an associated cost to the sector estimated at £40 million per year.⁷⁵

In Spring 2019, the Departments for Education and Trade jointly published an *International Education Strategy* aiming to double the value of UK education exports to £35 billion by 2030, which would require a 4% per year expansion to achieve.⁷⁶ In September 2019, the Government announced the reintroduction of two-year post-work study visas for the 2020/21 intake. Nevertheless, stories about non-EU early-career academics being denied visas for themselves and their dependents, or even threatened with deportation, have done little for the UK's reputation as a welcoming space for international collaboration.⁷⁷

These upheavals, especially those between 2010 and 2014, may help explain why international student numbers remained more-or-less flat between 2010/11 and 2016/17, despite increasing numbers of Chinese students throughout this period. Increased competition from other Anglophone countries, such as Australia, is also likely to have been a factor.⁷⁸

Indeed, mainland China has provided a useful buffer for universities, with growth of 10,635 students against an 11,180 decline in students from all other non-EU countries. Chinese students represented 38% of the non-EU postgraduate cohort (all students, not just first years) in 2017/18. As well as increasing wealth leading to a rapidly expanding market of young people seeking a high-quality international education, China is considered low-risk. When considering trends in non-EU domiciled student numbers, it is therefore worth disaggregating China from the figures.

74 For international students' voices on this topic, see E. Mavroudi and A. P. Warren, 'Highly skilled migration and the negotiation of immigration policy: non-EEA postgraduate students and academic staff at English universities', *Geoforum*, Vol. 44, 2013, pp.261–270.

75 *The Student Visa System*, Universities UK, 2019.

76 *International Education Strategy: global potential, global growth*, Departments for Education and International Trade, 2019.

77 See, for example, R. Bradbury, 'Newnham research fellow to leave UK has heard nothing from Home Office', *Varsity* 15 November 2019; A. Fazackerley, 'UK to deport academic to Democratic Republic of Congo – which she has never visited', *The Guardian*, 15 October 2019.

78 S. Marginson, *The UK in the global student market*.

Table 3.3 Non-EU domiciled postgraduates (all years of study)

		2014/15	2015/16	2016/17	2017/18	% change
China	PGR	5,410	5,670	5,855	6,325	17
	PGT	44,415	45,475	46,515	54,135	22
	Total	49,825	51,145	52,370	60,460	21
All non-EU countries except China	PGR	28,245	28,010	26,555	25,450	-10
	PGT	80,195	75,235	70,640	71,810	-10
	Total	108,440	103,245	97,195	97,260	-10
All non-EU countries	PGR	33,655	33,680	32,410	31,775	-6
	PGT	124,610	120,710	117,155	125,945	1
	Total	158,265	154,390	149,565	157,720	-0.3

As Table 3.3 shows, there was a three-year decline in overseas postgraduates between 2014 and 2016. Since nothing much changed in terms of UK legislation at this point, the cause is likely to be the high value of the pound in this period, while its tumble after the Brexit vote made UK fees more affordable, explaining the improvement in 2017/18.

International competition may also be a factor. US graduate enrolment fell by 9,000 students in 2016/17 with a high rate of visa refusals, the social and political climate, and concerns about gun crime among several factors cited.⁷⁹ That year, UK postgraduate entrants from outside the EU increased by just over 8,000, so it is not unreasonable to speculate that the UK mopped up a proportion of the US's lost share.

⁷⁹ *Fall 2017 International Student Enrolment Hot Topics Survey, IIE Open Doors.*

Table 3.4 Top twenty countries of domicile of non-EU first-year postgraduates in UK institutions⁸⁰

	2014/15	2015/16	2016/17	2017/18	% change 2016/17 to 2017/18
China	49,825	51,145	52,370	60,460	3.8
India	11,730	10,435	10,355	12,810	5.4
United States	9,615	9,615	9,765	10,405	1.6
Nigeria	11,055	9,510	7,080	5,925	-3.4
Saudi Arabia	5,285	5,255	5,015	5,050	0.2
Thailand	4,470	4,210	4,150	4,180	0.2
Malaysia	4,385	3,905	3,195	2,755	-3.1
Pakistan	3,335	2,945	2,790	3,005	1.8
Canada	3,130	3,010	2,775	2,820	0.4
Taiwan	2,890	2,850	2,685	2,630	-0.5
Hong Kong	1,960	2,205	2,495	2,755	2.8
Turkey	2,195	2,115	2,045	2,240	2.3
Indonesia	1,805	2,065	2,395	1,690	-8.9
Vietnam	2,045	1,955	1,925	1,840	-1.1
South Korea	1,880	1,905	1,945	1,915	-0.4
Bangladesh	2,185	1,865	1,560	1,470	-1.3
Mexico	1,655	1,765	1,815	1,640	-2.5
Iraq	2,445	2,100	1,255	650	-9.4
Japan	1,740	1,560	1,435	1,350	-1.4
United Arab Emirates	1,340	1,365	1,425	1,430	0.1

When considering trends country-by-country, there are a few factors to bear in mind. As mentioned above, post-graduation work visas are a major draw for many students. A number of countries have introduced scholarships for postgraduate study abroad in the last decade, to boost capacity in their own higher education sectors and beyond, including Saudi Arabia, Malaysia, Indonesia, Brazil and Iraq. The waxing and waning of such schemes has a marked impact on the composition of the UK's international

⁸⁰ Calculated based on total number from each country across this four-year period.

student body. Another factor is sanctuary scholarships for asylum seekers from conflict zones, such as Syria and Libya, both of which have popped up briefly in the top twenty countries for postgraduate students in the last few years.

Figures 3.16 to 3.18 show the rise and fall of postgraduate student numbers from selected countries, some selected because they send a high number of students, and others because they illustrate some of the narratives mentioned above. Some countries, like Thailand, where student numbers are high but have changed little, are not shown.

By separating research (Figure 3.16) and taught (Figures 3.17 and 3.18) postgraduates, we can see that the post-2010 plunge in numbers from India was almost entirely in the taught cohort, while volatility in Malaysian numbers has been more pronounced in the research contingent. Saudi Arabia has surged from sixth to second place for researchers, and risen from eighth to fifth place at taught postgraduate level, retaining this place even after declining from its initial spike when it introduced scholarships in 2009/10.

Figure 3.16 Selected countries that have sent more than 1,000 research postgraduate students to the UK in a single year

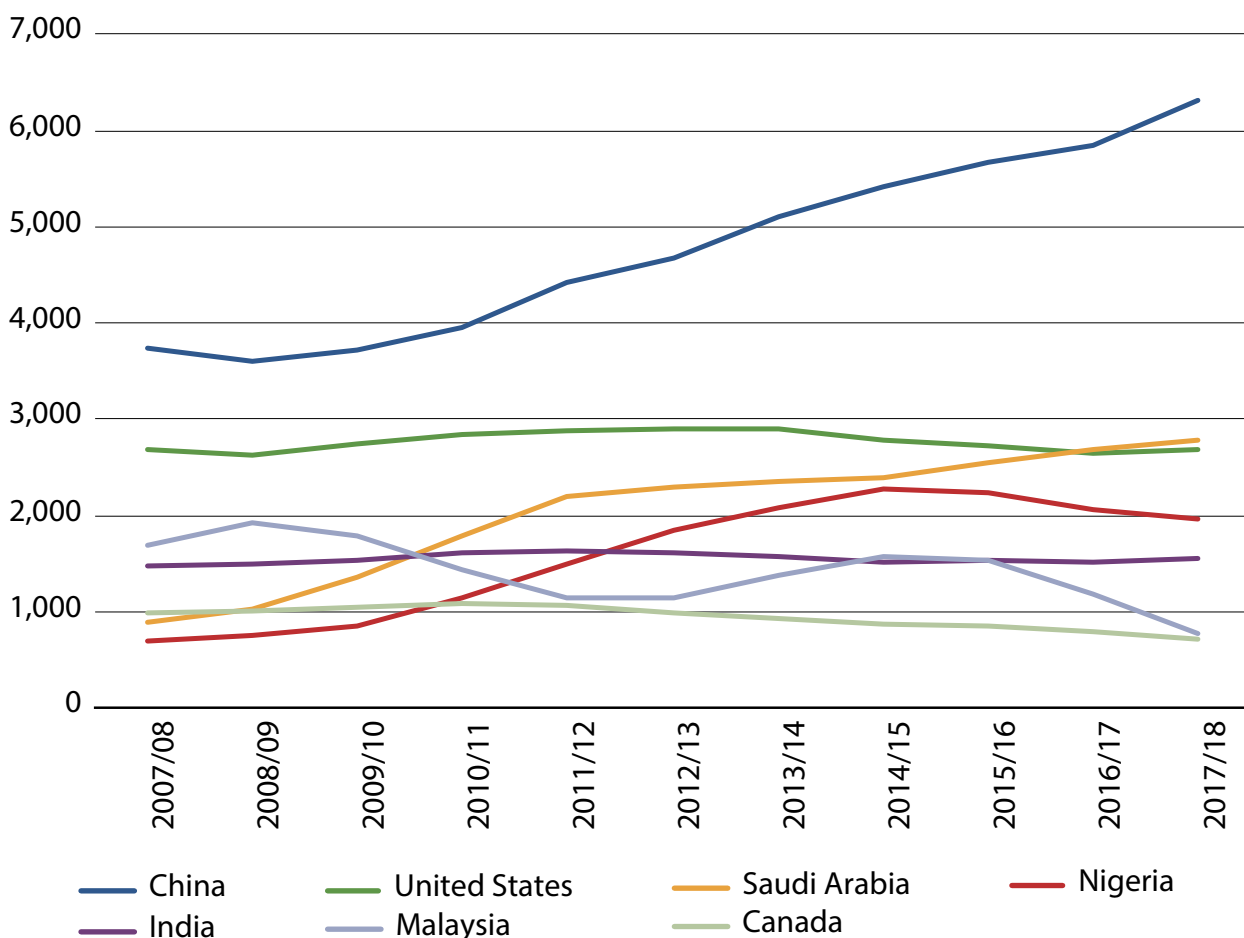


Figure 3.17 Selected countries that have sent more than 5,000 taught postgraduate students to the UK in a single year

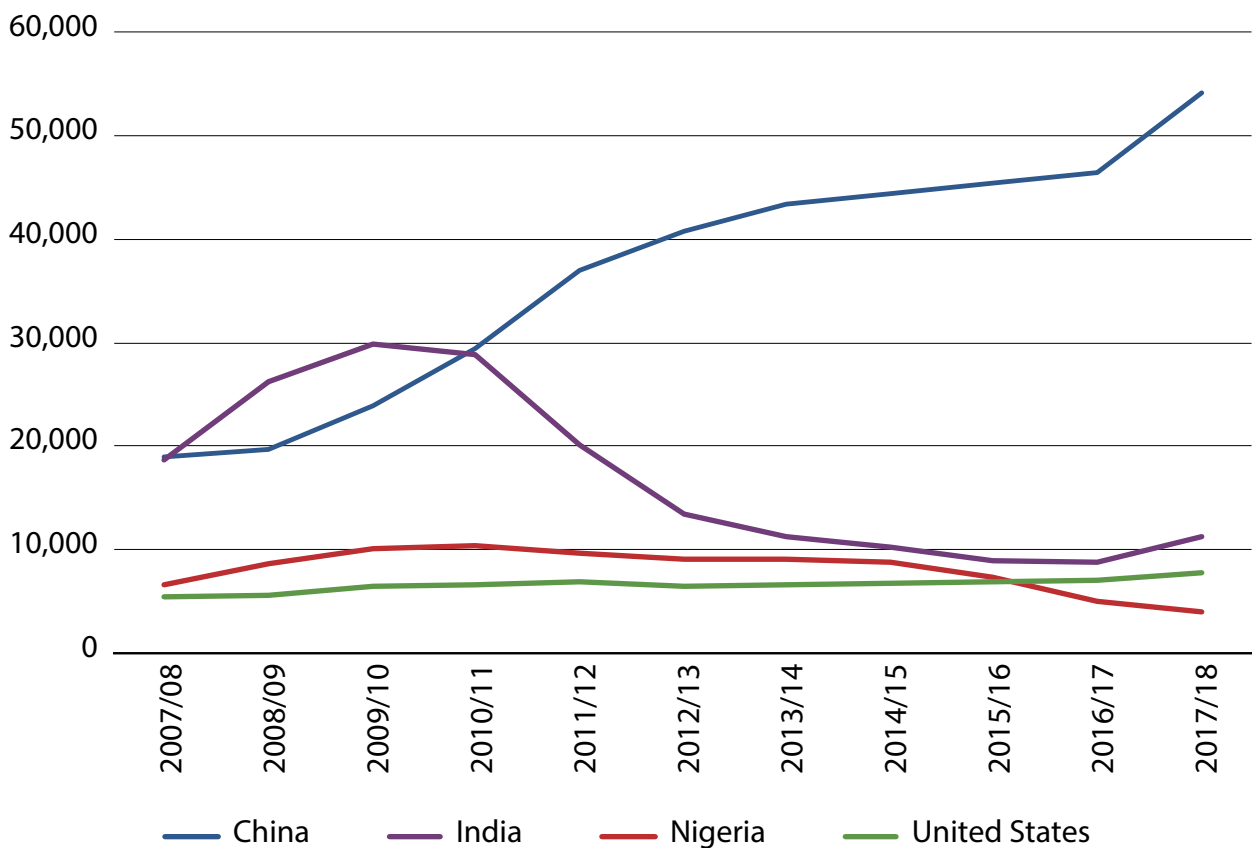
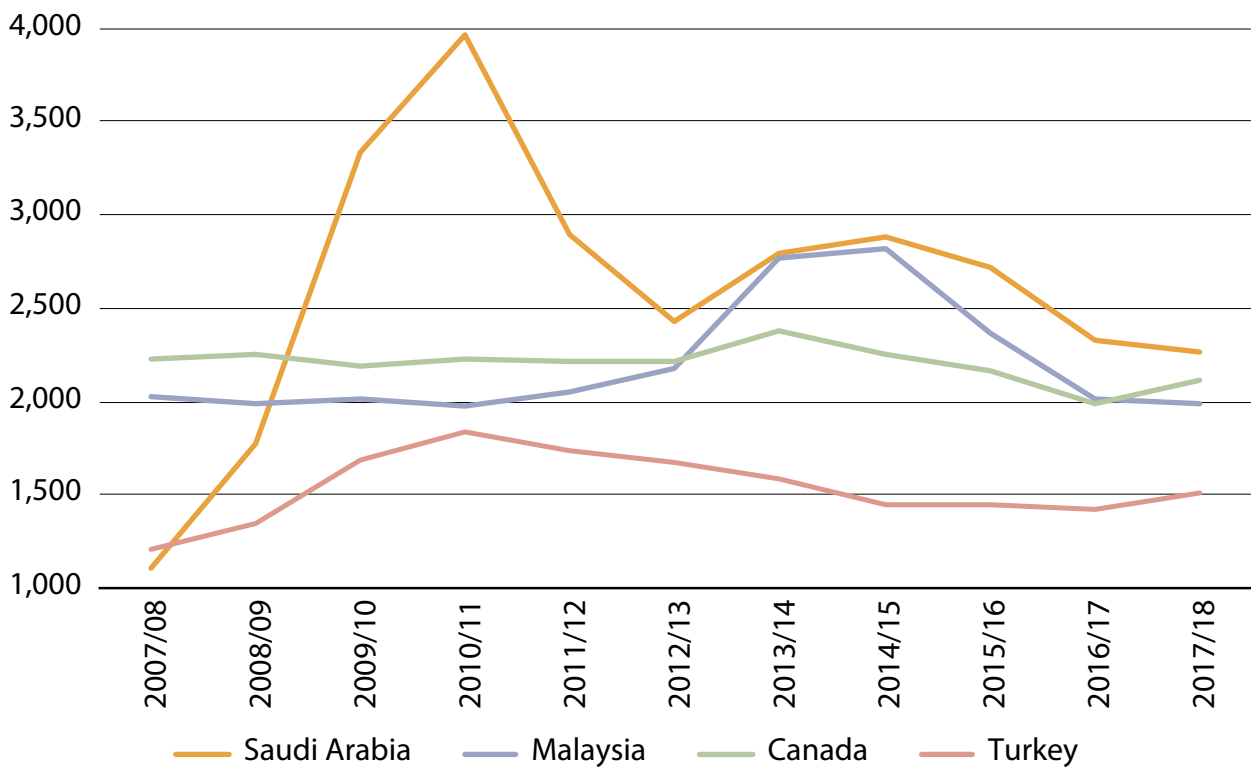


Figure 3.18 Selected countries that have sent fewer than 5,000 taught postgraduate students to the UK in a single year



While the high levels of participation by Chinese students have provided much-needed stability to postgraduate numbers and fee income, the sector's over-reliance on one particular country represents a risk factor.⁸¹ At the time of writing, the Covid-19 outbreak has led to English proficiency exams required for new entrants being suspended within China, and UK universities are hurriedly setting out plans for Chinese students to delay 2020/21 on-campus enrolment until January 2021.⁸²

The reintroduction of post-study work visas, along with the easing of restrictions on part-time work while studying and the right to bring dependents to the UK, should help to make the UK a more welcoming place for international students from around the world, and represent an opportunity for universities to diversify their international student body once again.

81 For an analysis of over-exposure to the Chinese market from an Australian perspective, see S. Babones, *The China Student Boom and the Risks it Poses to Australian Universities*, CIS China and Free Societies, and the Centre for Independent Studies, 2019.

82 Richard Adams and Rachel Hall, 'UK universities face cash black hole amid coronavirus crisis', *The Guardian*, 6 March 2020.

Institutional differences and regional disparities

This chapter explores differences between institutions and regions of the UK. It looks at which institutions have the greatest share of research and taught postgraduates, which are most reliant upon international students, and which have the highest progression rates of first-degree qualifiers into postgraduate study. It also examines retention of postgraduate qualifiers in the various regions and devolved administrations of the UK.

Institutional differences

When comparing institutions by type, there are a number of possible ways of grouping them. One rather simplistic split is by age, typically dividing between 'old' (pre-1992) and new (post-1992).

Institutional differences can also be explored according to mission group. Until 2013, there were four main affiliations: Russell Group, 1994 Group, University Alliance and MillionPlus.⁸³ However, the 1994 Group, which mainly consisted of smaller research-intensive universities established between 1960 and 1992, disbanded after eight of its 19 members left between 2012 and 2013; four joined the Russell Group and the remainder are now unaffiliated.⁸⁴ Overall, affiliation has gone from 66% of institutions in 2009 to 57% in 2019.

83 Full membership lists can be found on each extant group's website: www.russellgroup.ac.uk; www.millionplus.ac.uk; www.university-alliance.ac.uk; www.guildhe.ac.uk. Currently, Wikipedia seems to provide the best online record of 1994 Group membership up to its demise: https://en.wikipedia.org/wiki/1994_Group, accessed 15 October 2019.

84 Simon Baker, '1994 Group Disbands' *Times Higher Education*, 8 November 2013.

A sector analysis using groupings that represent just over half the institutions is of limited use. Taking a lead from various approaches in the literature,⁸⁵ for this report I have separated universities into:

- Russell Group (24 institutions);
- Specialist (38 institutions);
- Other pre-1992 (33 institutions); and
- Other post-1992 (69 institutions).

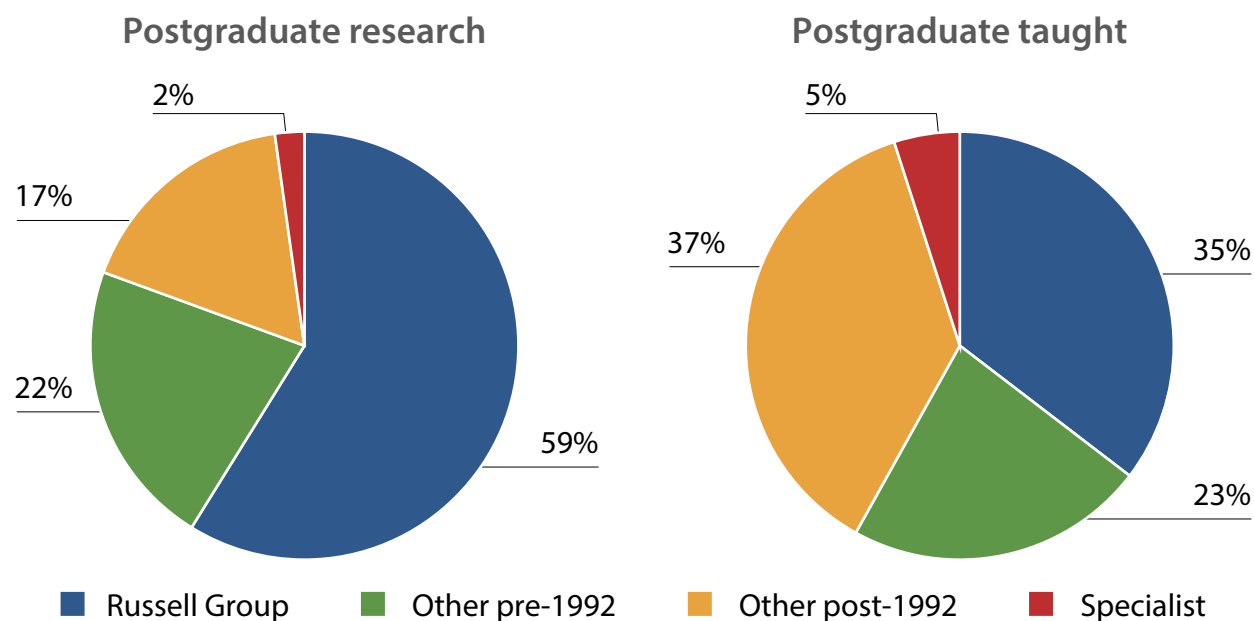
These groupings seem to map to HESA's postgraduate research figures quite well. The former 1994 Group institutions that joined the Russell Group have more full-time equivalent postgraduate research students than those that did not, though the latter tend to have more than post-1992 universities. Among the newer universities, Huddersfield and Middlesex are notable for ranking higher than some of the older universities for postgraduate researcher numbers.

85 The grouping of specialist universities was broadly based on YouthSight's list, but with some changes: I added in some newer specialist arts colleges that were not on their list, and moved the Open University and Birkbeck to 'Other pre-1992' because although their method of delivery is specialist (with a focus on part-time study), they offer courses in as broad a range of subjects as any non-specialist university. These changes made it possible to identify trends in institutions that specialise in a narrow range of subjects. V. Boliver, 'Are there distinctive clusters of higher and lower status universities in the UK?' *Oxford Review of Education*, 41 (5), pp.608–627 was also very helpful in deciding how to group institutions. A full breakdown of institutions by group can be found in Appendix 2.

Institutional share of postgraduates

Generally speaking, postgraduate research students tend to be highly concentrated in a few institutions, dominated by the Russell Group, while taught postgraduate students are more evenly distributed across the various types of provider.

Figure 4.1 Percentage share of FTE research and taught postgraduate students, all years⁸⁶

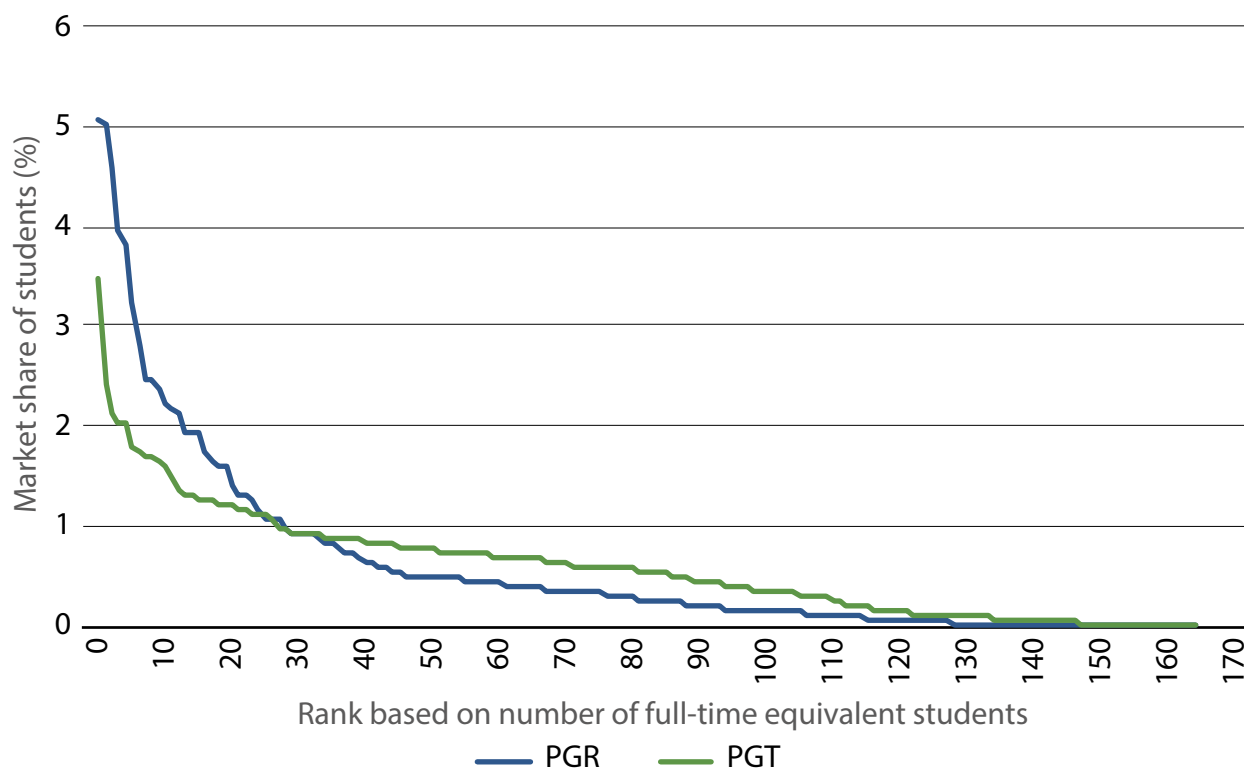


Source: HESA *Students* DT051 Table 1

Figure 4.2 ranks institutions according to the number of postgraduate research and taught students, those with the largest slice of the market on the left. The overall steeper curve for research students illustrates the larger proportion that is concentrated in fewer universities. The steep incline at the start of the postgraduate taught line represents one institution – University College London – which has over 3,600 more such students than its nearest competitor, having absorbed the Institute of Education in 2015.

⁸⁶ The following analyses use assumed full-time equivalent (FTE) student numbers, and include all years of study, not just first-year starters, because the focus here is the postgraduate component of universities, rather than factors affecting recruitment.

Figure 4.2 Market share of research and taught postgraduates completing courses in UK higher education providers, 2017/18



Source: HESA *Students* DT051 Table 1

The higher concentration of research students in fewer institutions reflects the relatively greater proportion of research postgraduates in the Sciences and the prohibitively high cost of equipping universities for scientific research, resulting in the bulk of STEM researchers being based in the wealthier pre-1992 institutions. It is also connected to the Research Excellence Framework (REF), a system for assessing the quality of research taking place in UK higher education institutions, based on which some funding is allocated to institutions.⁸⁷ The prestige of these older institutions is also a likely factor.

The Research Excellence Framework creates a deliberate positive feedback loop, channelling a greater share of research funding towards institutions with the strongest track record for research.⁸⁸ Although newer institutions have been competing successfully with more established ones in the REF, especially in less equipment-intensive subject areas, the top 30 institutions with the most research postgraduates are all pre-1992. There has been no change in the membership of the top ten group

⁸⁷ Research England, for example, distributes ‘quality-related research funding’, in the form of a block grant to institutions, based on REF results.

⁸⁸ On the risks and drawbacks of this approach, see Dominic Dean, ‘The 2021 REF will concentrate funding even further.’ *Times Higher Education*, 18 October 2018.

compared to the previous *Postgraduate Education* report, although UCL has knocked Cambridge off the top place for research student numbers (this in fact took place in 2015/16 after it absorbed the Institute of Education).⁸⁹ While the distribution is a little more even among the top three institutions compared to 2007/08, the combined market share of these ten institutions remains at around 36%.

Table 4.1 Ten institutions with the most postgraduate research students

	2007/08				2017/18		
	FT + PT	Assumed FTE	% UK share		FT + PT	Assumed FTE	% UK share
Cambridge	4,905	4,628	5.8	UCL	5,640	4,973	5.1
Oxford	4,405	4,370	5.5	Cambridge	5,275	4,918	5.0
Manchester	3,720	3,435	4.3	Oxford	4,575	4,485	4.6
UCL	3,810	3,315	4.2	Imperial	4,120	3,870	4.0
Imperial	2,820	2,540	3.2	Manchester	3,935	3,715	3.8
Nottingham	2,625	2,380	3.0	Edinburgh	3,410	3,148	3.2
Edinburgh	2,565	2,335	2.9	Nottingham	2,880	2,725	2.8
Birmingham	2,530	2,110	2.7	Birmingham	2,750	2,413	2.5
Leeds	2,060	1,833	2.3	Sheffield	2,590	2,413	2.5
Sheffield	2,005	1,800	2.3	Leeds	2,450	2,313	2.4
Total market share			36.1				35.7

Source: HESA *Students* DT051 Table 1

Taught postgraduate study relies more heavily on fee income from students and attracts a broader range of non-STEM subjects, allowing newer universities to compete for a greater share of Master's students. Hence, taught postgraduate students are more evenly spread among institutions than research postgraduates.

The market is more competitive: Table 4.2 shows that the top ten institutions for postgraduate taught student numbers have shifted significantly since 2007/08. However, indications are that the leaders in this field have become less diverse, with the top ten all now pre-1992 universities, reversing the trend towards more diversity and a greater share for new universities noted in the previous *Postgraduate Education* report. It is beyond the scope of this study to suggest why this might be, but it could relate to any number of the issues discussed in Chapter 3 affecting UK and international student numbers. The top ten institutions also take a slightly larger share of the overall market – 21% – as opposed to

89 See www.hesa.ac.uk/data-and-analysis/students/where-study

19% ten years previously. One notable absence from the top ten is the Open University: back in 2001/02, it was by far the biggest provider of taught postgraduate courses, with 9,100 assumed full-time equivalent students and a 4.8% market share. Its decline is linked to the shifting dynamics in part-time study and lifelong learning.⁹⁰

Table 4.2: Change in ten institutions with the most taught postgraduate students

	2007/08				20017/18		
	FT + PT	Assumed FTE	% UK share		FT + PT	Assumed FTE	% UK share
Birmingham ^a	5,950	4,660	2.2	UCL ^a	14,665	12,390	3.5
Leeds ^a	5,100	4,400	2.1	King's College ^a	10,845	8,675	2.4
Manchester ^a	5,400	4,348	2.1	City ^b	8,690	7,570	2.1
LSE ^a	4,380	4,195	2.0	Manchester ^a	8,705	7,283	2.1
Open University ^b	7,890	3,955	1.9	Birmingham ^a	9,460	7,225	2.0
UCL ^a	4,695	3,885	1.9	Edinburgh ^a	7,380	6,348	1.8
Nottingham ^a	4,275	3,860	1.8	Sheffield ^a	7,330	6,240	1.8
Westminster ^c	5,025	3,810	1.8	LSE ^a	6,280	6,113	1.7
Warwick ^a	5,485	3,730	1.8	Warwick ^a	7,450	6,040	1.7
Northumbria ^c	5,060	3,705	1.8	Glasgow ^a	6,540	5,935	1.7
Total			19.3	Total			20.8

^a Russell Group; ^b Other pre-1992; ^c Other post-1992

Institutions in red are no longer in the top ten. Institutions in green are new entrants to the top ten.

Source: HESA *Students* DT051 Table 1

Importance of international students to individual universities

As discussed above, international student recruitment has been an important source of expansion in the higher education sector and has, to an extent, offered institutions a buffer to keep overall student numbers up as UK-domiciled student numbers have fluctuated.

Research postgraduates

International collaboration is an increasingly important aspect of the research environment at universities, especially in the Sciences. Factors affecting student migration, such as visa restrictions or the UK's future relationship with the EU, can have

90 N. Hillman (ed.), *It's the finance, stupid!* p.14.

an affect, so it is useful to look at institutions in which non-UK research students form an important component of the student body.

To explore which institutions might be highly exposed to changes in international student numbers, Table 4.3 lists the twenty institutions with the greatest proportion of non-UK students among their postgraduate research cohort. Although some examples involve small numbers of students, they still represent an important proportion of that institution's cohort, especially since this often occurs with small specialist institutions, whose entire student population might be equal to that of a single department in a larger university. For this reason, no cut-off has been applied for small cohorts by number. However, only institutions where postgraduate researchers represent more than 1% of the university's entire student body are included.

Despite the prevalence of STEM subjects among research students generally (see Figure 2.5), many of the institutions with the greatest proportion of EU students are specialist arts colleges. For non-EU students, institutions dealing with issues of global relevance such as schools of Tropical Medicine and the School of Oriental and African Studies (SOAS) also feature high in the rankings. This highlights an important aspect of the UK's higher education sector: the specialist institutes and the vulnerability of such institutions to factors affecting international recruitment. Looking at the non-EU list, there are a number of newer universities with a high proportion of international research students, although in some of these institutions, researchers comprise less than 2% of the entire student body. This suggests that newer universities are making effective use of the growing international student market as they expand their postgraduate research provision.

Table 4.3: Twenty institutions with the greatest proportion of other EU and non-EU postgraduate research students ⁹¹

Top 20 for other EU students	No. FTE PGRs	PGRs as % of student body	% EU	Top 20 for non-EU students	No. FTE PGRs	PGRs as % of student body	% non-EU
Royal Academy of Music ^d	15	2	33	London Business School ^d	70	4	64
LSE ^a	485	4	29	SOAS ^b	420	7	53
Courtauld Institute of Art ^d	48	10	26	Bradford ^b	255	3	51
Royal College of Art ^d	158	8	25	Bedfordshire ^c	158	1	51
Cambridge ^a	4,918	25	23	Robert Gordon University ^c	160	1	50
Edinburgh ^a	3,150	10	22	Trinity Laban ^d	10	1	50
London Business School ^d	70	4	21	Brunel ^b	420	3	48
Heriot-Watt ^b	740	7	21	Liverpool School of Tropical Medicine ^d	58	20	48
Cranfield University ^d	663	20	21	Aberdeen ^b	1,040	8	47
Imperial College ^a	3,870	22	21	Salford ^b	428	2	47
Oxford Brookes ^c	265	2	21	Bolton ^c	180	3	46
St Andrews ^b	898	9	21	Wolverhampton ^c	245	2	45
Oxford ^a	4,480	20	20	Royal College of Music ^d	23	3	44
Guildhall School of Music and Drama ^d	38	4	20	Cranfield ^d	663	20	43
Queen Mary University of London ^a	1,143	6	17	LSE ^a	485	4	43
Surrey ^b	815	5	17	London School of Hygiene and Tropical Medicine ^d	313	35	42
Sussex ^b	818	5	17	De Montfort ^c	380	2	41
University of London Institute in Paris and School of Advanced Study ^b	103	59	17	Greenwich ^c	328	2	41
Loughborough ^b	898	5	17	Glasgow Caledonian ^c	338	2	41
King's College ^a	2,148	7	17	Royal Agricultural University ^d	13	1	40

^a Russell Group; ^b Other pre-1992 university; ^c Other post-1992 university; ^d Specialist institution

Source: HESA *Students* DT051 Table 1

⁹¹ Institutions where postgraduate researchers comprise less than 1% of the entire student body are not included.

Table 4.4: Twenty institutions with the greatest proportion of other EU and non-EU taught postgraduate students⁹²

Top 20 for other EU students	No. FTE PGT students	PGT students as % of student body	% EU	Top 20 for non-EU students	No. FTE PGT students	PGT students as % of student body	% non-EU
Abertay ^c	270	7	30	Southampton ^a	4,813	20	63
Rose Bruford ^d	43	7	29	LSE ^a	6,113	54	60
St Andrews ^b	1,075	11	28	London Business School ^d	1,638	96	59
Cranfield ^d	2,660	80	28	Loughborough ^b	2,760	17	59
Royal College of Art ^d	1,895	90	25	Bath ^b	2,460	15	58
Edinburgh Napier ^c	2,035	17	22	Leeds ^a	5,718	17	58
LSE ^a	6,113	54	22	Coventry ^c	4,583	14	57
University College Birmingham ^c	435	10	22	Leicester ^b	3,025	18	56
Royal College of Music ^d	375	46	21	Durham ^a	2,663	15	55
Trinity Laban ^d	245	24	20	Queen Mary University of London ^a	4,283	22	54
Guildhall School of Music and Drama ^d	338	33	19	Glasgow ^a	5,928	22	54
Heriot-Watt ^b	1,893	19	19	Sheffield ^a	6,238	22	53
Imperial College ^a	4,050	23	19	Warwick ^a	6,038	26	53
Royal Academy of Music ^d	410	49	18	Imperial College ^a	4,050	23	52
Conservatoire for Dance and Drama ^d	180	13	18	Manchester ^a	7,280	19	52
London Business School ^d	1,638	96	17	Bristol ^a	3,990	17	51
Royal Conservatoire of Scotland ^d	240	21	17	University of the Arts, London ^d	3,375	18	50
University of the Arts, London ^d	3,375	18	17	Cardiff ^a	5,305	19	50
The National Film and TV School ^d	305	100	16	Sussex ^b	3,523	20	48
AECC ^d	93	22	16	Edinburgh ^a	6,348	20	47

^a Russell Group; ^b Other pre-1992 university; ^c Other post-1992 university; ^d Specialist institution

Source: HESA *Students* DT051 Table 1

⁹² Institutions where taught postgraduate students comprise less than 5% of the entire student body are not included.

Taught postgraduates

From Table 4.4, we can see that students from other EU countries represent a substantial proportion of taught postgraduates in several arts institutions, highlighting the risks to these institutions if they lose out to competitors abroad post-Brexit.

In 18 institutions, over half the taught postgraduate students are from outside the EU. As discussed above, many universities are now highly dependent on international student fees for income. With no caps on international fees, they are often used by universities to balance out the costs of more expensive lab-based subjects for UK and EU students and to fund research within the university.⁹³

The older universities tend to attract the most international students, despite higher fees. Table 4.5 shows fees at the ten institutions with the greatest market share of non-EU domiciled taught postgraduate students in the UK, all of which are in the Russell Group. The figures are only a rough indication, as even among classroom-based subjects fees may vary between departments.

Table 4.5 Non-EU taught postgraduate fees at the ten institutions with the greatest market share of non-EU taught postgraduate students

	Market share of non-EU PGT (%)	Overseas fees: classroom-based subjects	Overseas fees: science/ lab based
UCL	4.4	£20,540	£25,130
Manchester	3.1	£17,000	£21,000
LSE	3.0	£20,112–32,880	n/a
Sheffield	2.8	£16,000–22,250	£20,470–22,820
Leeds	2.7	£15,750	£19,750
Glasgow	2.6	£16,710	£20,255
Warwick	2.6	£18,380	£23,460
Birmingham	2.5	£19,890	£25,000
Southampton	2.5	£16,710	£20,550
King's College	2.5	£18,420	£22,800
UK average		£13,442	£15,635

Source: HESA *Students* DT051 Table 1; *The Reddin Survey*; *Complete University Guide*

93 Nick Hillman, *From T to R revisited*, HEPI, 2020.

While high fees do not necessarily put off international students – indeed higher fees may confer, or at least confirm, a certain cachet – the market is not unaffected by fee rises, especially in the competition for students with the UK’s closest competitor, the US. A market analysis by HEPI and Kaplan suggested that a 10% increase in UK postgraduate fees would lead to a 2.1% drop in enrolment, while a 10% rise in US fees could increase international enrolment in the UK by 11%.⁹⁴

Which institutions’ graduates are most likely to proceed to postgraduate study?

Research postgraduates

Although progression directly from first degree to a postgraduate research course is not that common, there has been an increase in the proportion taking this route, from 1.9% of UK first-degree leavers in 2007/08 to 2.1% in 2016/17. This route is more common in STEM subjects; it is not surprising that the ten institutions with the highest proportion of students taking this route are pre-1992 universities with established reputations for Science and with high Research Excellence Framework scores in these subjects.

Table 4.6: Ten providers with highest percentage of first-degree full-time and part-time graduates progressing directly to postgraduate research (PGR) study within six months (providers with 30+ students progressing to postgraduate study)

2007/08	% progressing to PGR	2016/17	% progressing to PGR
Imperial ^a	11.3	Cambridge ^a	13.6
Cambridge ^a	10.7	Imperial College ^a	12.7
Oxford ^a	10.3	St Andrews ^b	7.3
Bath ^b	6.6	Oxford ^a	7.2
UCL ^a	5.7	UCL ^a	7.0
York ^b	5.4	Kent ^b	6.2
Strathclyde ^b	5.4	York ^a	6.1
St Andrews ^b	5.2	Bristol ^a	6.1
Durham ^b	5.0	Glasgow ^a	5.8
Bristol ^a	5.0	Durham ^a	5.7
% all UK students	1.9	% all UK students	2.1

^a Russell Group; ^b Other pre-1992 university

Source: HESA *DLHE* 2007/08 and 2016/17

94 G. Conlon, R. Ladher and M. Halterback, *The determinants of international demand for UK higher education*, 2017.

Taught postgraduates

There has been an even more marked increase in the number of undergraduates progressing directly to taught postgraduate study, from 8.8% in 2007/08 to 13.6% in 2016/17. Special mention is due to six small specialist institutions excluded from Table 4.7 as they have fewer than 50 students progressing to postgraduate study: the Royal College of Music (55%); the Royal Academy of Music (46%); the Royal Northern College of Music (40%); the University of Buckingham (29.3%); the now defunct Heythrop College (27.3%); and Trinity Laban (26.7%). The top ten institutions for progression to taught postgraduate have become more diverse since 2007/08, with no Russell Group institutions, and one post-1992 institution included.

Table 4.7: Ten providers with the highest percentage of first-degree graduates progressing to taught postgraduate (PGT) study within six months (providers with 50+ students progressing to postgraduate study)

2007/08	% progressing to PGT	2016/17	% progressing to PGT
SOAS ^b	20.9	Lancaster ^b	26.8
Royal Holloway ^b	17.7	Swansea ^b	26.5
Lancaster ^b	16.1	Royal Holloway ^b	26.3
Heriot-Watt ^b	16.1	Sussex ^b	26.2
UCL ^a	16.1	Aberystwyth ^b	24.7
Oxford ^a	15.7	Bangor ^b	22.9
Kent ^b	15.7	SOAS ^b	22.4
LSE ^a	15.3	Hull ^b	22.3
Goldsmiths ^b	15.3	Essex ^b	22.0
St Andrews ^b	15.1	Lincoln ^c	21.2
% of all UK students	8.8	% of all UK students	13.6

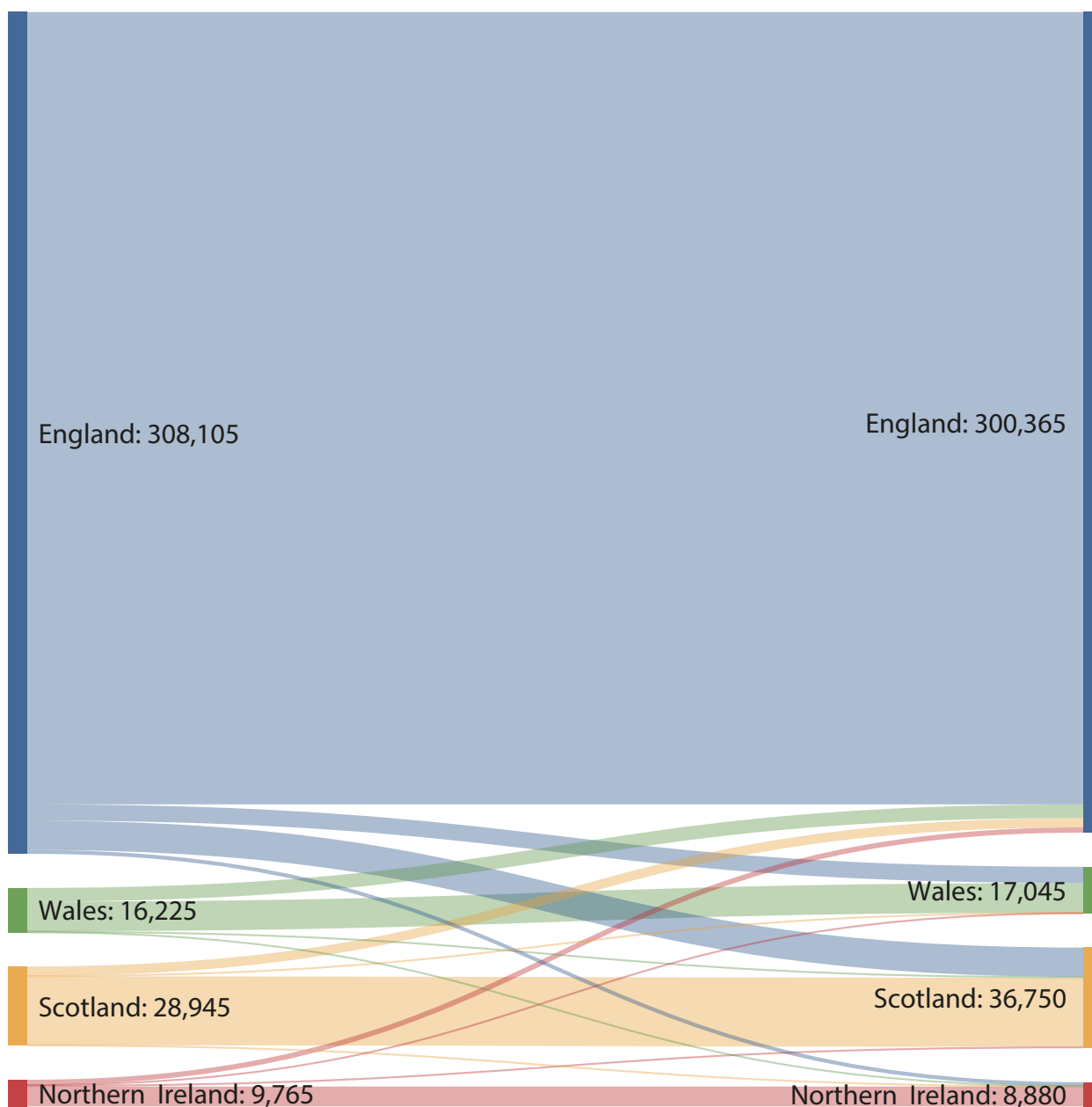
^a Russell Group; ^b Other pre-1992 university; ^c Post-1992 university

Source: HESA *DLHE* 2007/08 and 2016/17

Migration for study within the UK

The majority of UK-domiciled postgraduates study in the same country in which they were domiciled prior to study. Of the devolved administrations, Scotland retains the highest proportion of locally domiciled postgraduate students, with 87% studying in Scottish providers, followed by Northern Ireland (75%) and Wales (67%). Only 6% of England-domiciled students migrate to the devolved administrations for study.

Figure 4.3 All UK-domiciled postgraduates by country of domicile (left) and country of higher education provider (right), 2017/18

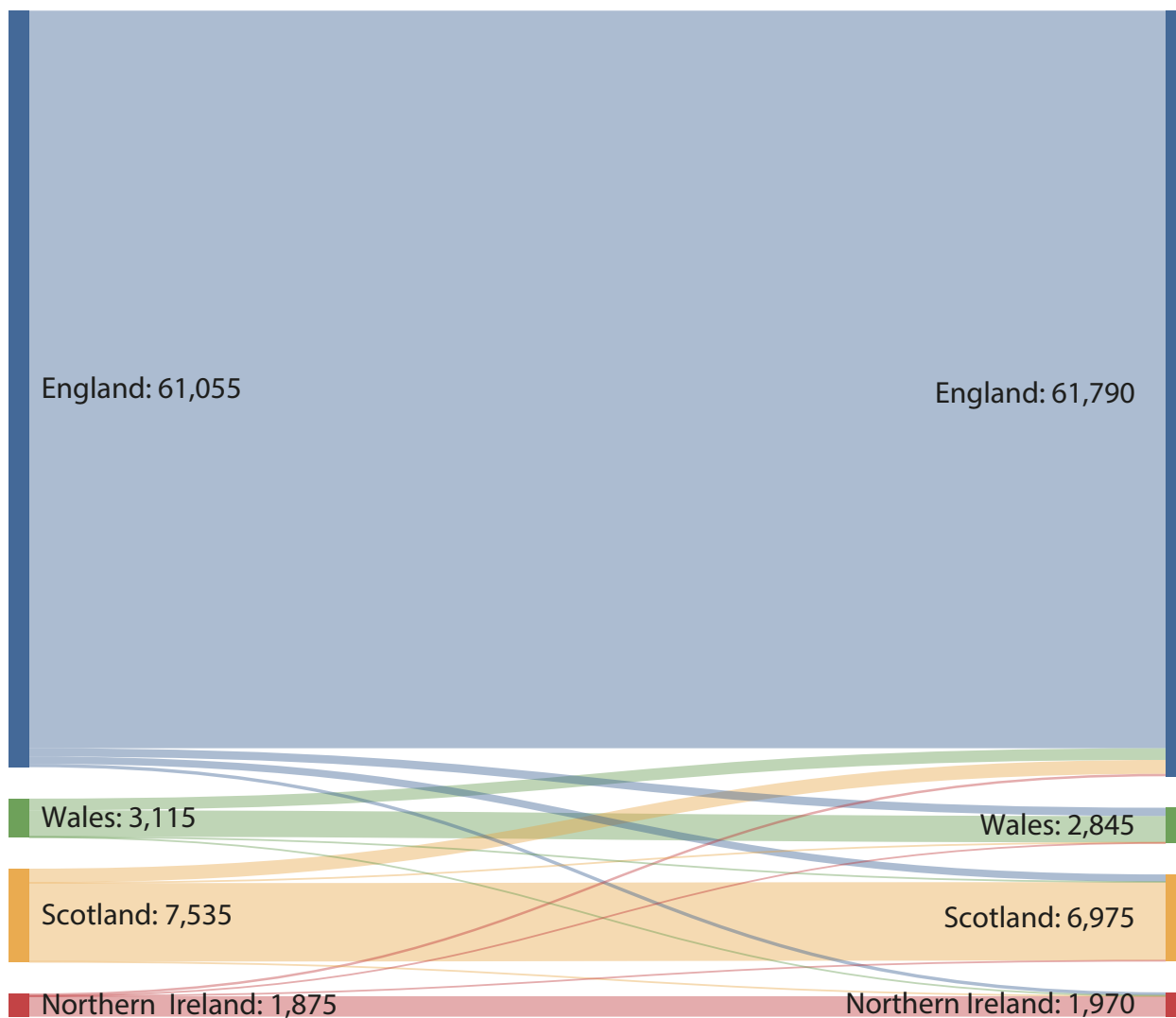


Source: HESA *Students* DT051 Table 11

Retention of postgraduate qualifiers within the territories of the UK

In all regions, postgraduates are more likely to work in their region of study after graduating than to seek employment elsewhere.

Figure 4.4 UK-domiciled postgraduate leavers in employment in the UK by region of HE provider (left) and region of employment (right)



Source: HESA *DLHE* 2016/17 Table 12

Compared to 2007/08, a slightly greater proportion of postgraduates who studied in Wales now remain there to work, which may suggest there are more suitable jobs available locally than there were ten years ago. At the same time, Scotland is retaining a noticeably smaller proportion of postgraduates than it was ten years earlier. The causes of this could merit further investigation.

Table 4.8 Percentage of postgraduate qualifiers in employment who are employed in their territory of study six months after graduation ('stayers') and those employed elsewhere ('leavers')

	2007/08		2016/17	
	Stayers	Leavers	Stayers	Leavers
Mean across English regions ⁹⁵	61	39	62	38
Wales	66	34	68	32
Scotland	91	9	84	16
Northern Ireland	90	10	89	11

Source: HESA *DLHE* 2007/08 and 2016/17

Table 4.9 shows that the English regions and Wales import a greater proportion of workers with postgraduate qualifications from institutions elsewhere in the UK than they did in 2007/08, but for Scotland and – especially – Northern Ireland, the reverse is true.

Now, as then, Scotland, Wales and Northern Ireland import a lower proportion of students than the English regions, although this disparity is in large part due to movement between the English regions: looked at as a single entity, England imports only 4% of its postgraduate-qualified employees from the devolved administrations. The decrease in both 'stayers' and 'incomers' in Scotland and Northern Ireland may indicate that there were fewer job opportunities for postgraduate qualification holders in 2017 than in 2008, while Wales – with more stayers and more incomers – may be seeing an increasing number of professional employment opportunities.

Table 4.9 Percentage of postgraduate qualifiers in employment who are employed in an area in which they did not study, six months after graduation

	2007/08 incomers	2016/17 incomers
Mean across English regions	33	36
Wales	23	25
Scotland	10	9
Northern Ireland	25	16
UK mean	34	29

Source: HESA *DLHE* 2007/08 and 2016/17

95 Including students who studied in one English region and found work in another.

Retention of postgraduate qualifiers within the English regions

Comparing the number of 'leavers' with the number of incomers shows which regions experience a net decrease of postgraduate qualifiers, and which regions attract more than they educate. The Northern and Midlands regions, along with Scotland and Wales, show an overall decrease in postgraduate qualifiers, with more leaving the region than migrating in, indicating either that these regions do not provide enough suitable jobs for the numbers they educate, or that they are failing to attract graduates to remain there and work. Meanwhile, the Eastern and Southern regions experienced a net increase in postgraduate qualifiers in 2016/17, indicative of more high-level job opportunities available in London and, probably, in and around Cambridge. Northern Ireland also saw a net increase in postgraduate qualifiers, reflecting a local skills deficit which may be connected to a shortage of university places due to underfunding.⁹⁶

Table 4.10 Geographical destinations of postgraduate qualifiers in the English regions: stayers, leavers and incomers

	Stayers	Leavers	Incomers
North East	1,990	1,200	575
North West	6,165	2,560	1,810
Yorkshire and The Humber	3,820	2,105	1,465
East Midlands	2,490	2,100	1,545
West Midlands	3,990	2,875	1,705
East of England	2,030	1,805	2,475
London	11,370	3,470	6,495
South East	4,700	3,580	3,945
South West	2,800	1,425	2,050
Wales	2,130	995	715
Scotland	6,335	1,215	640
Northern Ireland	1,655	215	310

Source: HESA DLHE 2016/17

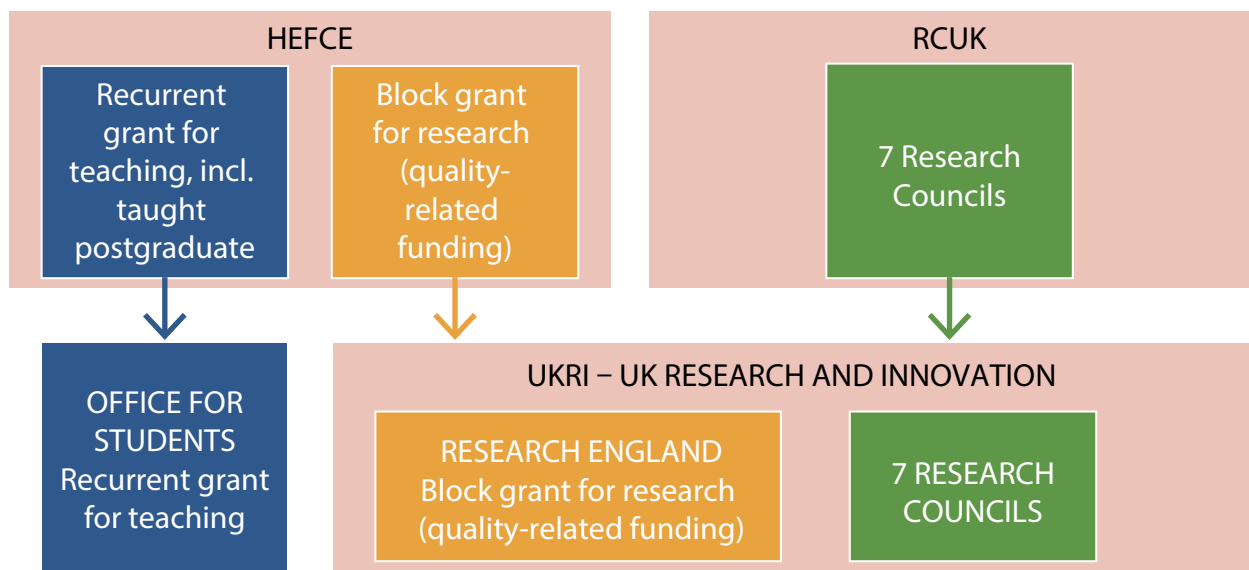
⁹⁶ *The Challenge Higher Education Now Faces*, Factsheet 3, Department for Employment and Learning, Northern Ireland Government; E. Murphy, *Economic impact of cuts to the Higher Education Sector*, Northern Ireland Assembly, Research and Information Service Research Paper, 2016.

Costs and benefits

This chapter considers the costs and benefits of a postgraduate qualification. It begins by looking at the way in which postgraduate provision is funded, including the costs from the perspective of students. It then looks at the benefits in terms of salary, employability and access to the professions, weighing up the relative benefits of non-specialist postgraduate qualifications and work experience. Finally, it summarises the many benefits international students bring to universities and to the UK.

In England, the bodies responsible for disbursing government funds underwent a major overhaul in 2018. The responsibilities of the Higher Education Funding Council for England (HEFCE) were split between two new bodies: the Office for Students, which disburses teaching-related grants, and Research England, which allocates grant funding to English universities for research and knowledge exchange activities. Research England now sits, alongside the UK Research Councils, within a new entity called UK Research and Innovation (UKRI) whose remit extends to industry as well as higher education.

Figure 5.1 Changes to funding and research council structures in England in 2018



In the devolved administrations, there have been no major structural changes as yet: the Scottish Funding Council, the Higher Education Funding Council for Wales and the Department for the Economy in Northern Ireland continue to fulfil the same responsibilities for distributing funding.

Taught postgraduate study

There are two principal means by which UK higher education providers generate revenue from taught postgraduate courses:

- subsidy from the relevant funding council, known as the recurrent grant; and
- fee income, usually paid by the student, occasionally by a third party (such as Research Councils, an employer or, for eligible Scottish students, the Student Awards Agency for Scotland).

The funding council subsidy includes, among other things, allocations based on the number of UK and EU students, the subjects they are studying – with high-cost subjects attracting greater funding – and London weighting.

Table 5.1 High-cost subject funding for price groups per full-time equivalent student, 2019/20

Price group	Rate of funding
A – Medicine and Allied Subjects	£10,250
B – Laboratory-based Science	£1,538
C1 – Intermediate-cost subjects such as Archaeology, Creative Arts, IT, Media Studies	£256
C2 – (mainly classroom-based) and D (classroom-based)	£0

Source: Office for Students, *Guide to funding 2019–20* p.21 (Table 4)

Targeted funds are also allocated to support key policies, such as widening participation, improving outcomes for students with additional needs, such as disabilities, and encouraging universities to engage in outreach activities for schools and colleges.

Taught postgraduate fees and loans

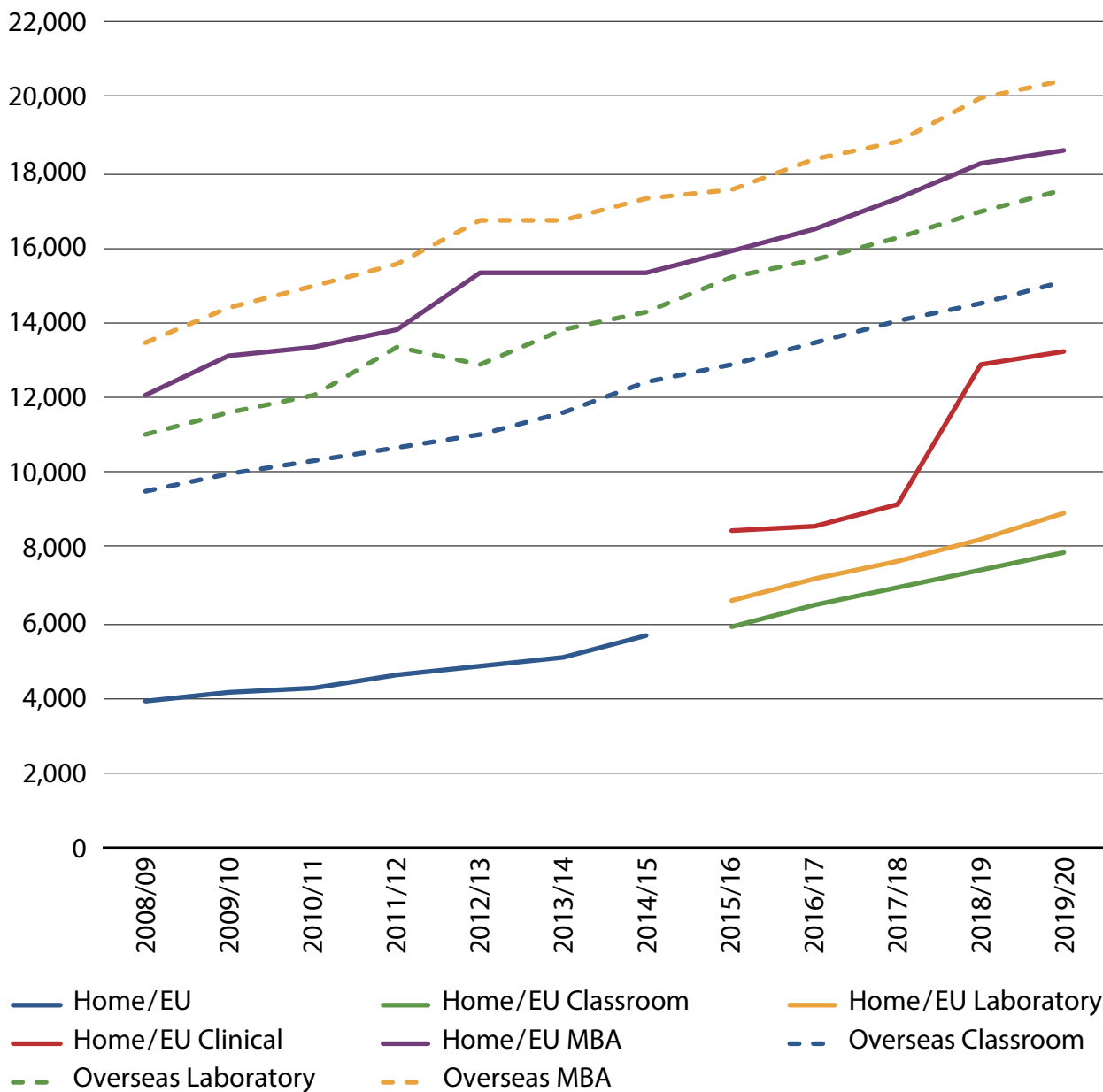
For postgraduate courses with regulated fees, which include Initial Teacher Training and some professional qualifications, the funding method is the same as for undergraduate students: universities charge a standard fee which may be topped up by funding council subsidies if any of the above factors apply.

For unregulated courses such as Master's degrees, the funding model is based on the assumption that universities will charge home/EU sufficient fees to cover the cost of a classroom-based course entirely, although high-cost subjects are still subsidised by funding councils so that, in theory, the additional expense is not passed on to students. In practice, laboratory-based course fees do tend to be somewhat pricier, even for UK/EU-domiciled students, as the subsidy does not always fully cover the difference in cost of provision.

International student fees are much higher: they receive no subsidy, so must cover the entire cost of the course. Many universities in fact make use of higher international fees to further subsidise courses for UK and EU students, as well as to plug shortfalls in research budgets. On average, international students pay around £5,100 per year more than it costs to educate them, around £4,250 of which typically goes towards universities' research budgets.⁹⁷

97 N. Hillman, *From T to R revisited: Cross-subsidies from teaching to research after Augar and the 2.4% R&D target*, HEPI, 2020.

Figure 5.2 Fee levels for unregulated taught postgraduate courses at UK providers

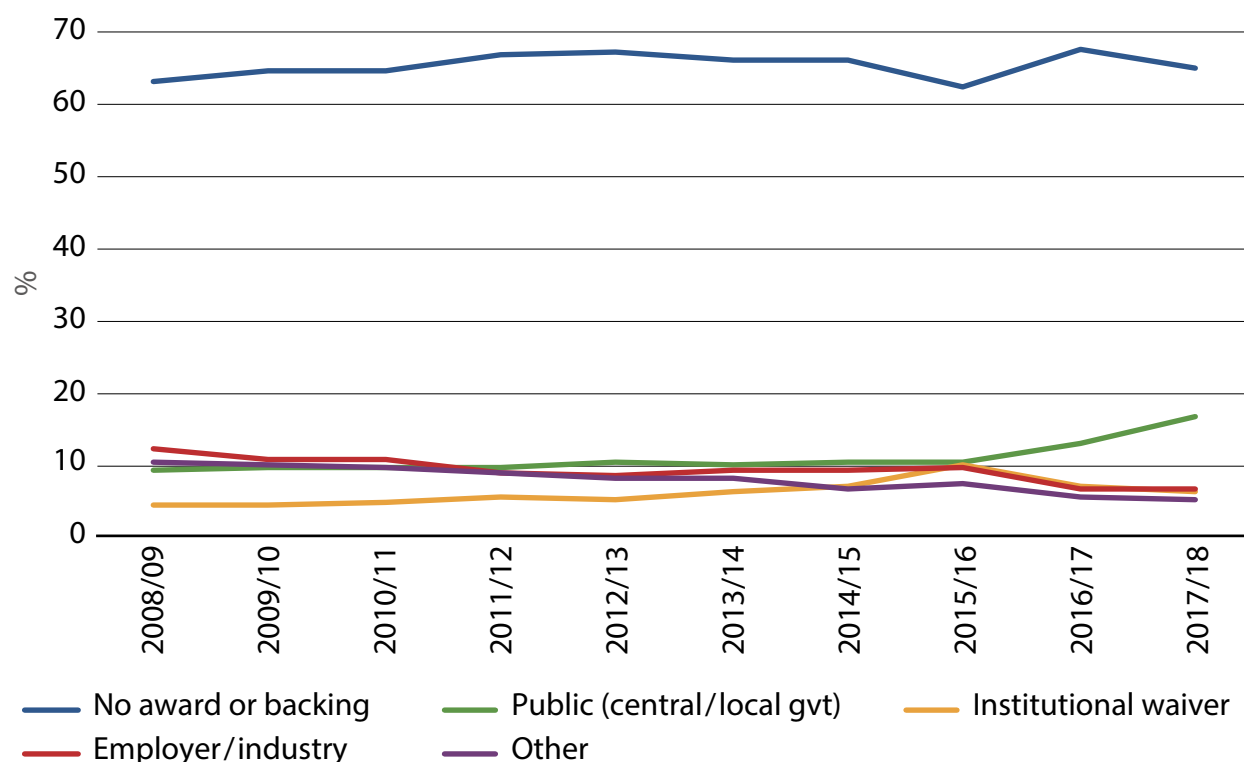


Source: *The Reddin Survey*⁹⁸

98 Before 2015, universities were only asked to submit a single indicative figure for a Master’s course for UK/EU-domiciled students; from 2015 onwards, they were asked to provide separate figures for classroom, laboratory and clinical fees. Average fee calculations in all years exclude data from institutions which provided a range instead of a single figure.

Around two-thirds (65%) of UK-domiciled taught Master’s students pay their own fees (including those who do so using Master’s loans). In 2015/16, the proportion doing so dipped, while institutional waivers peaked. This was probably due to the Postgraduate Support Scheme, which disbursed around 7,300 awards of £10,000 per student, targeted towards undergraduate leavers from low-participation groups who started their courses in 2012, when undergraduate fees in England went up to a maximum of £9,000.⁹⁹ The number of students funded by an employer has declined over the study period from 10,663 (12%) in 2008/09 to 7,292 (7%) in 2017/18.

Figure 5.3 Major sources of tuition fees for UK-domiciled first-year Master’s students in UK higher education providers, 2008/09 to 2017/18



Source: HESA bespoke data request

The previous HEPI *Postgraduate Education* report in 2010 highlighted that with postgraduate qualifications increasingly representing the gateway to the professions but no student finance available for Master’s degrees, individuals from less advantaged groups faced an uphill struggle to access the professions, despite increasing participation at undergraduate level.

⁹⁹ P. Wakeling, S. Hancock, A. Ewart, *Evaluation of the Postgraduate Support Scheme, 2015/16*, University of York/HEFCE, 2017.

These concerns became increasingly pressing in the subsequent decade and eventually led to the introduction of Master’s loans of up to £10,000 in 2016/17.¹⁰⁰ The number of UK-domiciled taught Master’s students shot up immediately, with noticeably more enrolment from low-participation groups in the first two years (Figure 2.22).

Master’s loans work differently in the devolved administrations. In England, the money is available as a single loan; in Scotland it is split between fees and living costs. In 2019, Wales added means-tested support for living costs, bringing the maximum available loan to £17,000.¹⁰¹ Eligibility depends on country of residency at the time of application, rather than the location of the university.

Table 5.2 Finance structures for postgraduate study, 2019/20

Country	Maximum value	Repayment threshold	Interest (%)	Repayment as % of income over the threshold	Cancelled after
England	£10,906	£21,000	RPI+3	6.1	30 years
Wales	£17,000	£21,000	RPI+3	6.1	30 years
Scotland	£10,000	£18,935	RPI*	9.0	30 years
Northern Ireland	£5,500	£18,935	RPI*	9.0	25 years

* Or Bank of England Base Rate + 1%, whichever is lower.

Before the Master’s loan was introduced in 2016, many universities tried to keep fees low for home and EU students. As a result, Master’s fees were often cheaper than undergraduate fees, remaining below £5,000 on average even after the undergraduate fee cap was lifted to £9,000 in 2012/13 (Figure 5.3).

100 See, for example, *Postgraduate Education: An independent inquiry by the Higher Education Commission, 2010*; *Higher Education: The Fair Access Challenge, 2013*, Social Mobility and Child Poverty Commission.

101 www.thecompleteuniversityguide.co.uk/university-tuition-fees/postgraduate-student-loans-in-the-uk

The introduction of Master’s loans changed this. Universities were able to charge fees closer to, or even beyond, the actual cost of provision. As Table 5.3 shows, in 2016/17, the average fee for a classroom-based Master’s degree shot up by 10%, from £5,901 to £6,490. Since then, fees have continued to grow faster than inflation, leaving a dwindling share of the loan (which now stands at just under £11,000) available for living costs.

Table 5.3 Average taught postgraduate fees at English higher education providers, 2015/16 to 2019/20 (£)

	2015/16	2016/17	2017/18	2018/19	2019/20
Classroom-based	5,901	6,490	6,848	7,415	7,964
% increase in classroom-based fees		10.0	5.5	8.3	7.4
Laboratory-based	6,638	7,214	7,555	8,205	8,860
% increase in laboratory-based fees		8.7	4.7	8.6	8.0
UK inflation (%)		1.8	2.7	2.0	1.8

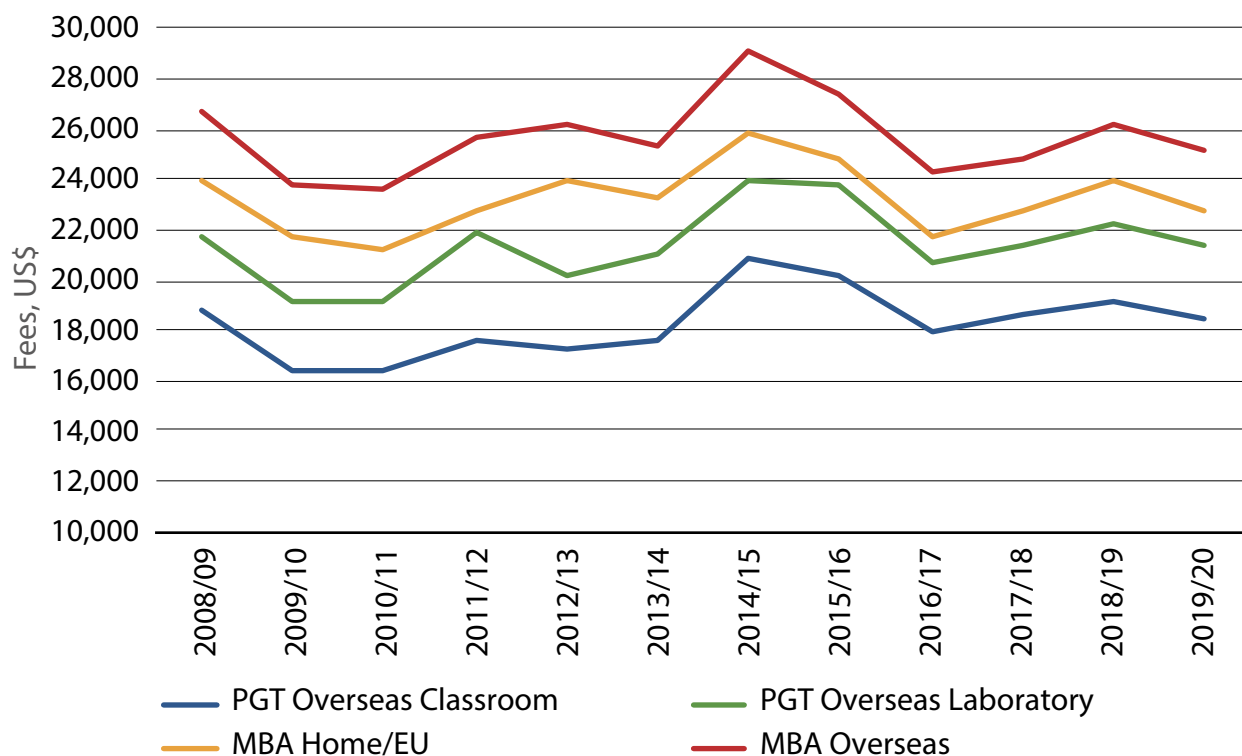
Source: Fees from *The Reddin Survey*; annual inflation rate from Office for National Statistics, *Inflation and price indices*

Table 5.3 gives average fees, but in many cases, fees have already exceeded the loans in certain subjects. Thirty-seven of 149 universities that participated in *The Reddin Survey* submitted home/EU fees for non-clinical subjects in 2019/20 that were over the maximum available loan in England (£10,906).¹⁰² This situation may ultimately limit the benefits of loans in terms of widening participation, leaving students from less affluent backgrounds once again reliant on higher-interest bank loans or other income sources to subsidise their living costs.

Regarding international fees, Table 5.3’s figures in pounds sterling suggest they have increased. However, considered from abroad – from the US or China, for instance – UK fees have not increased much overall, and have fallen in many years, due most recently to the slide in the value of the pound since the EU referendum. This is likely to be a driver of increasing international student numbers in 2017/18. Figure 5.4 gives the costs in US dollars; being pegged to the dollar, the Chinese Yuan follows the same trajectory.

¹⁰² *The Reddin Survey*.

Figure 5.4 Average UK taught postgraduate fees for non-EU students in US dollars



Source: *The Reddin Survey*

The decision not to take short-term advantage of the falling pound by raising international fees more rapidly has probably helped UK universities to maintain their competitive edge in an increasingly competitive global market for international students. At the same time, a cautious approach to raising overseas fees helps maintain resilience to sudden rises in the pound, such as that seen in October 2019 as uncertainty over Brexit was resolved. It may also help the UK maintain a greater share of EU students should they end up paying full international fees in the future.¹⁰³

Research degrees

Research degrees are funded by a mixture of private and public funds. Public funding in England is provided under a dual support system, consisting of:

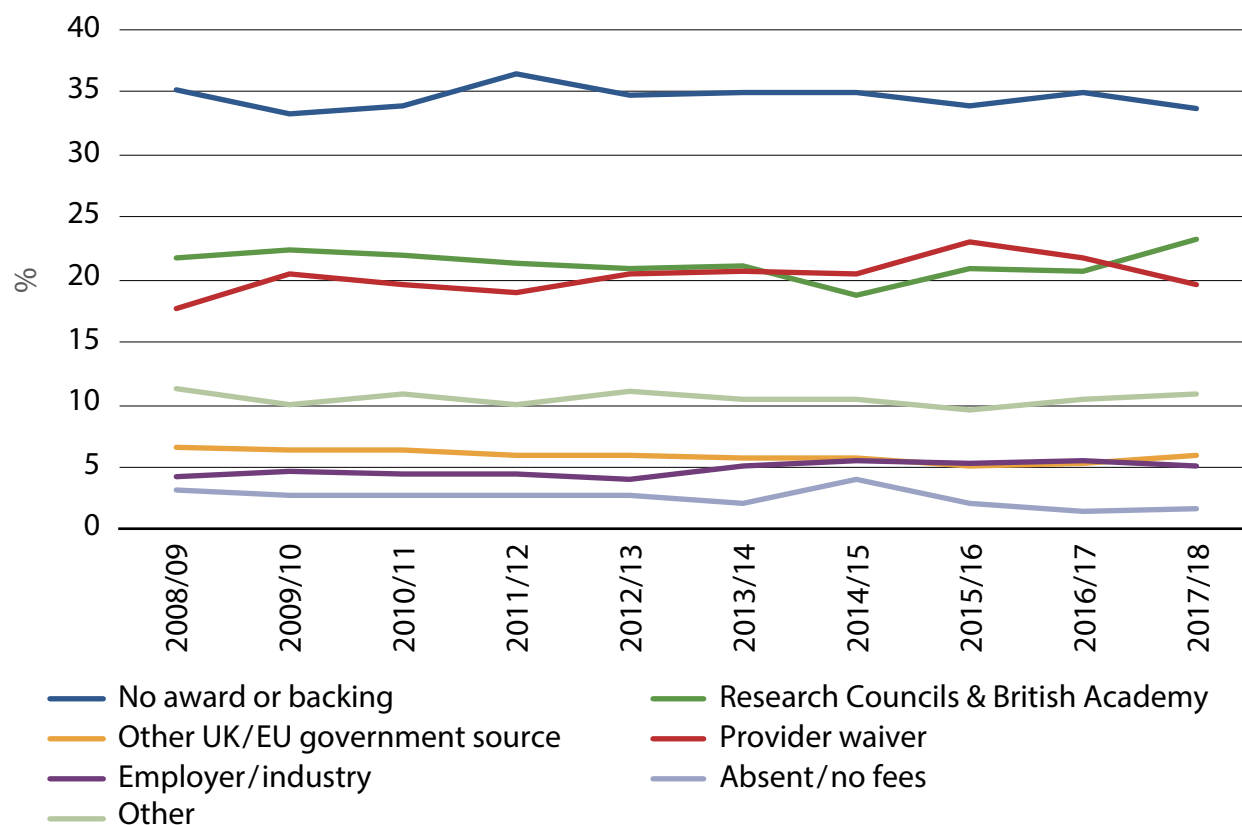
- a block grant disbursed by Research England (formerly by HEFCE); and
- funding for specific research projects and programmes from the UK Research Councils.

¹⁰³ A useful debate on this subject can be found in Simon Baker, 'International and postgraduate fees survey 2017', *Times Higher Education*, 17 August 2017.

Research postgraduate fees and loans

Institutions also charge fees for postgraduate research degrees, although these are more commonly covered by grants and bursaries than at the taught postgraduate level; only one-third (34%) of UK postgraduate researchers are unfunded. The UK Government, primarily through the Research Councils, is the most important sponsor of UK/EU-domiciled research students' fees.

Figure 5.5 Major source of tuition fees for UK-domiciled first-year postgraduate research students in UK higher education providers, 2008/09 to 2017/18



Source: HESA bespoke data request

Research Council studentships provide for the cost of tuition and living expenses. For 2020/21, these have been set at £4,407 for PhD tuition fees and there is a £15,258 stipend to cover living costs (before London weighting). Fees for non-EU students are substantially higher, ranging from around £10,000 to £50,000 depending on the subject of study and institution. However, *The Reddin Survey* does not collate PhD fees, and there is no other source for comparison across providers.

In 2018/19, loans of up to £25,000 were made available to doctoral students domiciled in England and Wales who are not in receipt of any other government-funded studentship or bursary.

Interest is charged at RPI +3%. Repayments are 6% of income over £21,000, with PhD and Master's loans combined into a single loan, so the full rate of repayment of undergraduate (9%) + postgraduate (6%) loans comes to 15% of earnings over the threshold income.

Based on HESA's newly-released 2018/19 figures, UK-domiciled research doctorate starters increased by 3.5% from 2017/18, after several years of incremental growth, though it would require further study to establish the extent to which this is due to loan uptake versus the increased pool of Master's graduates following the introduction of Master's loans.

Benefits of postgraduate education

There are a number of measures used to quantify the 'postgraduate premium' – that is, benefits that accrue as a result of a postgraduate qualification, including higher salary, greater employability and access to the professions. Before going on to explore these, it is worth reflecting on what they do not show.

There are limitations on the mechanisms for collection; for example, the *DLHE* surveys, which were not completed by all graduates, only measured outcomes six months and 3.5 years after graduation, thus failing to capture longer-term career implications.¹⁰⁴ The qualitative benefits of a well-educated workforce as a basic public good are difficult to measure and thus easy to overlook.¹⁰⁵ Similarly, personal benefits such as career satisfaction – which may weigh more heavily in the decisions of those who opt to study the Arts and Humanities – go virtually unmentioned, leaving such subject areas open to attack for producing poor monetary returns compared to study costs.

Yet the case for a highly-educated population with diverse skills is clear. The job market is set to change rapidly over the coming decades. On the one hand, we can expect to see increased automation of routine and repetitive tasks – including in some roles traditionally associated with higher qualifications, such as finance, insurance and public

104 A useful attempt to estimate the lifetime salary advantage conferred by an undergraduate degree is provided by Jack Britton et al., *The impact of undergraduate degrees on lifetime earnings*, 2020.

105 The Department for Business, Innovation and Skills (BIS) published a literature review of studies demonstrating the economic and non-market advantages of higher education to individuals and society: *The Benefits of Higher Education Participation for Individuals and Society: Key findings and reports 'The Quadrants'*, 2013, BIS.

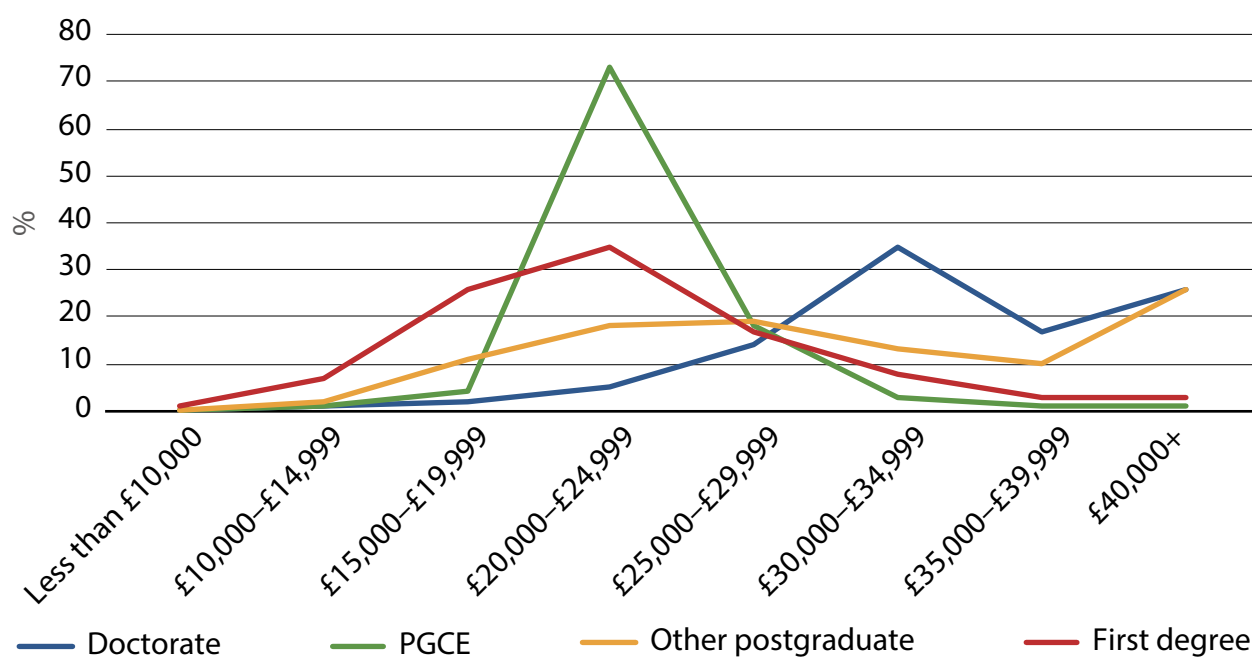
administration.¹⁰⁶ On the other, this will be accompanied by increased demand for the still very human analytical, interpretative, critical, technical and creative skills needed to complement a more automated working environment. These kinds of skills, along with the ability for independent research and learning, are at the core of postgraduate education.¹⁰⁷

Salary

Postgraduate degree holders tend to attain substantially higher salaries than those with undergraduate degrees six months after graduation – on average 18% more.¹⁰⁸ However, this difference is not due to the postgraduate qualification alone. Postgraduate qualifiers tend to be older, and those who did not go directly into postgraduate study after completing their first degree will usually have gained work experience – a factor many employers cite as more important than postgraduate qualifications.

Figure 5.6 compares salaries six months after graduation. The peak of £20,000–£25,000 for PGCE leavers reflects the typical starting salary of a state-sector teacher.

Figure 5.6 Salary of UK-domiciled 2016/17 leavers six months after graduating



Source: HESA DLHE 2016/17

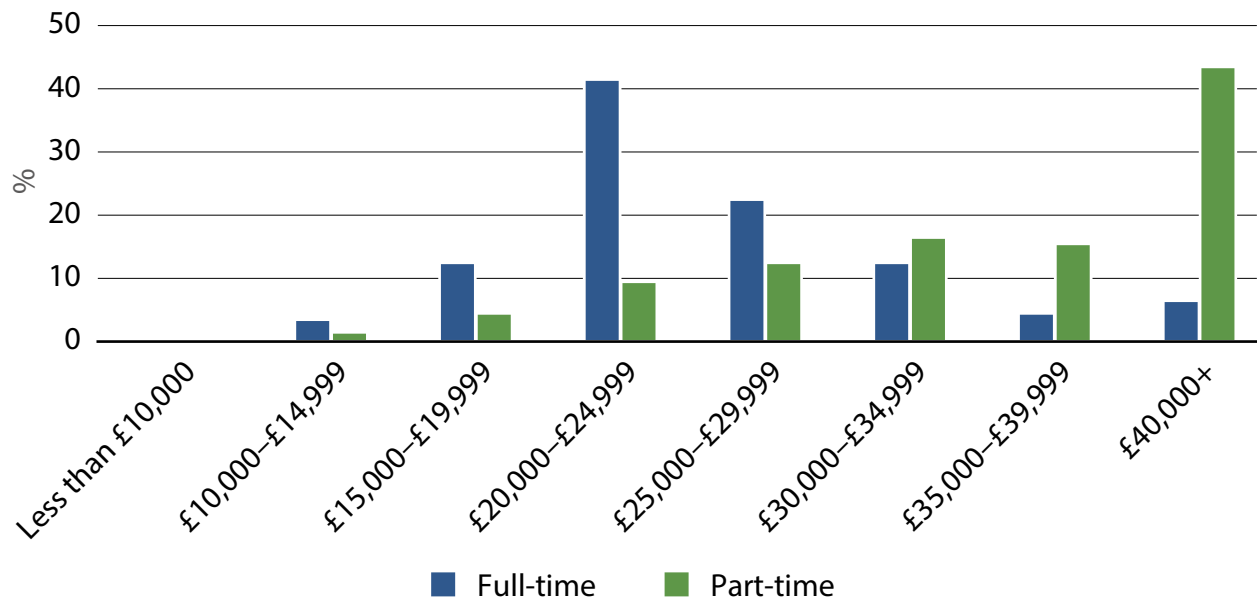
¹⁰⁶ Rob Wilson et al., *Working Futures 2017–2027: Long-run labour market and skills projections – Headline report*, February 2020, p.6.

¹⁰⁷ See, for example, the QAA’s descriptor for Master’s Level (7) qualifications, *UK Quality Code for Higher Education, Part A*. 2014 pp.28–29.

¹⁰⁸ *Graduate Labour Market Statistics 2018*, Department for Education, April 2019.

The salaries of part-time postgraduates tend to be much higher after graduation, since many are already in work and seeking relevant qualifications to further their careers and/or add skills needed in their workplaces. In many cases, such students are funded by their employers, and career-specific postgraduate qualifications quickly translate into promotions and salary raises.

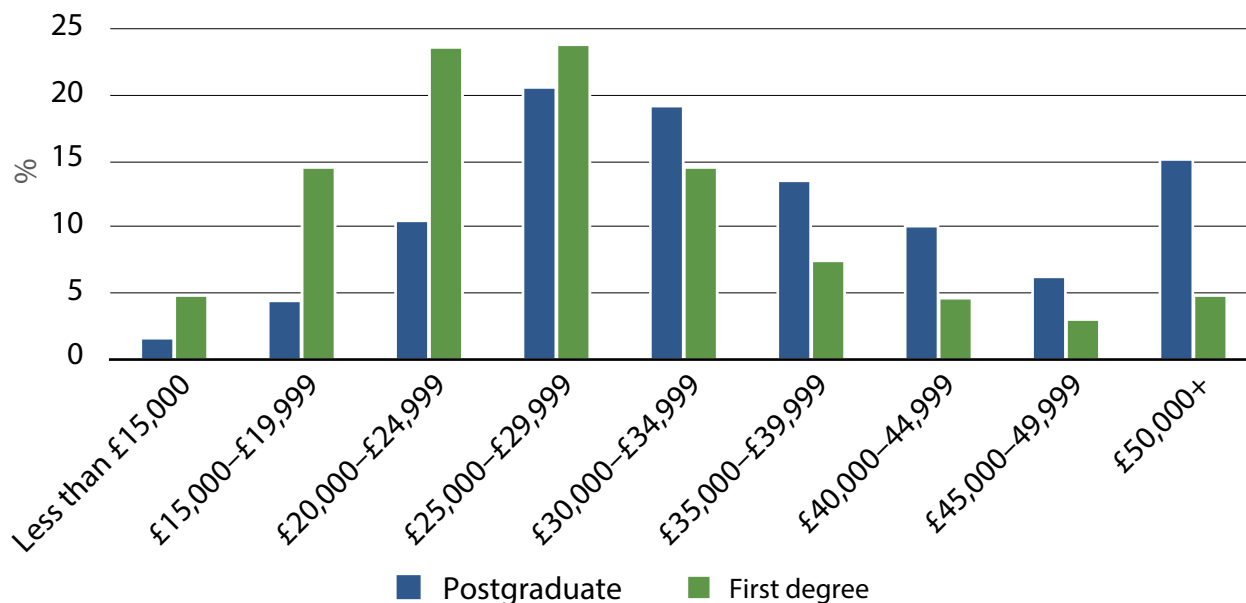
Figure 5.7 Salaries of UK-domiciled 2016/17 part-time and full-time postgraduate leavers six months after graduating



Source: DLHE 2016/17

Three-and-a-half years down the line, the median salary for postgraduates is £32,000, compared to £26,000 for first degree leavers. Former postgraduates are more likely to be earning over £30,000, and much more likely to be earning over £50,000.¹⁰⁹

Figure 5.8 Salary of UK-domiciled 2012/13 leavers 3.5 years after graduation

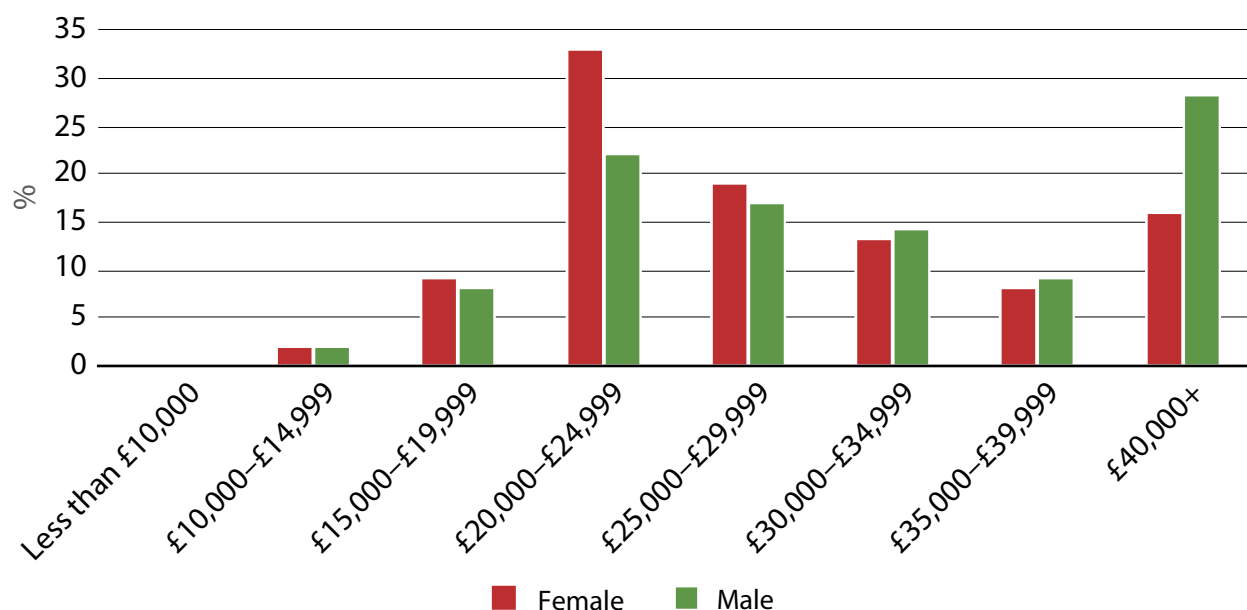


Source: *DLHE Longitudinal 2012/13*

Salaries for women with postgraduate degrees progress less rapidly than men. Six months after graduating, men are more likely than women to be earning over £30,000. The large imbalance in the £20,000-£24,000 band reflects the greater proportion of female ITT graduates (70%). It is also possible that more women are working part-time than men, hence drawing lower salaries, but this is not currently measured in the *DLHE* survey. That problem should be rectified with the *Graduate Outcomes* survey, which is replacing the *DLHE*.

¹⁰⁹ *DLHE Longitudinal*, Table 12. HESA's published *DLHE* longitudinal data is not disaggregated into different types of postgraduate degree.

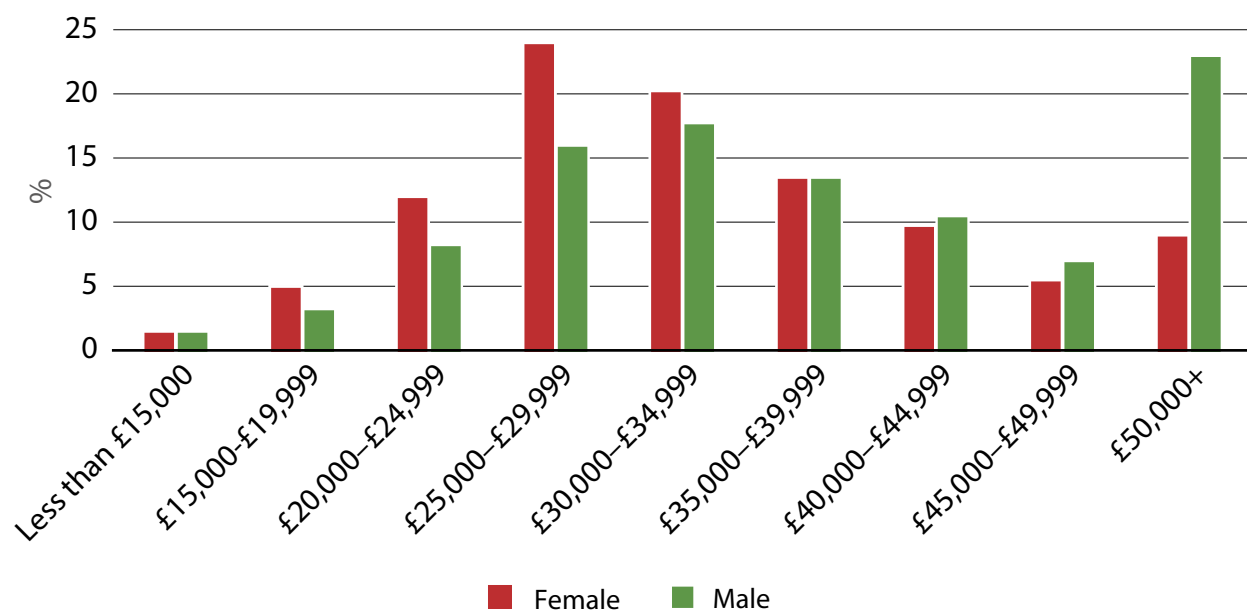
Figure 5.9 Salaries of UK-domiciled 2016/17 postgraduate leavers six months after graduating, by gender



Source: www.hesa.ac.uk/news/28-06-2018/sfr250-higher-education-leaver-statistics-employment

Three-and-a-half years after graduating, the difference is even more pronounced, with fewer women converting their postgraduate degrees into £50,000+ salaries.

Figure 5.10 Salaries of UK-domiciled 2012/13 leavers 3.5 years after graduating, by gender



Source: DLHE Longitudinal 2012/13, Table 12

On the other hand, the postgraduate premium – the advantage conferred by a postgraduate degree – is higher for women than for men. Although women with postgraduate degrees earn 14% less on average than men with the same level of qualification, they earn 28% more than other women with only undergraduate degrees. A postgraduate degree reduces the salary gap between males and females from £9,500 to £5,000, again highlighting the strong business case for women to gain higher qualifications.

Table 5.4 Median salaries of graduates and postgraduates, 2018

	Undergraduate	Postgraduate	Postgraduate premium (%)
Male	£38,500	£43,000	12
Female	£29,000	£37,000	28
All	£34,000	£40,000	18
Male premium %	25	14	

Source: *Graduate Labour Market Statistics 2018*, Department for Education

There is also a ‘class ceiling’ when it comes to salaries in the professions, with those from working-class backgrounds earning on average £2,242 per annum less than colleagues from more affluent families after controlling for gender, ethnicity, level of education and profession.¹¹⁰

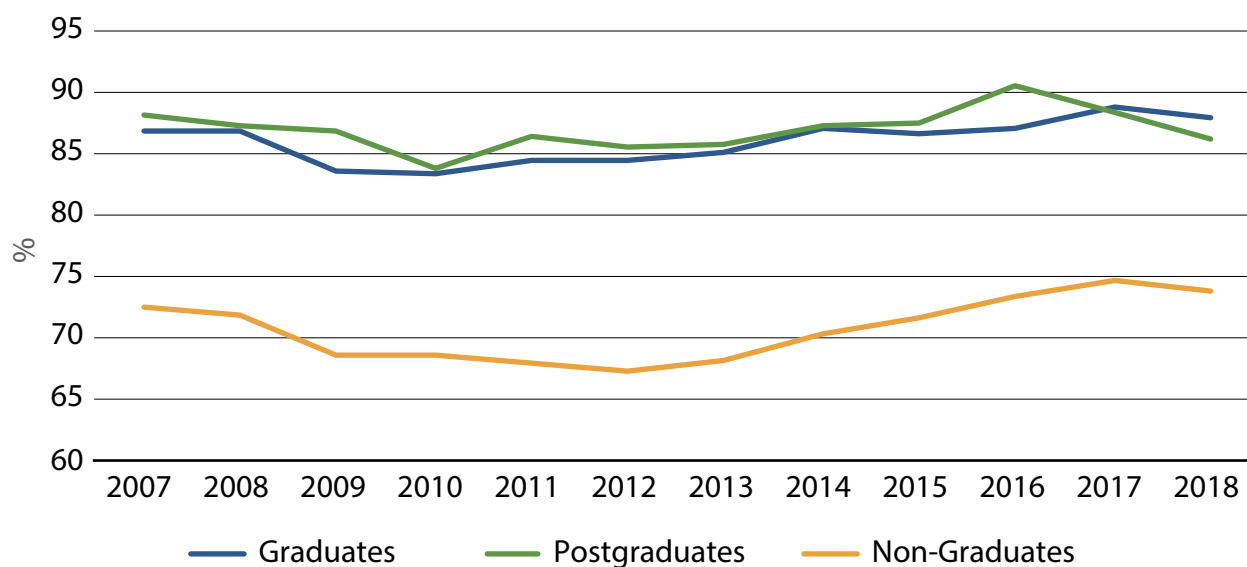
Employability

While postgraduates are much more likely to be in employment than non-graduates, their advantage over first-degree graduates is relatively small, and in 2018 the proportion of younger first-degree graduates in employment (88%) was actually slightly greater than postgraduates (86%).¹¹¹

110 S. Friedman, D. Laurison, L. Macmillan, *Social Mobility, The Class Pay Gap and Intergenerational Worklessness: New Insights from The Labour Force Survey*, Social Mobility Commission, 2017.

111 *Graduate Labour Market Statistics 2018*, Department for Education, 2019.

Figure 5.11 Employment by qualification level, among English-domiciled 21-to-30-year-olds, 2018



Source: *Graduate Labour Market Statistics 2018*, Department for Education

However, it is worth noting that in the period immediately following the 2008 crash, employment levels among those with postgraduate qualifications were slower to fall and faster to recover than for first-degree graduates. On the other hand, the declining advantage of postgraduates in 2017 and 2018 corresponds with a period of increasing graduate employment opportunities, which may have seen employers less inclined to filter candidates based on highest qualification alone.

Impact of Covid-19

The UK's economy is expected to shrink dramatically as a result of the Covid-19 lockdown, and there will almost certainly be a squeeze on graduate employment opportunities. As such, the pattern observed in the wake of the 2008 crash – where postgraduates were at an advantage compared to first-degree qualifiers in a constrained graduate job market – may be the best guide to near-term employment patterns in the wake of the present crisis.

Access to the professions

Postgraduate qualifications are widely seen as a route to the top professions.¹¹² Indeed, many careers, such as those in Medicine, the Sciences, Architecture and Law, require postgraduate certificates, diplomas and other specialist qualifications.

While the career progression arising from these kinds of specialist qualifications is unambiguous, the picture is less clear for non-specialist qualifications that do not confer specific technical knowledge required for a chosen career – especially if started immediately after graduating from a first degree. Workplace experience is also an extremely important factor, with 87% of graduate employers saying that students who had completed an internship or placement had better skills than those who had not. By comparison, only 19% felt that students who came with a postgraduate degree had better skills than those without.¹¹³

The *DLHE* data paints a picture that both reflects and refutes this. Table 5.5 shows that six months after graduating in 2013, far more working postgraduates were in professional-level jobs than first-degree leavers. However, looking at the same 2013 cohort 3.5 years after graduation, the gap had narrowed, suggesting that many had worked their way up into professional roles.

Table 5.5 Percentage of working leavers in the professions

Year of completion	After 6 months		After 3.5 years	
	Postgraduate	First degree	Postgraduate	First degree
2007	93	68	93	80
2009	92	64	93	84
2011	90	77	93	77
2013	91	66	94	82
2015	92	71	–	–
2017	93	74	–	–

Source: *DLHE 2016/17* and *DLHE Longitudinal 2012/13*

112 Defined by HESA, according to SOC2010 Standard Occupational Classification markers, as managers, directors and senior officials; professional occupations; and associate professional and technical occupations.

113 *Student Development Survey 2019*, Institute of Student Employers (ISE), p.17.

Over the span considered in Table 5.5 (which includes the squeeze on jobs in the wake of the 2008 crash and subsequent employment boom as the economy recovered), the proportion of postgraduate leavers in the professions remained relatively stable and high. At the same time, the proportion of first-degree leavers going straight into professional jobs, although less steady, seems to be increasing overall. This may imply that a postgraduate degree is becoming less of a prerequisite for entry to the professions as more jobs become available – the opposite trend to that noted in the previous HEPI postgraduate report in 2010. Indeed, the Institute of Student Employers notes a general decrease in employers stipulating minimum qualification requirements (such as a 2:1 degree), linking this in part to a laudable desire to attract talented employees while increasing the diversity of their intake.¹¹⁴

However, even if postgraduate study is decreasingly seen as the primary ‘gateway to the professions’ by graduate employers, the *DLHE* data provides reassurance that the overwhelming majority of postgraduates enter professional roles swiftly, and that their employment levels remain more resilient to economic upheaval.

In the long-term, it is predicted that postgraduate degree holders will form an increasingly large part of the workforce, especially in the professions. The latest labour-market projections to 2027 predict a 32% growth in the number of postgraduates in the workforce, although the extent to which this is due to increased demand for postgraduates versus greater supply due to higher participation in higher education is debateable.¹¹⁵ The same report predicts strong growth in professional roles, and not only those requiring specialist degrees, such as Medicine, Science and Technology, but also in Business, Media, Culture and public service – all areas where more Social Sciences, Humanities and Arts graduates are employed.¹¹⁶

114 *Inside Student Recruitment 2019*, ISE, p.29.

115 Wilson et al., *Working Futures – Headline report*, 2020, pp.40–41. Also see *Main report* pp.115–124.

116 *Ibid.* main report, pp.90–91.

Relative benefits of qualifications and work experience

The question of whether a postgraduate qualification offers a better career boost than an undergraduate degree is a vital one, in light of the steep increases in the cost of a Master's degree. While specialist degrees in a subject requiring high levels of technical expertise (such as Medicine or Law) lead unambiguously to career advancement in those professions, the situation regarding non-specialist degrees is less clear.

If the benefits of a non-specialist postgraduate qualification are little better than the advantages conferred by three years' worth of experience on the job, or even a short placement or internship, and if those benefits are decreasing at the same time that fees are rising, then some might argue that the economic case for undertaking a non-specialist Master's degree may be weakening, especially for those already facing a vastly increased undergraduate debt burden.

For example, the Institute of Student Employers' annual report found that only 13% of respondents were actively targeting postgraduates with specific packages, only 9% paid them higher starting salaries and only 2% set postgraduate qualifications as a minimum requirement.¹¹⁷ So in the majority of cases, students who progress directly to Master's courses are still competing against first-degree leavers for non-specialist jobs.

On the other hand, there are several sectors in which a non-specialist Master's degree is of value: 50% of respondents from charities and the public sector consider postgraduate degrees worthwhile.¹¹⁸ They also confer a marked advantage in accessing many professions associated with the Arts and Humanities, such as journalism, culture, media and public service.¹¹⁹

Anecdotally, Charlie Ball, Head of Higher Education Intelligence at Graduate Prospects, notes that although few employers have recruitment programmes that target non-specialist postgraduates, many do seem to value the skills possessed by employees who have studied to this level. Also, anecdotally, it seems that postgraduate qualification holders are more likely to be promoted into senior management

117 *Inside Student Recruitment*, p.29.

118 *Student Development Survey*, p.7.

119 Wilson et al., *Working Futures – Main report*, p.120, Figure 5.5.

positions mid-career, though a lack of research into mid-career progression makes this hard to demonstrate.¹²⁰

The takeaway message from this should not be that non-specialist postgraduate degrees are becoming less relevant. Both the hard data and anecdotal evidence suggest a postgraduate premium does exist, but when it comes to non-professional qualifications, there is a need to ensure that first-degree graduates are given realistic advice about the benefits of progressing directly to a Master's without a period of work first. The question of whether fees remain in proportion to the benefits students accrue is also worth monitoring, although such a calculation would be highly subjective.

There is also a need for better measures that identify: i) the advantages postgraduates bring to the job, such as higher productivity; and ii) the effects of postgraduate qualifications on long-term career progression, compared to undergraduate qualifications.

The more obvious manifestations of the postgraduate premium (such as salary) aside, a highly-skilled flexible workforce capable of independent study and research, with strong analytical, critical and problem-solving skills is an asset for any economy and society, and the skills learned at postgraduate level will be important in adapting to the challenges of the twenty-first century working environment.

Benefits of international students to universities

International students are an incredibly important part of the UK's higher education landscape, with 40% of first-year postgraduates coming from outside the UK in 2017/18.

Fee income from non-EU students is a major source of sustenance to universities. In 2017/18, non-EU students represented 28% of all postgraduates in all years (not just first-years) but brought in 61% of universities' fee income. However, it is worth bearing in mind that universities receive teaching subsidies to keep the cost of taught postgraduate courses down for UK/EU students, so their real income per student is not fully represented in 'fee income' figures.

¹²⁰ Charlie Ball, telephone interview with the author, 20 November 2019. The methodology applied by Britton et al. (*The impact of undergraduate degrees on lifetime earnings*) on salary progression over a lifetime could be applied to investigating financial returns on postgraduate degrees over a lifetime.

Table 5.6 Fee income from postgraduate courses by domicile, proportionally compared to total postgraduate student population, 2017/18, in £000s

	Full-time postgraduate taught	Full-time postgraduate research	Part-time postgraduate taught	Part-time postgraduate research	Total	% fee income	% student population
UK	£798,868	£116,033	£369,511	£40,367	£1,324,779	31	64
EU	£228,589	£46,276	£48,674	£7,695	£331,234	8	8
Non-EU	£1,937,448	£436,436	£149,831	£27,969	£2,551,684	61	28
Total	£2,964,905	£598,745	£568,016	£76,031	£4,207,697		

Sources: HESA www.hesa.ac.uk/data-and-analysis/finances/income and www.hesa.ac.uk/data-and-analysis/students/whos-in-he

There are a number of benefits that international students bring to the UK. Some are relatively easy to quantify in terms of economic benefits: spending on tuition fees and living costs, as well as expenditure by visiting friends and families are included here.

Taking a broader look at the overall contribution to the UK economy, a conservative estimate from HEPI, Kaplan and London Economics found that in 2015/16 a typical EU-domiciled student contributed £87,000 to the UK economy; for a non-EU student, the figure was approximately £102,000. The same report put the total net benefits at £20.3 billion.¹²¹

International students who stay in the UK to work also make a huge contribution. According to other work by HEPI and Kaplan, the estimated benefits to the UK Exchequer from one cohort, from tax, National Insurance contributions and VAT was £3.2 billion, of which £1.6 billion was from Master's graduates and £300 million from PhD graduates.¹²² The same study found no evidence that international graduates were crowding UK applicants out of the market, but rather that they were vital in filling skills shortages.

There are other benefits with no readily quantifiable economic value, but which are important nonetheless, such as creating a multi-cultural learning environment, increased opportunities for international research collaborations and the future goodwill of UK graduates in influential posts abroad. A Migration Advisory Committee report offers a useful assessment of some of these soft benefits.¹²³ HEPI's annual survey of where world leaders were educated shows that the UK is second only to the US in this regard, with 59 UK-educated leaders in 53 countries, a position which confers a strong advantage in international relationships and soft power.¹²⁴

121 Conlon, G. et al. *The costs and benefits of international students by parliamentary constituency*, HEPI, Kaplan International Pathways and London Economics, 2018.

122 G. Conlon et al. *The UK's tax revenues from international students post-graduation*, HEPI and Kaplan International Pathways, 2019.

123 *Impact of international students in the UK*, Migration Advisory Committee, 2018.

124 N. Hillman and T. Huxley, *The soft-power benefits of educating the world's leaders*, HEPI, 2019.

Future demand

This chapter examines factors which may affect postgraduate student numbers in the future, and the effect this may have on academic staffing. It also looks at how the global higher education landscape is changing and how UK higher education providers are rising to meet this challenge.

Demand for places

Impact of Covid-19

The following analysis was conducted before the Covid-19 crisis. While its full impacts are currently impossible to quantify, there are two likely effects on postgraduate numbers. International postgraduate numbers are expected to fall substantially, especially for 2020/21. At the same time, the number of UK-domiciled postgraduate starters is likely to grow in response to declining graduate employment opportunities as the economy shrinks. As with the 2008 crash, we might also expect to see some readjustment in subsequent years, with international student numbers bouncing back with those who deferred, and UK numbers declining to adjust for those who opted for postgraduate study sooner rather than later.

UK demand

The two major factors affecting postgraduate demand are the number of undergraduate qualifiers and what proportion of them wish to go on to postgraduate study.

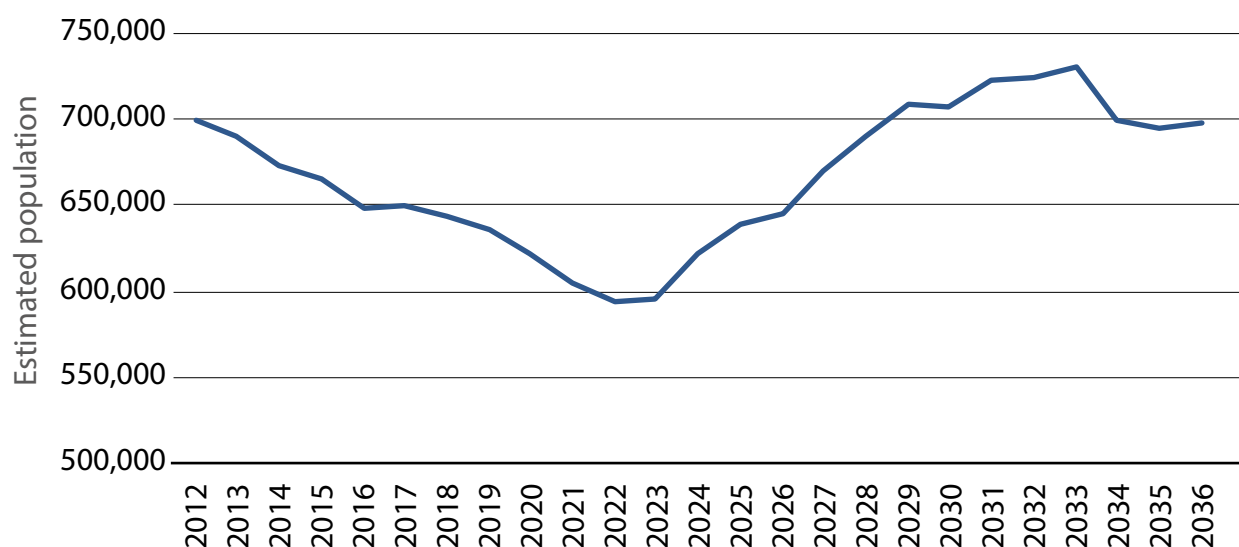
HEPI's most recent report on future *Demand for Higher Education*, which focuses primarily on undergraduate study, notes that – despite the raising of undergraduate fees – participation has increased among school leavers. This has been attributed,

among other factors, to the requirement to stay in education or training until the age of 18, improved attainment at Level 3, the lifting of student number caps in England and professions that did not previously require a degree, such as Nursing, now doing so.¹²⁵ There is also a knock-on effect from increased participation in previous generations, with the children of graduates more likely to attend university themselves.

Population size

There is currently a declining number of 18-to-24-year-olds passing through the university system. However, this is set to change, with the number of 18-year-olds increasing after 2020. This cohort will reach the typical age for starting postgraduate study three or more years later, typically between the ages of 21 and 24, so universities – and the Government, which will be underwriting any loans – should be preparing for a material increase in the postgraduate population from 2023. The estimates are based on ONS live birth rates up to 2018.

Figure 6.1 England and Wales 21-year-old population projection 2012–2036



Source: ONS Live Birth Rates

Based on demographics alone, the HEPI report suggests an extra 14,700 full-time undergraduate entrants in England in 2030. According to the 2016/17 *DLHE* survey, 19% of undergraduates progressed to postgraduate study within a year of graduating.¹²⁶

¹²⁵ B. Bekhradnia and D. Beech, *Demand for Higher Education to 2030*, HEPI, 2018.

¹²⁶ Based on an 80% response rate for UK-domiciled leavers, and therefore potentially biased for non-response.

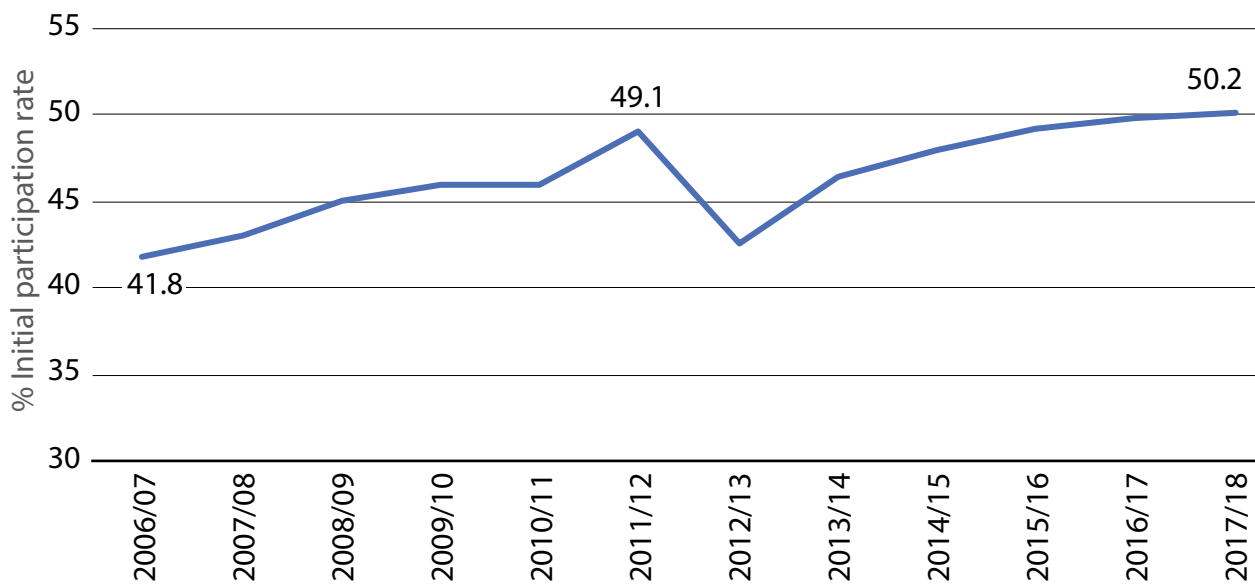
If progression rates remain the same, this would translate to at least 2,800 additional UK-domiciled postgraduate places in 2033, just to account for those who go straight from first-degree to postgraduate study. This figure does not include those who go on to postgraduate study a year or more later, so actual numbers would be higher.

Participation

A generation ago, Tony Blair set a target to see 50% of the population aged under 30 enter higher education by 2010. In 2019, the Department for Education announced that this target had finally been met,¹²⁷ although Peter Brant, Senior Policy Manager at the Open University, has questioned whether this assertion is precisely accurate, being based on projections rather than actual participation.¹²⁸

The 2011 peak and subsequent dip are due to students bringing forward their participation to avoid the higher £9,000 fees from 2012. Although not shown on the graph, participation is markedly higher among women, at 56.6%.

Figure 6.2 Higher Education Initial Participation Rate (HEIPR) for English-domiciled 17-to-30-year-olds at UK higher education institutions



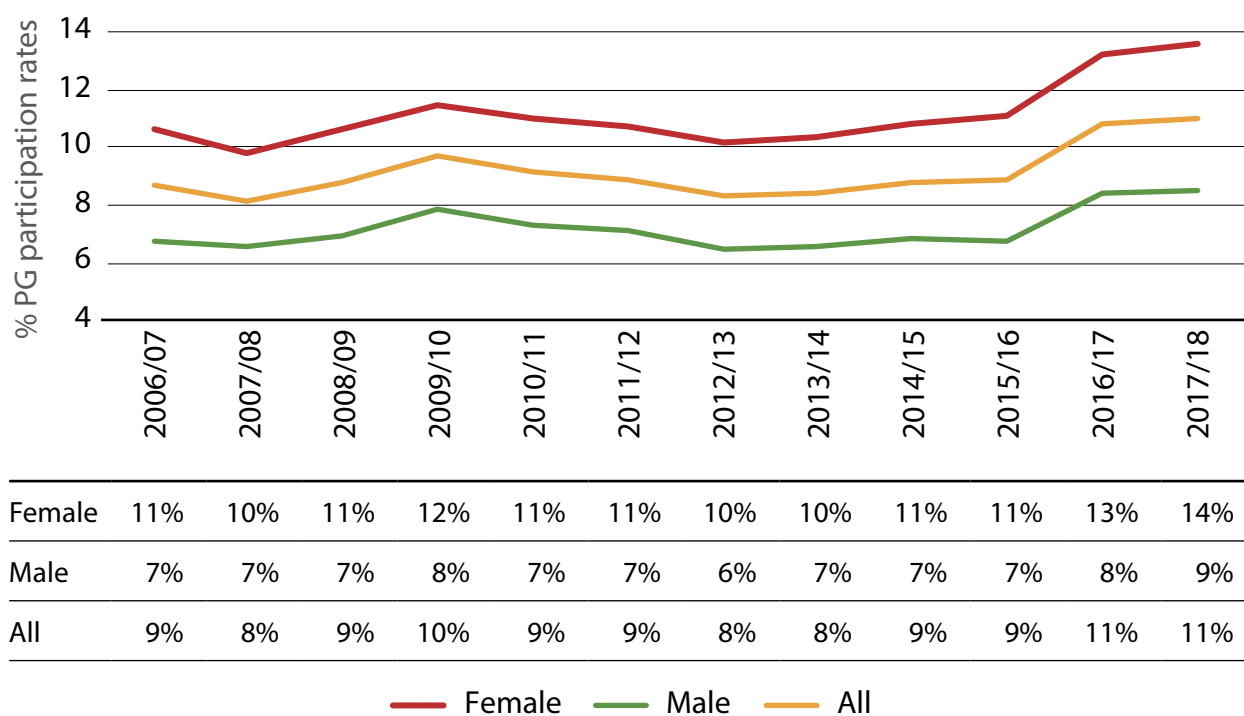
Source: *Participation rates in higher education: Academic years 2006/07–2017/18 (provisional)*, Department for Education, 2019

127 *Participation rates in higher education: Academic years 2006/07–2017/18 (provisional)*, Department for Education, 2019.

128 Peter Brant, 'It's not (yet?) true that half of young people go to university', HEPI blog post, 9 October 2019. www.hepi.ac.uk/2019/10/09/its-not-yet-true-that-half-of-young-people-go-to-university

At present, it is estimated that 11% of the under-30 population will participate in postgraduate education, numbers having shot up by almost 2% following the introduction of Master’s loans. Figure 6.3 also illustrates the growing participation gap between males and females, which has increased from four percentage points in 2006/7 to five in 2017/18.

Figure 6.3 Postgraduate Initial Participation Rates (PGIPR) for English-domiciled 17-to-30-year-olds at UK higher education institutions



Source: *Participation rates in higher education*, Department for Education, 2019

HEPI’s *Demand for Higher Education to 2030* report predicts that, if undergraduate demand continues to grow at the same rate as it has over the last 15 years, hitting 54% in 2030 – which would still leave participation levels lower than in some European countries – there will be an extra 105,000 entrants, so around 120,000 more per year once demographic increase is added in.¹²⁹ This could mean an additional 22,750 or so postgraduates starting immediately after graduation in 2033 if progression rates remain at the 19% indicated by the *DLHE* data. If under-represented groups (males, certain ethnicities, those from low-participation neighbourhoods) continue to increase their participation, this could mean greater demand again.

¹²⁹ B. Bekhradnia and D. Beech, *Demand for Higher Education to 2030*, p.39.

In terms of the drop-off in courses for qualified teachers – those not covered in ITT figures – there are indications that numbers may pick up again, with fresh commitments from the Government to fund ongoing professional development for teachers.¹³⁰ This may lead to a revival in numbers of professional qualifications in Education, and also potentially in the declining Professional Doctorate of Education (EdD).

This report does not attempt to go further in projecting an upper limit to postgraduate demand if participation continues to rise. It would be a worthwhile topic for further study, albeit one that will bear more fruit in the future, as the effects of Master's loans and rising Master's fees begin to settle and the impact of the new doctoral loans, introduced in 2018/19, becomes apparent.

Another point of uncertainty arises from the fact that the increase in undergraduate participation is in part attributable to the removal of student number caps, which may not be permanent.¹³¹

EU demand

European demand has been fairly static since 2012, and has declined since the UK voted to leave the EU (Figure 3.14). Further impacts are hard to predict, given the ongoing uncertainty over what type of agreement (if any) the UK will reach with the EU. But assuming that EU-domiciled students would have to pay full international student fees, and not have access to student loans, Bekhradnia and Beech estimate a possible 60% reduction in EU student numbers,¹³² while Conlon et al., via a different methodology, predict a similar 57% reduction.¹³³ Challenging this, Nick Hillman argues that a reduction cannot be taken for granted, citing a precedent of international student numbers rising after fees were raised in the 1980s.¹³⁴

In 2017/18, there were 27,645 EU-domiciled postgraduate students studying in the UK. Assuming a reduction of 58.5% (halfway between the above predictions), this would mean approximately 11,500 fewer EU postgraduates.

130 *Teacher Recruitment and Retention Strategy*. Department for Education, 2019.

131 See Nick Hillman, 'Whoever wins the election, English student number controls are set to return', *Times Higher Education*, 12 December 2019.

132 *Ibid.*, p.38.

133 C. Conlon et al., *The determinants of international demand for UK Higher Education*, HEPI, 2017, p.41.

134 Nick Hillman, *Two sides of the same coin? Brexit and future student demand*, HEPI Policy Note 15, August 2019.

Assuming those who do still come will pay higher international fees, Conlon et al. predict that universities will still experience lost revenues of around £40 million a year from reduced EU student numbers (including undergraduates).¹³⁵ The loss to the wider economy, given the high spending of international students and visiting families, would be much greater.

On the other hand, there will be savings to the Exchequer due to fewer student places eligible for high-cost subject funding. Such savings should be balanced by awareness that UK students will no longer have access to subsidised university places within the EU.

Non-EU demand

The Government's stated ambition is to increase the total number of international students studying in the UK to 600,000 by 2030, from 485,645 in 2018/19. At present, 45% of the international student cohort is studying at postgraduate level. Assuming the proportions remain the same, this would mean an additional 53,000 international postgraduates in 2030.

There are various difficult-to-control factors that may affect the realisation of this ambition.

One of the main determinants of international demand is the cost of a degree. Conlon et al. estimate that a 10% increase in fees would decrease postgraduate enrolment by 2.1%, while a 10% depreciation in the value of sterling would increase it by 3.5%. Fee rises or currency strength in competitor countries such as the US are also important.¹³⁶

Macroeconomic variables affecting other countries also have an effect. For example, a rise in the cost of oil would have a positive effect on enrolment of students from oil-producing countries, and a negative effect on those from elsewhere due to rising commodity prices.¹³⁷

As discussed in Chapter 3, visa regimes – especially the right to work in the UK after graduation – are a major influence on international students from certain countries. For example, Indian postgraduate numbers dropped by over 50% between 2010 and 2012, following the announcement of the end and subsequent abolition of post-study work visas. If current plans to reintroduce them remain in place, and the

135 Ibid.

136 Ibid. 7–8.

137 Ibid. 8–9.

Home Office continues to support them, we may expect to see a similar increase in future years. As such, the decisions of Government are key to sustaining and increasing international participation.

Also important are the effects of broader international developments, other governments' policies and the state of bilateral ties. To give an example from elsewhere, in 2019, with ongoing trade wars, simmering tensions in the South China Sea, and high levels of US student visa refusals, the Chinese government began warning its students about the risks of the US as a study destination.¹³⁸ If the UK were to be drawn into any escalating conflict between the US and China, this could represent a major blow to UK universities, which hosted 60,460 first-year postgraduates from China – 38% of the non-EU cohort – in 2017/18. An example of just such a diplomatic spat between Saudi Arabia and Canada affected Saudi students studying abroad on Saudi Government-funded scholarships.¹³⁹

Factors such as these highlight the case for a diverse international student body, and moving away from the current situation where, as of 2018/19, 40% of the non-EU postgraduate cohort, across all years of study, is from China.¹⁴⁰ Beyond reducing exposure to risk, the educational benefits of a diverse student population have been widely documented in terms of academic experience and soft power.¹⁴¹

Demand for postgraduates

The latest *Working Futures* report, covering labour-market predictions for 2017 to 2027, anticipates a marked increase in the postgraduate component of the workforce, which is expected to rise by 32%. However, it is difficult to disentangle how much of this is due to supply-side trends – that is, rising postgraduate participation and a more highly-qualified workforce – and how much to increased demand for postgraduate-level skills.¹⁴²

138 'China warns students, academics of risks of studying in U.S.' *Reuters*, 3 June 2019.

139 Grace Stephenson, 'Future still uncertain for Saudi students in Canada', *University World News*, 9 November 2018.

140 HESA *Students 2018/19: SB255* (for non-EU postgraduates, all years) Figure 8 and DT051 Table 28 (for Chinese postgraduates, all years).

141 See, for example, *What do home students think of studying with international students?* HEPI and Higher Education Academy, 2015; N. Hillman and T. Huxley, *The soft-power benefits of educating the world's leaders*, HEPI Policy Note 16, 2019.

142 Wilson et al., *Working Futures 2017–2027 – Headline report*, February 2020, p.41.

Having said that, most sectors that traditionally employ postgraduates (professional and associate professional roles and, to a lesser extent, managerial ones) are set to grow in terms of labour demand, including professional services, media, information technology and arts/entertainment and, especially, healthcare. However, jobs in finance and insurance are predicted to decrease due to automation, as are jobs in public administration, if recent trends to trim down the civil service continue.¹⁴³ Major growth is predicted in construction, and while the majority of jobs in this sector do not require postgraduate qualifications, those that do, such as architecture and chartered surveying, are likely to be in high demand.

Overall, professional occupational sectors – where postgraduate qualifications are either a requirement or commonly found – are set to grow, while employment in less skilled sectors (with the exception of caring and leisure services) is set to decrease.

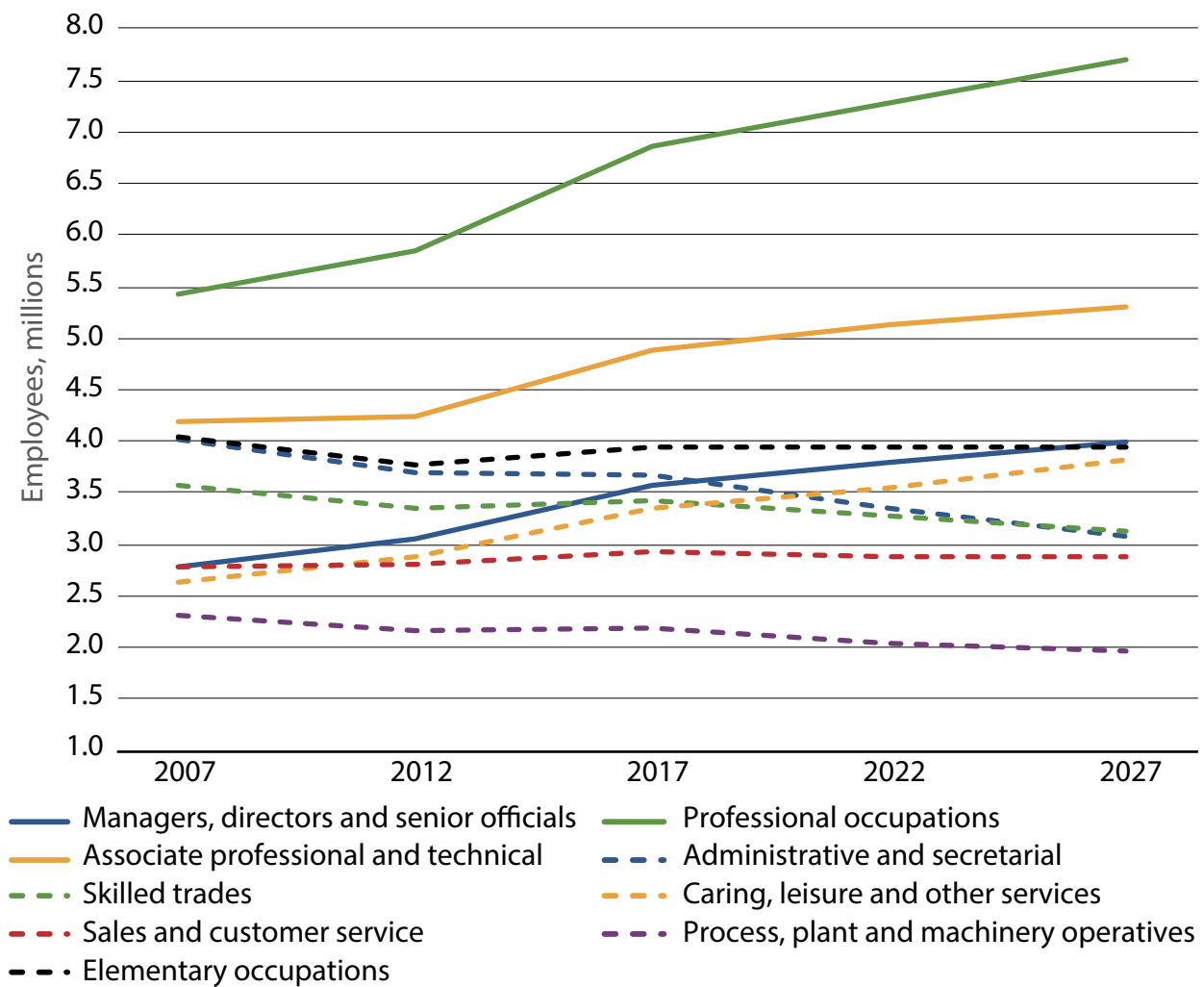
Table 6.1 Projected change in occupational employment 2017–2027

	Growth per annum, 2017–2027 (%)	Total growth 2017–2027 (%)
Managers, directors, senior officials	1.2	12.3
Professional occupations	1.1	12.0
Associate professional and technical	0.8	8.7
Administrative and secretarial	-1.8	-16.4
Skilled trades	-0.9	-8.9
Caring, leisure and other services	1.3	13.9
Sales and customer service	-0.2	-1.8
Process, plant and machinery operatives	-1	-9.4
Elementary occupations	0	-0.2
All occupations	0.3	2.8

Source: *Working Futures 2017–2027*, Headline Report, Table 29, p.25

143 Ibid. p.7 and 18–22.

Figure 6.4 UK employment in SOC2010 occupational categories: trends to 2017, predictions 2017–2027



Source: *Working Futures 2017–2027 Headline Report*, Table 19, p.25

If projections about growth in professional occupations hold true, it suggests that the demand for highly-qualified workers, including those with specialist postgraduate qualifications, will continue to increase both in number and as a proportion of the workforce.

In particular, the *Employer Skills Survey 2017* highlighted skill-shortage vacancies at professional level in information & communications, construction, manufacturing, primary sector & utilities and health & social work.¹⁴⁴ It also noted that employers were struggling to find candidates with the requisite complex analytical abilities and advanced IT skills.¹⁴⁵

¹⁴⁴ *Employer Skills Survey 2017*, Department for Education, 2018, pp.44–45.

¹⁴⁵ *Ibid.* pp.50–51.

For professional-level jobs, employers tend to require quite specific specialist qualifications (architects, engineers, doctors) highlighting the finding in Chapter 5 that specialist postgraduate degrees tend to lead to unambiguous advantages in the job market. However, given the development of complex analytical skills is particularly associated with Master's and research-level degrees, this backs up the suggestion that there is, in fact, demand for the kinds of flexibility and independent learning/research skills conferred by a postgraduate degree in any topic, including non-specialist topics.

At the same time, rapid changes to technology and unpredictable future developments in automation may make today's jobs less secure in the future, so postgraduate pathways for retraining, career changes and other lifelong learning opportunities may become increasingly important if the future productivity of today's graduates is to be maintained.

Conclusion

This report shows the profound changes that have occurred in the UK postgraduate market over the past decade.

Higher education institutions in the UK are never prone to standing still, given the high levels of autonomy they enjoy, but the period after 2007/08 covered by this report was perhaps particularly lively.

It began with the great recession and it witnessed many major domestic policy shifts, including some negative changes to UK migration policy and some positive changes to financial support for postgraduates. By the end of the 2010s, there had also been several global shifts, with political upheaval in the United States, the gradual growth of Chinese influence across the globe and the withdrawal of the UK from membership of the European Union.

The previous pages show how, during this time, the make-up of postgraduate students in the UK changed, with more non-EU students, a higher proportion of female students and more transnational education.

Despite some obstacles, the overall story is a positive one for, at the end of the period in question, higher education institutions serving postgraduate students were more open, more diverse and higher quality than they had been at the start.

Society benefited too, for example through the building up of a more highly-skilled workforce. At an individual level, the financial and non-financial benefits of postgraduate study were maintained, despite significant growth in the number of students.

At the time this report went to print, the world was convulsed by the Covid-19 pandemic, which could lead to further big changes in where, how and to whom higher education – including postgraduate education – is delivered.

This report captures the process of change that occurred in the years before the Covid-19 crisis hit and provides a detailed snapshot of the state of postgraduate education in the UK immediately beforehand.

We hope it will prove a marker by which to judge the years to come.

Appendix 1

Level of study mapping

Level of study (2-way)	Level of study (9-way)	HESA code	Description
Postgraduate (research)	Doctorate (research)	D00	Doctorate degree that meets the criteria for a research-based higher degree
		D01	New Route PhD that meets the criteria for a research-based higher degree
	Master's (research)	L00	Master's degree that meets the criteria for a research-based higher degree
	Other postgraduate (research)	D90	Advanced supervised research at level D for provider credit
		L80	Other postgraduate qualification at level L that meets the criteria for a research-based higher degree
		L90	Advanced supervised research at level L for provider credit
		L91	Visiting research students at levels D or L, with formal or informal credit
L99	Advanced supervised research at levels D or L with an unspecified qualification aim		
Postgraduate (taught)	Doctorate (taught)	E00	Doctorate degree that does not meet the criteria for a research-based higher degree
	Master's (taught)	M00	Master's degree obtained typically by a combination of coursework and thesis/dissertation, that does not meet the criteria for a research-based higher degree
		M01	Taught Master's degree designed specifically as training in research methods and intended as a preparation for advanced supervised research
		M02	Master's in Teaching and Learning
		M10	Post-experience taught Master's degree
		M11	Master of Business Administration (MBA)

Level of study (2-way)	Level of study (9-way)	HESA code	Description
Postgraduate (taught)	Master's (taught)	M16	Pre-registration Master's degree leading towards obtaining eligibility to register to practice with a health or social care or veterinary statutory regulatory body
	Professional qualification	E43	Highly specialist diploma from a professional body
		M42	Advanced professional certificate at level M
		M43	National Vocational Qualification (NVQ) at level M
		M45	Scottish Vocational Qualification (SVQ) 5
		M70	Professional taught qualification at level M other than a Master's degree
		M72	Post-registration education qualification at level M other than a Master's degree for serving schoolteachers
		M76	Post-registration health and social care qualification at level M
		M78	Taught qualification at level M (where qualification at level H and/or level M is a pre-requisite for course entry) leading towards registration with the Architects Registration Board (Part 3 qualification)
		M86	Taught qualification at level M leading towards obtaining eligibility to register to practice with a health or social care or veterinary statutory regulatory body
		M88	Taught qualification at level M (where a qualification at level H is a pre-requisite for course entry) leading towards registration with the Architects Registration Board (Part 2 qualification)
	Diplomas and certificates	M41	Diploma at level M
		M44	Certificate at level M
	ITT	M71	Postgraduate Certificate in Education or Professional Graduate Diploma in Education
M73		Postgraduate Diploma in Education	
M79		Level 7 Diploma in Teaching in the Lifelong Learning Sector	
Taught course for provider credit	E90	Advanced taught study at level E for provider credit	
	M90	Taught work at level M for provider credit	
Other postgraduate (taught)	M40	Fellowship at level M	

Level of study (2-way)	Level of study (9-way)	HESA code	Description
Postgraduate (taught)	Other postgraduate (taught)	M50	Postgraduate Bachelor's degree at level M, typically obtained by a combination of coursework and thesis/dissertation, that does not meet the criteria for a research-based higher degree
		M80	Other taught qualification at level M
		M91	Visiting taught students at levels E or M, with formal or informal credit
		M99	Taught work at levels E or M with an unspecified qualification aim

Institutional groupings

Russell Group

Cardiff University

Durham University

Imperial College London

King's College London

London School of Economics

Newcastle University

Queen Mary University of London

Queen's University Belfast

University College London

University of Birmingham

University of Bristol

University of Cambridge

University of Edinburgh

University of Exeter

University of Glasgow

University of Leeds

University of Liverpool

University of Manchester

University of Nottingham

University of Oxford

University of Sheffield

University of Southampton

University of Warwick

University of York

Specialist

AECC University College

Conservatoire for Dance and Drama

Courtauld Institute of Art

Glasgow School of Art

Heythrop College

Leeds Art University

Liverpool School of Tropical Medicine

London Business School

London School of Hygiene and Tropical Medicine

Newman University

Norwich University of the Arts

Plymouth College of Art

Ravensbourne University London

Rose Bruford College

Royal Academy of Music

Royal Agricultural University

Royal Central School of Speech and Drama

Royal College of Art

Royal College of Music

Royal Conservatoire of Scotland

Royal Northern College of Music
SRUC
St George's, University of London
St Mary's University College
Stranmillis University College
The Arts University Bournemouth
The Institute of Cancer Research
The Liverpool Institute for Performing Arts

The National Film and Television School
The Royal Veterinary College
The University College of Osteopathy
Trinity Laban Conservatoire of Music & Drama
University for the Creative Arts
University of the Arts, London
University of Wales Trinity Saint David
Writtle University College

Other pre-1992

Aberstwyth University
Aston University
Bangor University
Birkbeck, University of London
Brunel University London
City, University of London
Goldsmiths College
Heriot-Watt University
Keele University
Loughborough University
Royal Holloway, University of London
SOAS University of London
Swansea University
The Open University
The University of Aberdeen
The University of Bath

The University of Buckingham
The University of Dundee
The University of East Anglia
The University of Essex
The University of Lancaster
The University of Leicester
The University of Reading
The University of Salford
The University of St Andrews
The University of Stirling
The University of Strathclyde
The University of Surrey
The University of Sussex
Ulster University
University of Kent
University of London Institute in Paris
and School of Advanced Study

Other post-1992

Anglia Ruskin University
Bath Spa University
Birmingham City University
Bishop Grosseteste University

Bournemouth University
Buckinghamshire New University
Canterbury Christ Church University
Cardiff Metropolitan University

Coventry University
De Montfort University
Edge Hill University
Edinburgh Napier University
Falmouth University
Glasgow Caledonian University
Glyndŵr University
Harper Adams University
Kingston University
Leeds Beckett University
Leeds Trinity University
Liverpool Hope University
Liverpool John Moores University
London Metropolitan University
London South Bank University
Manchester Metropolitan University
Middlesex University
Oxford Brookes University
Queen Margaret University, Edinburgh
Roehampton University
Sheffield Hallam University
Solent University
St Mary's University, Twickenham
Staffordshire University
Teesside University
The Nottingham Trent University
The Robert Gordon University
The University of Bolton
The University of Bradford
The University of Brighton
The University of Central Lancashire
The University of Chichester
The University of East London
The University of Greenwich
The University of Huddersfield
The University of Hull
The University of Lincoln
The University of Northampton
The University of Portsmouth
The University of Sunderland
The University of the West of Scotland
The University of West London
The University of Westminster
The University of Winchester
The University of Wolverhampton
University College Birmingham
University of Abertay
University of Bedfordshire
University of Chester
University of Cumbria
University of Dundee
University of Gloucestershire
University of Hertfordshire
University of Northumbria at Newcastle
University of Plymouth
University of South Wales
University of St Mark and St John
University of Suffolk
University of the Highlands and Islands
University of the West of England
University of Worcester
York St John University

Appendix H ('low risk') countries

Australia	Malaysia
Bahrain	Mauritius
Barbados	Mexico
Botswana	New Zealand
Brazil	Oman
Brunei	Peru
Cambodia	Qatar
Canada	Serbia
Chile	Singapore
China	South Korea
The Dominican Republic	Thailand
Indonesia	Tunisia
Japan	United Arab Emirates
Kazakhstan	United States of America
Kuwait	

Source: www.gov.uk/guidance/immigration-rules/immigration-rules-appendix-h-tier-4-documentary-requirements, accessed 22 December 2019

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May 2020

ISBN 978-1-908240-65-1



Higher Education Policy Institute