

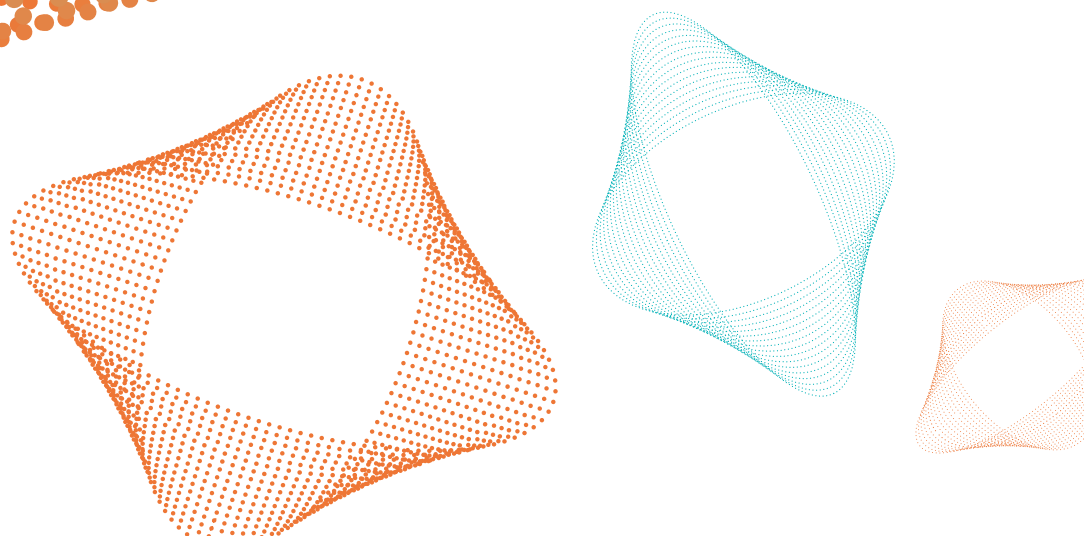
# PATTERNS AND TRENDS

IN UK HIGHER EDUCATION

2017



Universities UK



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# FOREWORD



*Our universities are a tremendous national asset, transforming lives through the teaching they undertake, driving social mobility and equipping the UK's workforce with higher-level skills that the economy needs. Institutions in all parts of the country carry out world-class research that helps to tackle global challenges, and generate the ideas and expertise that encourages innovation and improves our health and wellbeing.*

To understand the role of universities and their impact on society and the economy, it is helpful to monitor the changing size and shape of the UK higher education sector. The annual *Patterns and trends* reports, published by Universities UK, present data and commentary showing how the UK higher education sector continues to evolve and adapt in a rapidly changing external environment. This year's report covers the decade 2006–07 to 2015–16 – a period which has seen significant changes to the regulation and funding of higher education across the UK.

The total number of students at UK universities in 2015–16 remains broadly the same as it was in 2006–07, at around 2.3 million, though there has been a shift in the nature of the student body. This period has seen growth in the number of younger students, female students, and students from a non-UK domicile. With regard to the nature of their studies, we see that full-time, first degree and postgraduate taught courses now make up a larger proportion of provision compared to 2006–07. The data clearly shows that demand for non-degree, part-time study from mature students has continued to decline.

Demand for higher education remains high, with the number of younger students from disadvantaged backgrounds reaching record levels in 2015–16. Student satisfaction with their higher education experience has also increased over the period, from 79.9% in 2006 to a new high of 86% in summer 2015. Despite a difficult economic environment and challenging labour market, graduate outcomes have also remained strong, with graduates showing consistently higher earnings and lower unemployment rates than non-graduates.

Another trend highlighted in the report is the growing international nature of UK higher education. The proportion of international students studying at UK universities increased from 14% in 2006–07 to 19% in 2015–16. We have also seen growth in the number of international academics coming to work in the UK, which has been particularly important for the successful delivery of teaching and research in subjects such as engineering, biological studies and physical sciences. Funding from international sources has also grown in importance, with non-EU fees accounting for 23% of all teaching income and international sources accounting for 16% of all research income.



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These trends are significant for the wider UK economy, with international students contributing £10.8 billion to UK export earnings, as well as an estimated 206,600 jobs.

In addition to chapters focusing on patterns and trends in students, staff and finances over the last ten years, this year's report also looks at some of the emerging demographic, technological, economic and political trends that are likely to influence the shape of higher education in the UK in coming years.

Demographic trends likely to have a significant impact include a projected upturn in the UK school-leaver population from 2021, as well as continued growth in the young population in key international student markets. Projected growth in global GDP could also help to create new international opportunities.

At the same time, higher education continues to face considerable uncertainty. In particular, the UK's decision to leave the European Union presents a risk to the international collaboration on which successful research depends. By their nature, research and teaching are global activities and the higher education sector derives significant benefits from the free movement of staff and students across the continent.

This report tells the story of the enormous economic and social contribution made by our universities, which continue to be resilient and successful in a rapidly changing world.

# INTRODUCTION



*The period between September 2006 and the summer of 2016 saw significant change for UK higher education, including a transition to new undergraduate funding systems in England and Wales, and ongoing challenges related to restrictions on public funding following the economic downturn at the beginning of this period.*

This report, published annually by Universities UK, presents a comprehensive range of data and analysis on the changing size and shape of UK higher education. The publication aims to be a useful resource for all those with an interest in the UK higher education sector, including those working in the sector on strategy and those who work closely with the sector.

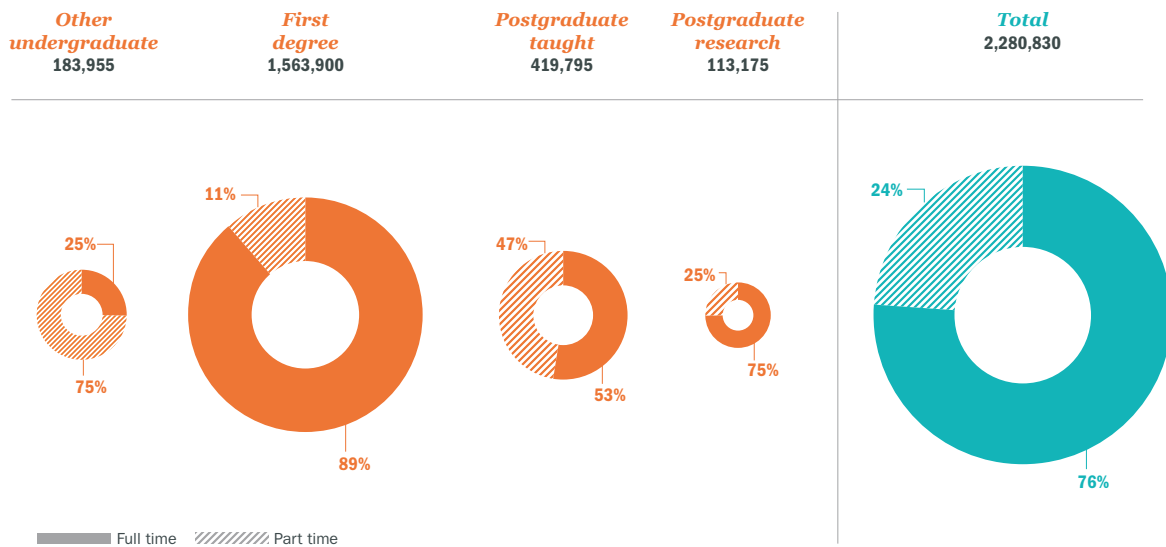
This year's report presents patterns and trends in data on students (Chapter 1) and staff (Chapter 2) at UK higher education institutions (see note on data below) covering a 10-year period that has seen a transition to new higher education funding systems across a large part of the UK. Patterns in income and expenditure of UK higher education institutions in 2015–16 are considered in Chapter 3. For the first time the report also includes a forward-looking chapter that considers emerging trends and projections related to demographic, economic, technological and political changes that are likely to have implications for future trends in higher education.

To give a sense of the shape of the UK higher education sector, in 2015–16 UK universities were teaching around 2.28 million students, 69% (1.6 million) of whom were studying for first degrees, with a further 18% (419,795) studying for postgraduate taught qualifications, 8% (183,955) studying for other undergraduate degrees,<sup>1</sup> and 5% (113,175) studying for postgraduate research degrees. Most students – 1.7 million – were studying full-time; however, this varied considerably for different levels of study, from 89% of first degree students, to 25% of other undergraduates (Figure 1).

*In 2015–16 UK universities were teaching around 2.28 million students.*

**FIGURE 1:**

Students at higher education institutions by level and mode of study, 2015–16



Source: HESA

In the same year, higher education institutions in the UK employed 410,130 staff, 49% of whom were on academic contracts and 19% of whom were non-UK nationals. The total income of UK higher education institutions in 2015–16 stood at £34.7 billion and total expenditure was £33 billion.

<sup>1</sup> 'Other undergraduate' provision includes foundation degrees, higher national certificates and diplomas, undergraduate certificates, and studying for institutional credits.

## Note on data

In 2015–16, there were 162 higher education institutions, excluding further education colleges, in the UK in receipt of public funding via one of the UK funding councils. This report features aggregated data from all 162, plus the University of Buckingham, largely based on institutional returns to the Higher Education Statistics Agency (HESA).<sup>2</sup> Unless explicitly stated otherwise, the analysis in this report therefore excludes other higher education providers, including alternative providers or further education colleges that currently do not return consistent and full data to HESA.

The report also excludes data for the University of Wales (central functions), which has staff but no students. To ensure that figures for the number of students studying in each country reflect the actual number of students studying in that country for each year, Open University students have been split out to their country of study.

All HESA figures quoted in the report that relate to student and staff numbers have been rounded to the nearest five in accordance with HESA data protection protocols. All percentages have been calculated using raw figures and rounded, and therefore rounded figures may not sum precisely.

Owing to changes in financial reporting from 2015–16, data on UK higher education institutions' finances is no longer comparable with previously published HESA finance data that has been used in earlier editions of *Patterns and trends*. Data on university finances is therefore provided for 2015–16 only, with broad comparisons made with previous years where appropriate.

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<sup>2</sup> Neither the Higher Education Statistics Agency Limited nor HESA Services Limited can accept responsibility for any inferences or conclusions derived by third parties from data or other information obtained from HESA sources.



# CHAPTER 1

# STUDENTS



*In 2015–16, there were 992,125 entrants to 163 higher education institutions in the UK, 65,175 fewer than in 2006–07. However, the total number of students has fluctuated across the 10-year period, and across modes and levels of study.*

## 1.1 ENTRANTS TO HIGHER EDUCATION

While the number of entrants to full-time first degree, postgraduate taught and postgraduate research courses have increased considerably since 2006–07 (by 31.2%, 30.5% and 25.7% respectively), the number of entrants to part-time first degree and postgraduate taught courses declined, as did the number of entrants to both full-time and part-time other undergraduate courses (Figure 2).

The number of entrants to part-time first degree courses fell by 28.6% between 2006–07 and 2015–16, with most of this decline occurring between 2011–12 and 2014–15 following the introduction of undergraduate tuition fee reforms in England. There was a small increase (2%) in the number of entrants to part-time first degree courses in 2015–16 compared with the previous year. Evidence has suggested that – in addition to changes to the undergraduate funding system in England – factors such as the economic downturn have also contributed to the reduction in the number of students able to self-fund part-time study, and a reduction in the number of employers willing to support employees through part-time study over the period in question (Student Funding Panel, 2015).

Since 2006–07, the number of entrants to other undergraduate courses has fallen considerably, with 49.7% fewer full-time and 63.1% fewer part-time entrants to these courses in 2015–16. For other undergraduate courses, under both modes of study, this decline in the number of entrants begins in 2008–09, reflecting the significant impact of the equivalent or lower qualification (ELQ) policy introduced in that year, which saw the removal of funding for students taking qualifications equivalent to or lower than those that they already held.

*The number of entrants to part-time first degree courses fell by 28.6% between 2006–07 and 2015–16.*

**FIGURE 2:**

Entrants by mode and level of study, 2006–07 to 2015–16



Source: HESA

The distribution of entrants to higher education varies across the UK. Table 1 shows how the number of entrants to higher education (covering all modes and levels of study) from each of the four UK nations, the EU and the rest of the world has varied according to country of institution across the four UK nations between 2007–08 and 2015–16.

In 2015–16, higher education institutions in England accounted for 82% of all entrants, with higher education institutions in Scotland accounting for 9.8%, Wales 5.9% and Northern Ireland 2.3%. Changes in entrant numbers between 2007–08 and 2015–16 show that non-EU entrants increased across institutions in all nations of the UK, while EU student numbers decreased at institutions in Northern Ireland and Wales.

Higher education institutions in England saw a reduction in entrants from England (14.4%) and Scotland (14.8%), largely reflecting the impact of reduced part-time numbers and the increase in fees in 2012–13. The number of Welsh students studying in England (for whom fees have remained broadly the same over the period<sup>3</sup>) increased by 18.3%. In Scotland, entrant numbers increased for students from England and Wales, reflecting the increased attraction of undergraduate entrants from these countries, for which Scottish institutions have since 2012–13 received up to £9,000 per student. The figures also reflect the higher proportion of students from Wales and Northern Ireland that study outside their home countries (26.9% and 25.8% respectively).

**TABLE 1:**  
Cross-border flows of entrants by domicile and country of institution, 2007–08 and 2015–16

DOMICILE	COUNTRY OF INSTITUTION								CHANGE BETWEEN 2007-08 AND 2015-16			
	2007-08				2015-16				ENGLAND	NORTHERN IRELAND	SCOTLAND	WALES
	ENGLAND	NORTHERN IRELAND	SCOTLAND	WALES	ENGLAND	NORTHERN IRELAND	SCOTLAND	WALES				
ENGLAND	700,895	410	7,045	13,465	599,860	1,225	8,500	13,925	-14.4%	198.8%	20.7%	3.4%
NORTHERN IRELAND	4,665	20,065	1,460	190	5,125	19,090	1,305	215	9.9%	-4.9%	-10.6%	13.2%
SCOTLAND	5,155	55	72,120	280	4,390	110	61,555	165	-14.8%	100.0%	-14.6%	-41.1%
WALES	9,630	15	250	40,075	11,390	65	280	31,820	18.3%	333.3%	12.0%	-20.6%
EU	44,740	1,765	6,485	4,760	46,380	1,035	8,790	2,890	3.7%	-41.4%	35.5%	-39.3%
NON-EU	105,850	590	12,205	7,825	145,155	1,410	16,630	8,990	37.1%	139.0%	36.3%	14.9%

Source: HESA

Full-time young undergraduate entrants make up the highest proportion of all entrants, and demand for higher education from 18-year-olds remains high. The proportions of UK 18-year-olds applying for a full-time undergraduate course (the ‘application rate’) or being accepted for full-time undergraduate study via UCAS (the ‘entry rate’) have both risen in the past 10 years and were at record levels in 2015 (Figure 3). The rise, however, has not been straightforward, with a fall in both measures in 2012–13 following changes in student funding in that year, and continued growth from 2013 onwards.

It is notable that this has occurred during a period of demographic decline in the young UK population, with the 18-year-old population estimated to have decreased by 4.2% (32,605) between 2006 and 2016 (UCAS, 2017). This growth in demand for higher education has resulted in an increase in the number of young students at UK higher education institutions (Figure 14), despite fewer numbers being available

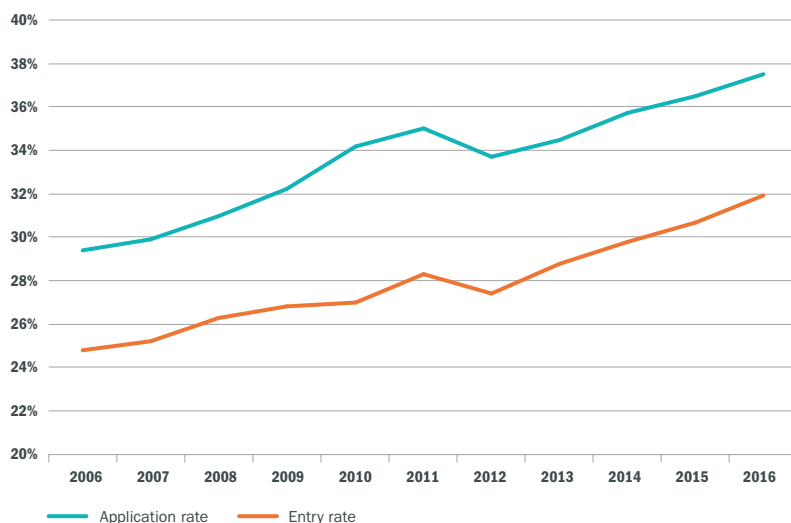
*The proportions of UK 18-year-olds applying or being accepted for full-time undergraduate study have both risen in the past 10 years and were at record levels in 2015.*

3 Due to the Welsh Government’s policy of providing tuition fee grants for Welsh-domiciled students.

for entry. The potential impact of future trends in the young UK population are considered in Chapter 4.

**FIGURE 3:**

Entry and application rates for UK-domiciled 18-year-olds, 2006 to 2015



Source: UCAS

## 1.2 STUDENTS BY PROVIDER, LEVEL AND MODE OF STUDY

While we have already discussed changes in entrants to higher education institutions, recent changes in funding and regulation have also resulted in changes in higher education student numbers across further education colleges and higher education institutions. As Figure 4 shows, the number of other undergraduates registered at further education colleges grew by 2.4% (or 3,750) between 2011–12 and 2015–16, while higher education institutions saw a reduction in student numbers for the same group over the same period (-52.4% or 202,820 fewer students).

Further education colleges also reported a larger proportional increase (but smaller absolute increase) in the number of students on first degree courses over the same period, which grew by 15.4% (or 3,145 students) compared with a 1.5% increase at higher education institutions (22,535 students).

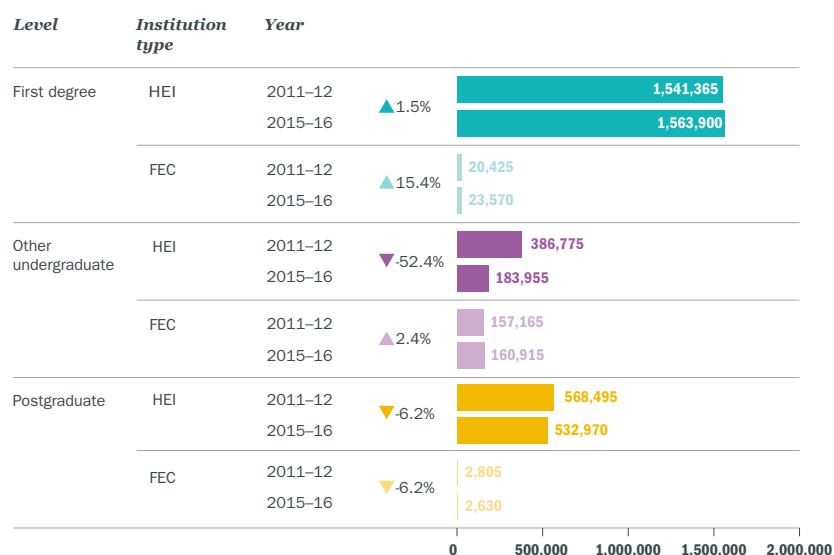
Among other factors, both trends reflect regulatory changes in England that have seen further education colleges increasingly offer their own undergraduate provision rather than in franchise arrangements with universities (under the latter arrangements, students were listed under the higher education institution’s statistical return).

Postgraduate numbers across both provider types decreased by 6.2% over the period, with the vast majority of postgraduate provision (99.5%) found in higher education institutions in 2015–16.

Although comparable figures for undergraduate provision at alternative providers of higher education are not currently available, a recent government report (BIS, 2016) suggests that as many as 295,000 students could be studying at these providers and that this number has remained broadly stable over the period 2011–12 to 2015–16.

**FIGURE 4:**

Higher education students by provider type and level of study, 2011–12 and 2015–16



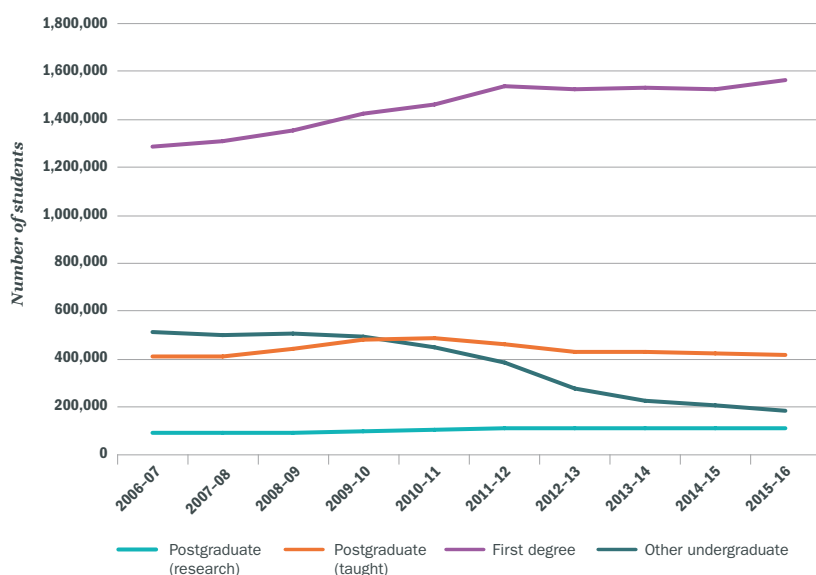
Source: HESA

Note to Figure 4: FEC = further education college; HEI = higher education institution

Looking solely at higher education institutions, the total number of students on higher education courses decreased between 2006–07 and 2015–16 by 1.0%, from 2.30 million to 2.28 million. Figure 5 shows that this is largely due to the decrease in the number of students on other undergraduate courses, which fell by 64.3%, with all other levels of study increasing over the period. Over the 10-year period, first degree students increased by 21.6%, postgraduate research students by 25.2% and postgraduate taught students by 1.8%.

**FIGURE 5:**

Total number of students by level of study, 2006–07 to 2015–16



Source: HESA

Table 2 shows the annual change in student population by level. It is worth noting that despite the overall decrease in total student numbers over the whole period, the pattern of annual change has varied significantly. Table 2 demonstrates that the key driver in the reduction in total numbers over the period is the decline in ‘other undergraduate’ numbers from 2009–10 onwards.

It is also notable that, other than the most recent year, the total number of students has fallen annually since its peak (of 2.5 million) in 2010–11, coinciding with a period of demographic decline in the young population and a fall in the number of people studying part time.

Although these trends have resulted in a 1.0% decrease in the total number of students at higher education institutions over the last 10 years, this decrease occurred primarily across lower intensity part-time and other undergraduate courses. Looking at full-time equivalent (FTE)<sup>4</sup> rather than student numbers shows that higher education activity at UK higher education institutions increased by 11.3% between 2006–07 and 2015–16. This increase in activity, despite a decrease in student numbers, will have implications for staff numbers and expenditure of higher education institutions over the period.

*The total number of students has fallen annually since its peak (of 2.5 million) in 2010–11, coinciding with a period of demographic decline in the young population and a fall in the number of people studying part time.*

4 FTE is a concept that considers the proportion of the full-time course that the student is studying. A student on a full-time, full-year course would be returned as 1.0, whereas a student on a part-time course that is 60% of a full-time course would be returned as 0.6. This counting method gives the number of full-time equivalent students rather than an actual count.

**TABLE 2:**

Annual change in student population by level of study, 2008–09 to 2015–16

	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16
<b>FIRST DEGREE</b>	1.6%	3.4%	5.2%	3.0%	5.3%	-0.8%	0.4%	-0.6%	2.6%
<b>OTHER UNDERGRADUATE</b>	-3.4%	1.9%	-2.8%	-9.1%	-13.8%	-28.8%	-17.9%	-9.9%	-9.7%
<b>POSTGRADUATE (RESEARCH)</b>	3.5%	1.2%	4.5%	5.0%	5.0%	0.1%	2.2%	1.3%	0.2%
<b>POSTGRADUATE (TAUGHT)</b>	-1.2%	8.5%	8.5%	1.1%	-5.2%	-7.0%	0.1%	-0.6%	-1.3%
<b>TOTAL</b>	0.1%	3.9%	4.1%	0.3%	-0.2%	-6.3%	-1.7%	-1.4%	0.7%

Source: HESA

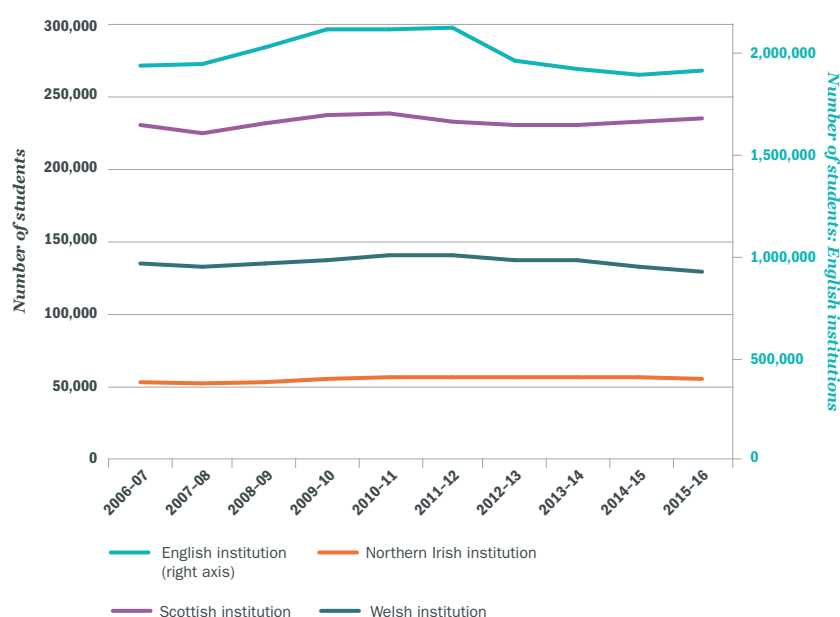
UK-wide trends in student numbers hide some differences between students registered at higher education institutions in each of the four UK nations. Figure 6 shows that institutions in all countries of the UK saw increases in student numbers between 2006–07 and 2010–11, but that subsequently, trends have varied. In England, numbers remained flat until 2011–12, reflecting the implementation of a cap on student numbers over this period, and then decreased from 2012–13 onwards following the increase in fees and the subsequent falls in part-time study.

A similar pattern is seen at institutions in Wales, where numbers have decreased since 2011–12, albeit at a slower rate than in England. Higher education institutions in Scotland also saw decreases in numbers from 2011–12 onwards, but have seen a slight recovery since 2013–14. In Northern Ireland, following increases between 2007–08 and 2011–12, student numbers have decreased in 2015–16, reflecting the funding cuts imposed in this year and the corrective action taken by universities in order to maintain the quality of their provision (see Chapter 4 for further discussion).

*All countries of the UK saw increases in student numbers between 2006–07 and 2010–11, but subsequently trends have varied.*

**FIGURE 6:**

Total student numbers by country of higher education institution, 2006–07 to 2015–16



Source: HESA

As outlined in section 1.1. above on entrants to higher education, the number of students registering for part-time higher education has fallen since 2006–07. Figure 7 shows that while full-time enrolments have increased by 19.9% since 2006–07, with growth resuming after a fall in 2012–13, part-time enrolments remained broadly stable until 2009–10, after which they have fallen year on year. Part-time registrations are now 36.7% lower than in 2006–07.

**FIGURE 7:**

Students by mode of study, 2006–07 to 2015–16

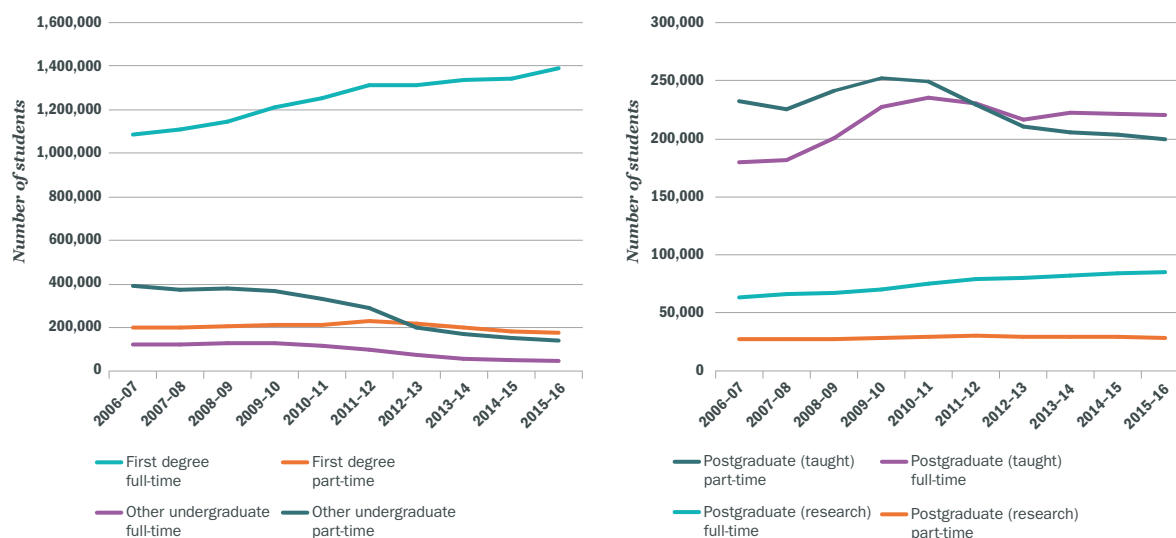


Further details of this decline are shown in Figure 8, which looks at the change in student numbers by mode and level of study. Between 2006–07 and 2015–16, the number of students studying part-time decreased for first degree (12.6%), other undergraduate (65%) and postgraduate taught (14.3%) courses, and increased for postgraduate research (5.3%). Over the same period, the number of students studying full-time increased for first degree (27.9%) and postgraduate taught (22.6%) courses and for postgraduate research (33.7%), while full-time students on other undergraduate courses decreased (62.0%).



**FIGURE 8:**

Students by level and mode of study, 2007–08 to 2015–16



Source: HESA

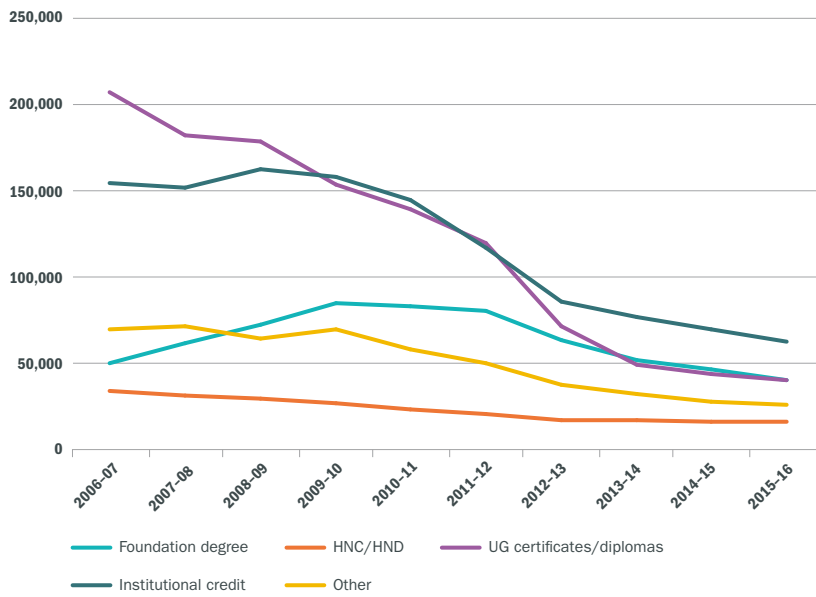
The decrease in other undergraduate provision over this period has been one of the contributing factors in the decline of part-time study, accounting for 81.7% of the decline in total part-time student numbers since 2006–07. Figure 9 gives further details of trends in other undergraduate courses, and shows that the bulk of this decrease is due to fewer students studying undergraduate certificates/diplomas and institutional credits, with numbers falling by 80.7% (167,500 students) and 59.6% (92,230 students) respectively between 2006–07 and 2015–16. As noted earlier, however, the actual amount of higher education activity at UK higher education institutions – as measured by FTEs – increased by 11.3% over the same period, reflecting the shift from low- to high-intensity courses.

The decline in undergraduate certificates/diplomas has been driven by a number of factors, including:

- the switch in student demand from certificates/diplomas to foundation degrees at the beginning of the period
- from 2009–10 onwards, the requirement by the Department of Health for all new nurses to be degree educated by 2013
- from 2008–09 onwards, the removal of funding for students taking qualifications equivalent to or lower than those that they already held (the ELQ policy)
- the increase in fees in England 2012–13

There is also evidence to suggest that, as government funding for institutional credit-bearing courses in England was removed, following the ELQ policy in 2008–09 onwards, some parts of the sector took the opportunity to restructure these courses and, where appropriate, to deliver them as non-credit-bearing courses that do not appear in HESA's statistical returns (HEPI, 2015).

**FIGURE 9:**  
Other undergraduate students by broad course aim, 2007–08 to 2015–16

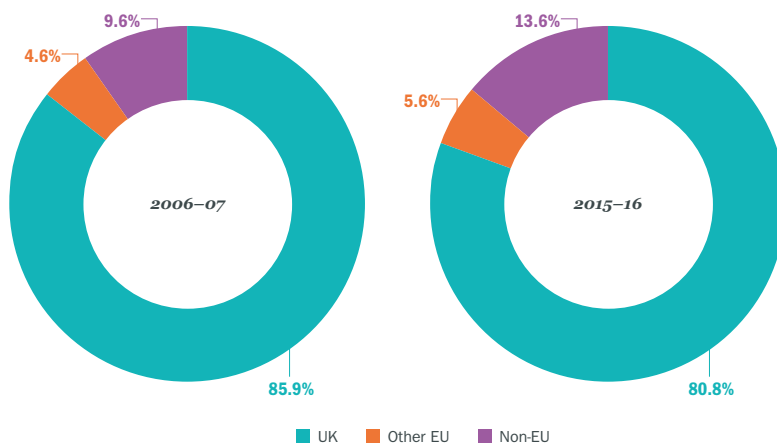


Source: HESA  
Note to Figure 9: HNC/HND = higher national certificate/higher national diploma

### 1.3 INTERNATIONAL STUDENTS

While the majority of students at UK higher education institutions are from the UK, accounting for 79.9% of all students in 2015–16, increasing proportions are from elsewhere in the world. In 2006–07, 14.1% of students were from non-UK domiciles (4.6% from the EU (excluding the UK) and 9.6% from non-EU countries); in 2015–16, this had increased to 19% (5.6% EU and 13.5% non-EU) (Figure 10).

**FIGURE 10:**  
Students by domicile, 2006–07 and 2015–16



Source: HESA

However, changes in non-UK student numbers have varied over the period in question. Figure 11 shows that, after a period of growth between 2006–07 and 2011–12, the number of EU students for the UK as a whole fell by 13.3% in 2012–13 compared with the previous year. This largely reflects funding changes in England, where tuition fees increased in 2012–13. In Scotland, for example, where EU students have the same fee status as home students and therefore do not pay any tuition fees, the number of EU entrants increased by 6% in 2012–13.

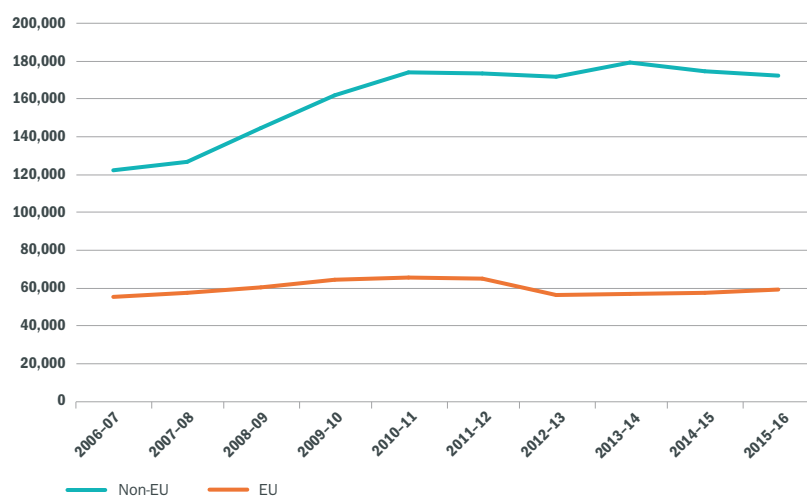
From 2012–13 onwards, there was a steady increase in EU student numbers at UK higher education institutions, and in 2015–16, numbers almost returned to levels seen in 2008–09. EU entrants made up 6.0% of all entrants to UK higher education institutions in 2015–16 and 5.6% of all students. These figures represent student numbers in the academic year 2015–16, covering the period between 1 August 2015 and 31 July 2016, and will therefore not include any potential impact of the EU referendum result on student entry. Governments across the UK have committed to providing funding for EU students starting in 2017–18 and 2018–19 on the same basis as home students for the length of their courses. The potential impact on future recruitment is considered in more detail in Chapter 4.

In comparison, the number of non-EU entrants – for whom tuition fees have been unregulated over the period in question – increased by 42.5% between 2006–07 and 2010–11. Subsequently numbers have decreased, with Non-EU entrants falling by 1.2% between 2010–11 and 2015–16.

*EU entrants made up 6.0% of all entrants to UK higher education institutions in 2015–16 and 5.6% of all students.*

**FIGURE 11:**

Non-UK entrants to UK higher education institutions, 2006–07 to 2015–16



Source: HESA

The distribution of non-UK students also varies across levels of study, as shown in Table 3. At first degree level, students from non-EU countries increased by 60,000 between 2006–07 and 2015–16, but continued to account for a relatively small share of total student numbers in 2015–16 (moving from 6.5% of all first degree students in 2006–07 to 9.2% in 2015–16).

At postgraduate taught level, the increase in students from non-EU countries was smaller in numerical terms (29,100); however, due to the decrease in UK numbers over the period (by 22,940), the proportion of postgraduate taught students from non-EU countries increased from 22.2% to 28.8%. Along with a small increase in EU students (790), the increase in non-UK students on postgraduate taught courses contributed to an increase in activity at this level, despite a decrease in home students over the period.

Students from non-EU countries accounted for a similar proportion of total students studying postgraduate research courses, where along with EU students, they made up just under two-fifths of all students in 2015–16.

The proportion of non-EU students varies quite widely between subjects as well as by level. Just under 25% of those studying for qualifications in engineering in 2015–16 were from outside the EU, compared with just 5.8% studying for biological sciences.

**TABLE 3:**

Students by domicile and level of study, 2007–08 and 2015–16

	UK		OTHER EU		NON-EU	
	2006–07	2015–16	2006–07	2015–16	2006–07	2015–16
<b>OTHER UNDERGRADUATE</b>	483,530	166,795	12,385	4,275	19,600	12,885
<b>% SHARE</b>	93.8%	90.7%	2.4%	2.3%	3.8%	7.0%
<b>FIRST DEGREE</b>	1,151,360	1,342,770	51,780	77,825	83,300	143,300
<b>% SHARE</b>	89.5%	85.9%	4.0%	5.0%	6.5%	9.2%
<b>POSTGRADUATE TAUGHT</b>	291,410	268,470	29,340	30,130	91,610	120,710
<b>% SHARE</b>	70.7%	64.0%	7.1%	7.2%	22.2%	28.8%
<b>POSTGRADUATE RESEARCH</b>	52,410	64,285	11,910	15,205	26,065	33,680
<b>% SHARE</b>	58.0%	56.8%	13.2%	13.4%	28.8%	29.8%

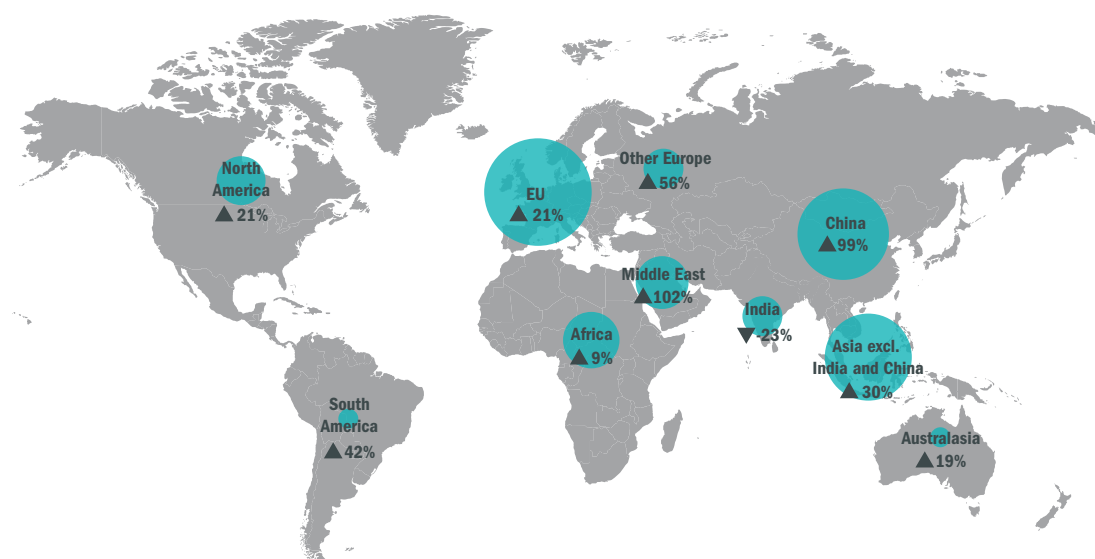
Source: HESA

Figure 12 shows the region of origin of non-UK students in 2006–07 and 2015–16, with bubbles showing the proportion of total non-UK students each area accounted for in 2015–16 and labels showing change in student numbers since 2006–07. In 2015–16, the EU was the biggest source of students (at 29.1%), followed by China (20.8%) and the rest of Asia excluding India and China (19.1%).

Over the 10 years between 2006–07 and 2015–16, the number of students from China has risen by 98.9%. In the same period, the number of students coming from India has decreased by 23.3%, and in 2015–16 accounted for 3.8% of all non-UK students compared with 6.7% in 2006–07. The region with the largest growth in student numbers at UK higher education institutions was the Middle East, which saw a percentage increase of 101.8%.

**FIGURE 12:**

Change in non-UK students by region of origin, 2006–07 and 2015–16



Source: HESA

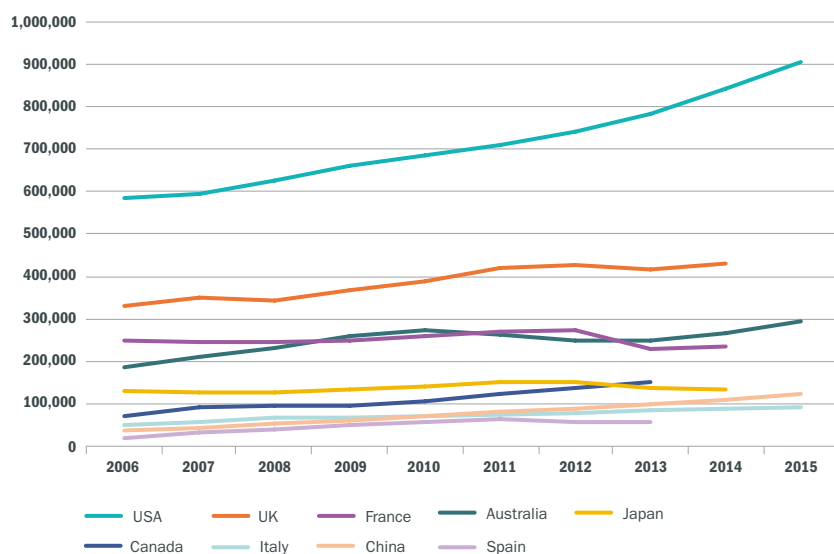
Note: Figures exclude students with unknown domicile

	2006–07		2015–16	
	STUDENTS	% SHARE OF TOTAL NON-UK	STUDENTS	% SHARE OF TOTAL NON-UK
<b>EU</b>	105,410	32.3%	127,440	29.1%
<b>OTHER EUROPE</b>	12,495	3.8%	19,490	4.4%
<b>AFRICA</b>	30,945	9.5%	33,610	7.7%
<b>ASIA (EXCL. INDIA AND CHINA)</b>	64,220	19.7%	83,700	19.1%
<b>CHINA</b>	45,850	14.1%	91,215	20.8%
<b>INDIA</b>	21,830	6.7%	16,745	3.8%
<b>AUSTRALASIA</b>	2,255	0.7%	2,675	0.6%
<b>MIDDLE EAST</b>	14,580	4.5%	29,420	6.7%
<b>NORTH AMERICA</b>	23,190	7.1%	28,040	6.4%
<b>SOUTH AMERICA</b>	4,005	1.2%	5,675	1.3%

Although the number of non-UK students at UK higher education institutions has increased since 2006–07 (by 34.4%), the majority of this growth occurred earlier in the period. Between 2006–07 and 2010–11, international students in the UK increased by 31.4%, compared with a 2.3% increase between 2010–11 and 2015–16.

Figure 13 compares this trend with that of other countries, and shows that the United States remains considerably ahead of the UK in attracting international students, with 55% growth between 2006 and 2015. Other competitor countries, such as Canada and Australia, saw bigger percentage increases than the UK in their international student registrations, and new competitors such as China are also seeing impressive growth.

**FIGURE 13:**  
Inbound internationally mobile students<sup>5</sup> by country of study, 2006 to 2015



Source: UNESCO Institute of Statistics Education database  
Note to Figure 13: Data from 2014 and 2015 is not available for all countries

The continued improvement in competitor countries attracting international students, the slowdown of growth in international students in the UK and decreases in recruitment from some regions (eg, a 23.3% decrease in students from India over last 10 years) are fuelling concerns about the UK’s ability to continue to attract international students to its higher education institutions.

International student (non-EU) fee income accounted for 12.8% of sector income in 2015–16, and demand from international students supports the provision of certain strategically important subjects in the UK (eg, engineering, technology, computer science and mathematics, particularly at postgraduate level where around half of all students are from outside the EU).

Non-EU students are also important for the wider UK economy, contributing £10.8 billion to UK export earnings and supporting around 206,600 jobs through their tuition fees, accommodation and off-campus expenditure in 2014–15 (UUK, 2017). Educating international students also contributes to boosting the UK’s soft power, with a study of international alumni asserting that many become ‘informal ambassadors for the UK’ (Mellors-Bourne et al, 2013:38).

*Non-EU students are also important for the wider UK economy, contributing £10.8 billion to UK export earnings and supporting around 206,600 jobs through their tuition fees, accommodation and off-campus expenditure in 2014–15.*

<sup>5</sup> ‘Inbound’ students are those who have crossed a national or territorial border for the purpose of education and are now enrolled outside their country of origin.

## 1.4 STUDENT PROFILES AND SUBJECTS OF STUDY

The student body at UK higher education institutions in 2015–16 varied by gender and ethnicity as well as by region of origin. In 2015–16, 56.5% of all students were female. Within the total figure, there was some variation by level of study. At first degree level, 55.5% of students were female, while at postgraduate research level, 47.7% of students were female. At the same time, there was variation by domicile, with male students accounting for a higher proportion of non-EU students compared with other domiciles (Table 4). The gender split varies even more widely by country, with male students accounting for 73.9% of all students from Bangladesh, compared with just 29.9% of students from Finland.

**TABLE 4:**

Gender of students by domicile, 2015–16

	FEMALE	MALE
UK	57.4%	42.6%
OTHER EU	54.6%	45.4%
NON-EU	52.0%	48.0%

Source: HESA

The age of students also varies across levels of study, with considerable changes in trends over the last 10 years, as shown in Figure 14. Across both levels of study, there is a broad trend of growth in students from younger age groups (under 30 for postgraduates and under 25 for undergraduates) and a decrease in the number of students from older age groups. As older age groups are more likely to study part time, this pattern partly reflects those trends described elsewhere in this report that have seen a significant decline in part-time and other undergraduate provision over the last 10 years.

Between 2006–07 and 2009–10, the number of undergraduate students across all age groups grew or remained broadly flat. From 2010–11 onwards, undergraduate students in all age groups above age 25 begin to decline, with year-on-year decreases in numbers to 2015–16, coinciding with the introduction of the ELQ policy in England in 2008–09 and changes to student funding across the UK from 2012–13. For younger age groups, there has been a return to growth in undergraduate numbers following 2012–13.

A similar pattern of change is evident across most age groups for postgraduate study, with strong growth in the number of students aged under 30 between 2006–07 and 2010–11, and lower levels of growth for those aged 30 and over. There was a reported decrease in the number of students studying postgraduate courses between 2010–11 and 2012–13, with younger age groups showing growth up to 2015–16 and older age groups either broadly maintaining numbers or continuing to decline.

**FIGURE 14:**  
Students by age group and level of study, 2006–07 to 2015–16



Source: HESA

As part of its commitment to increasing the diversity of the student body, the UK higher education sector monitors trends in other characteristics, and in conjunction with other stakeholders acts to ensure that opportunities are available for those who are most able to benefit from higher education (UUK, 2016). In terms of widening participation, a common proxy measure used to identify students from disadvantaged backgrounds is the Participation of Local Areas (POLAR) classification.<sup>6</sup>

Figure 15 shows the trend in school leavers from areas with the lowest levels of young participation in higher education that have accepted a place on a full-time undergraduate course via UCAS.

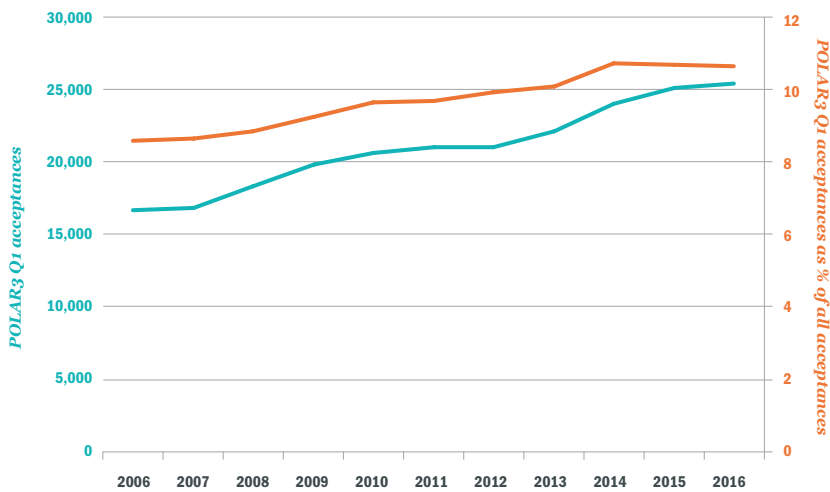
Both the number of 18-year-olds from these areas, and the proportion of total acceptances, have increased between 2006–07 and 2016–17. The absolute number has increased each year, but the annual rate of growth has varied considerably from 9% and 8.6% in 2008–09 and 2014–15 respectively, to 0.1% in 2012–13. A similar pattern is seen for acceptances by students from low participation areas as a proportion of total acceptances, which increased between 2006–07 and 2014–15 but has seen a slight reduction since then.

6 Developed by the Higher Education Funding Council for England, POLAR classifies small areas across the UK into five groups according to their level of young participation in higher education. Each group represents around 20% of young people and is ranked from quintile 1 (areas with the lowest young participation rates, considered the most disadvantaged) to quintile 5 (highest young participation rates, considered most advantaged).



**FIGURE 15:**

18-year-old, full-time, undergraduate acceptances from low participation areas (POLAR 3, quintile 1), 2006 to 2016



Source: UCAS end-of-cycle data resources

It is not enough, however, that students from disadvantaged or non-traditional backgrounds simply get a place at university. As recognised in the recent report of the Social Mobility Advisory Group (UUK, 2016a), if higher education is to contribute to improving opportunities for these students, then retention and outcomes following graduation are also important.

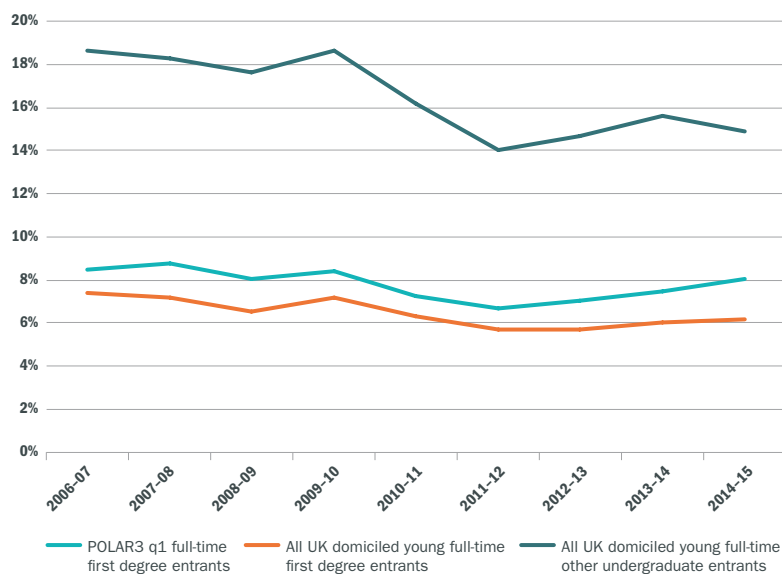
Figure 16 shows the proportion of undergraduate, first year students that are no longer in higher education one year after entry for a number of groups. Non-continuation rates for full-time, first degree students from low participation areas can be seen to be higher than those for all young full-time, first degree entrants over the period, but considerably lower than the rate for young, full-time entrants on other undergraduate courses (eg, foundation degree, Higher National Certificate / Higher National Diploma). Between 2006–07 and 2015–16, changes in the non-continuation rate for young full-time, first degree entrants from low participation areas have broadly followed the pattern for all young full-time, undergraduate entrants, with a slight widening of the gap since 2012–13. Despite recent increases in the number of young full-time, undergraduate entrants, across all groups, the most recent rate of non-continuation is below the level seen in 2006–07.

Research by the Higher Education Funding Council for England (HEFCE) has also found that in England, only 45% of entrants to higher education in POLAR 3, quintile 1 go on to obtain a first or upper second class degree, compared with 58.6% in quintile 5, and that those in quintile 1 were 4.3 percentage points less likely to go on to professional employment than quintile 5 graduates, once the results were controlled for student characteristics (ibid).

*Despite recent increases in the number of young full-time, undergraduate entrants, across all groups, the most recent rate of non-continuation is below the level seen in 2006–07.*

**FIGURE 16:**

Undergraduate, first-year students no longer in higher education one year after entry, 2006–07 to 2014–15



Source: HESA

Changes in student choice, by subject of study, between 2006–07 and 2015–16 also demonstrate how the student body is altering over time, and how universities are adapting to a changing population, and changes to higher education funding and the broader economy.
































As Table 5 shows, the three subjects with the largest increase in absolute numbers over the period were biological sciences (up by 57,856, or 36.3%), engineering (28,812 or 21.4%) and business and administrative studies (26,054 or 8.7%). This reflects a general trend that has seen an increase in the number of students studying science, technology, engineering and mathematics (STEM) subjects over the period, other than computer science, which saw a 7.3% decrease in numbers. Over the same period, there have been large reductions in student numbers in some subjects, most notably education and languages, where student numbers fell by 56,710 (26.6%) and 28,105 (20.6%) respectively.

However, it is worth noting that for some subjects that have seen growth over the period, a large proportion of students are from non-UK domiciles, most notably for engineering (13.1% are non-UK), business and administration (31.5%) and social studies (9%). These subjects therefore remain vulnerable to any future volatility in the international student market, or increased immigration restrictions.

*The three subjects with the largest increase in absolute numbers over the period were biological sciences (up by 57,856, or 36.3%), engineering (28,812 or 21.4%) and business and administrative studies (26,054 or 8.7%).*

TABLE 5:

Students by subject of study, 2006–07 and 2015–16

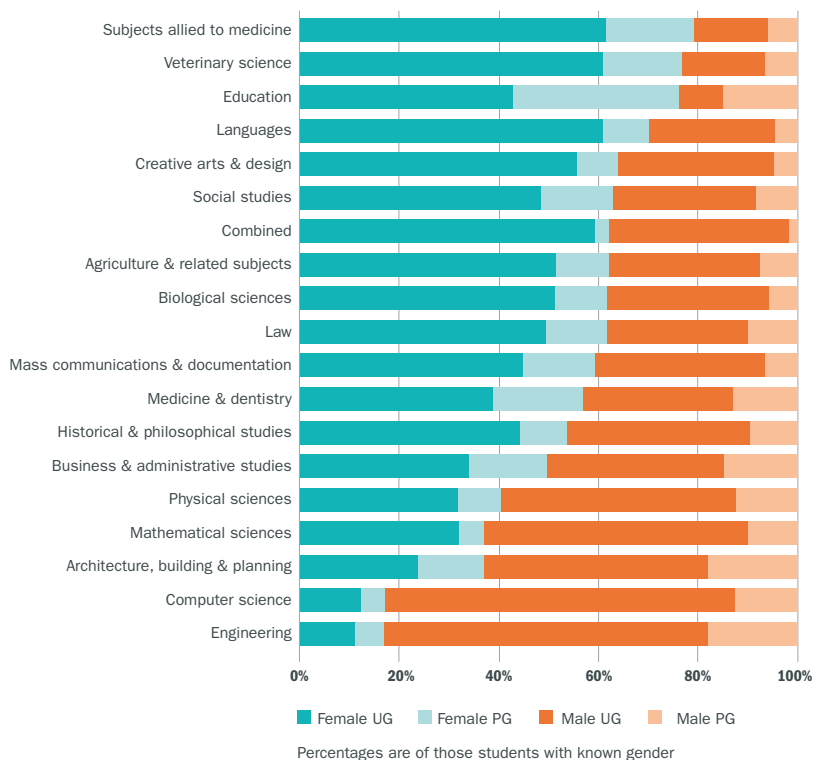
	2006–07	2015–16		CHANGE		% CHANGE
VETERINARY SCIENCE	4,735	6,775		2,040		43.1%
BIOLOGICAL SCIENCES	159,450	217,310		57,855		36.3%
MATHEMATICAL SCIENCES	32,950	43,155		10,210		31.0%
ENGINEERING	134,445	163,255		28,810		21.4%
AGRICULTURE & RELATED SUBJECTS	15,685	19,025		3,340		21.3%
PHYSICAL SCIENCES	80,000	94,920		14,920		18.7%
SOCIAL STUDIES	195,920	214,145		18,230		9.3%
BUSINESS & ADMINISTRATIVE STUDIES	300,445	326,500		26,055		8.7%
MEDICINE & DENTISTRY	60,375	65,550		5,175		8.6%
CREATIVE ARTS & DESIGN	158,890	169,825		10,935		6.9%
MASS COMMUNICATIONS & DOCUMENTATION	46,770	49,320		2,545		5.4%
LAW	88,780	88,665		-115		-0.1%
SUBJECTS ALLIED TO MEDICINE	297,205	284,935		-12,275		-4.1%
COMPUTER SCIENCE	103,880	96,260		-7,615		-7.3%
HISTORICAL & PHILOSOPHICAL STUDIES	99,420	85,375		-14,045		-14.1%
ARCHITECTURE, BUILDING & PLANNING	59,340	49,385		-9,955		-16.8%
LANGUAGES	136,460	108,355		-28,105		-20.6%
EDUCATION	212,860	156,150		-56,710		-26.6%
COMBINED	117,085	41,920		-75,165		-64.2%

Source: HESA

These high-level patterns, however, hide significant variations in the proportion of students studying different subjects by level of study and gender or ethnicity, further details of which are provided in Figure 17 (gender) and Figure 18 (ethnicity).

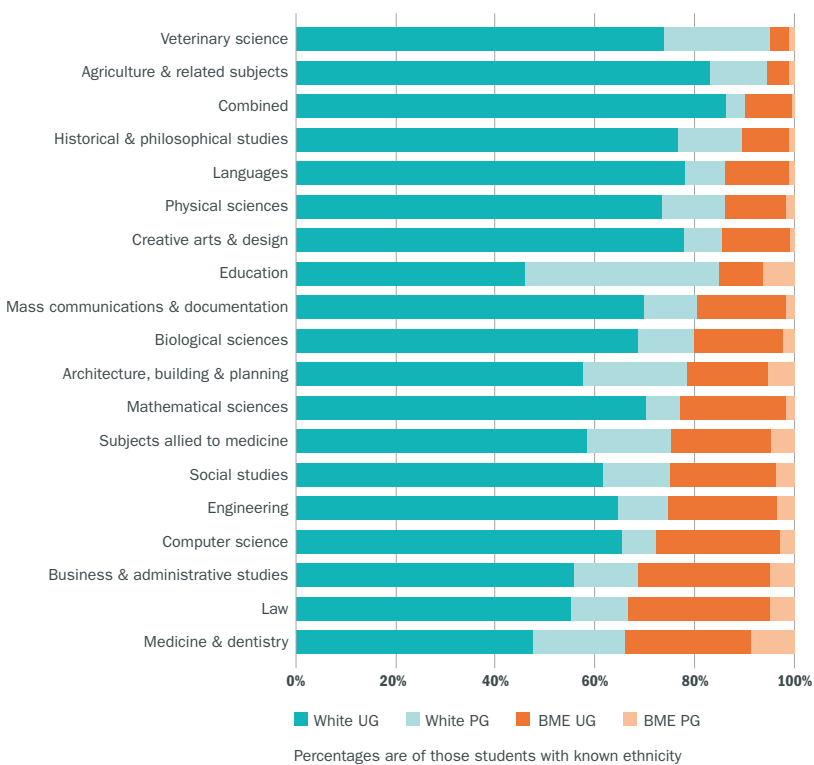
In 2015–16, the gender balance of students across subjects varied as widely as 83% men and 17% women for engineering and 20.7% men and 79.3% women for subjects allied to medicine. In relation to ethnicity, subjects with particularly low levels of black and minority ethnic (BME) students included veterinary sciences (4.8%) and agriculture (5.5%), while the highest proportions of BME students were found in medicine and dentistry (34.1%), law (33.4%) and business and administrative studies (31.3%). It is beyond the scope of this report to explore the reasons for these differences, but the wide variation by student profile between subjects is a striking feature of the student population.

**FIGURE 17:**  
Subject of study by level and gender, 2015–16



Source: HESA

**FIGURE 18:**  
Subject of study by level and ethnicity, 2015–16



Source: HESA

## 1.5 STUDENT OUTCOMES AND EMPLOYMENT

Previous sections have looked at changes in patterns and trends in terms of entrants and student numbers at UK higher education institutions. This section considers how some of these trends have translated into outcomes for students at UK higher education institutions, and looks at the evidence for graduate employment outcomes over the period.

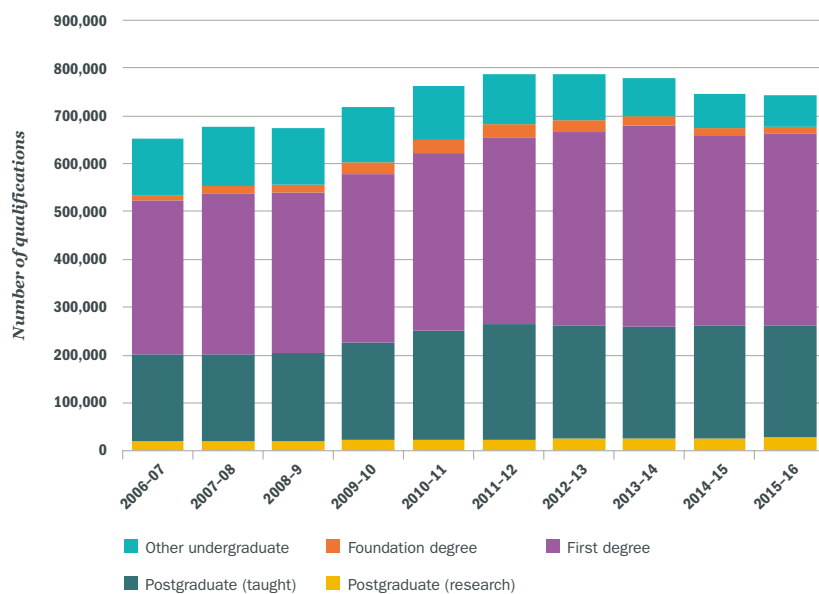
Between 2006–07 and 2015–16, the number of higher education qualifications awarded each year increased by 91,665 (14.1%), to a total of 742,730 (Figure 19). However, growth mainly occurred in the period 2006–07 to 2012–13 when the number of qualifications awarded increased by 21% (136,835), peaking at 787,900 qualifications awarded in the academic year 2012–13. Following this, numbers have decreased year-on-year and in 2015–16 were 5.7% (45,170) lower than in 2012–13.

Over the entire 10-year period, the largest proportional increase has been in the award of postgraduate taught qualifications, which increased by 29.6% (53,685), with similar levels of growth seen in the number of students leaving with first degrees (25.2% or 80,560 more students) and postgraduate research qualifications (29.5% or 6,235). Although a similar increase is also reported for the number of students leaving with a foundation degree over the period (27.4%), this masks an extreme change in year-on-year trends, where numbers increased by 134.7% (15,670) between 2006–07 and 2010–11, but then decreased by 45.7% (12,485) to 2015–16. This reflects changes during the period, including the impact of student number controls on the demand and supply of foundation degrees at higher education institutions, and reduced government support, such as the closure of the non-departmental public body Foundation Degree Forward in 2011 (Verinder, 2015).

The number of other undergraduate qualifications awarded, excluding foundation degrees, fell by 44.1% during this period – mirroring the trend seen in entrants and enrolments described elsewhere in this chapter – and in 2015–16 accounted for 8.9% of all qualifications held by those leaving higher education, compared with 18.1% in 2006–07. With the continuing decline in the number of entrants to these courses in recent years, this figure can be expected to decrease further in the near future.

*Between 2006–07 and 2015–16, the number of higher education qualifications awarded each year increased by 91,665 (14.1%), to a total of 742,730.*

**FIGURE 19:**  
Qualifications awarded by level, 2006–07 to 2015–16

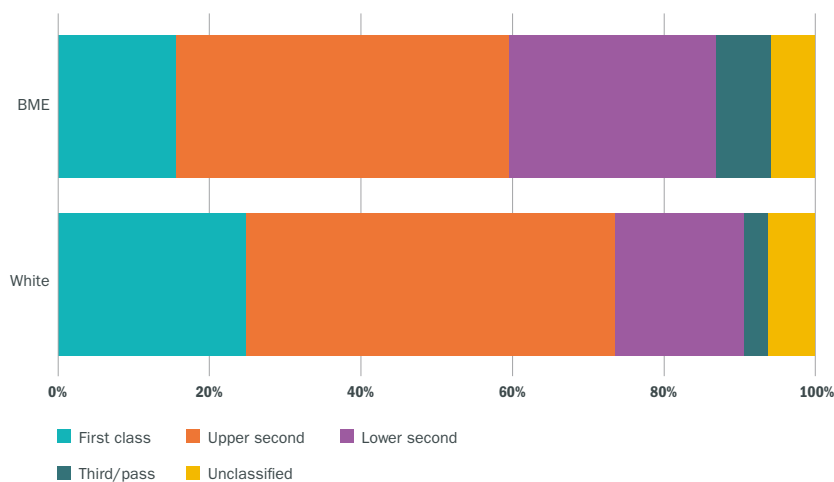


Source: HESA

Focusing on those students leaving with first degrees, Figure 20 shows that the classification achieved varies by ethnicity. In 2015–16, 73.5% of white students qualifying with a first degree achieved a first or upper second, compared with 59.7% of BME students. Although part of this gap will be due to differences in entry qualifications, prior attainment and subjects taken across the two groups, HEFCE (2015a) has noted that for UK-domiciled, first degree graduates at English higher education institutions, even when these factors are considered, there is still a significant gap between the proportions of white and BME students obtaining a first or upper second class degree.

Further HEFCE research (HEFCE, 2015b) has also identified potential explanatory factors for this difference, which include curricula and learning (including teaching and assessment practices), relationships between staff and students, social, cultural and economic capital, and psychosocial and identity factors.

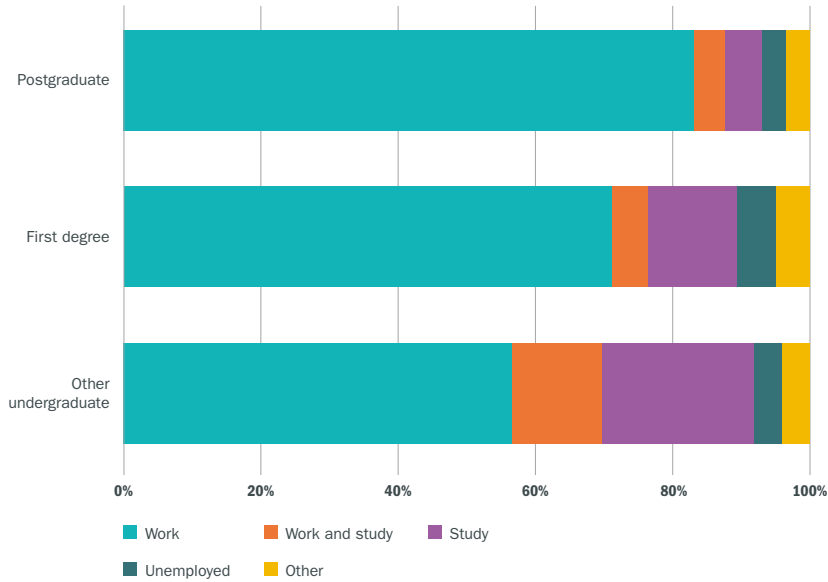
**FIGURE 20:**  
First degree qualifiers by ethnicity and class of degree, 2015–16



Source: HESA

Higher education qualifications improve students' employment prospects. The 2014–15 Destinations of Leavers from Higher Education (DLHE) survey showed that only six months after their course ended, 92% of other undergraduate, 89% of first degree and 93% of postgraduate students were in work or further study (Figure 21).

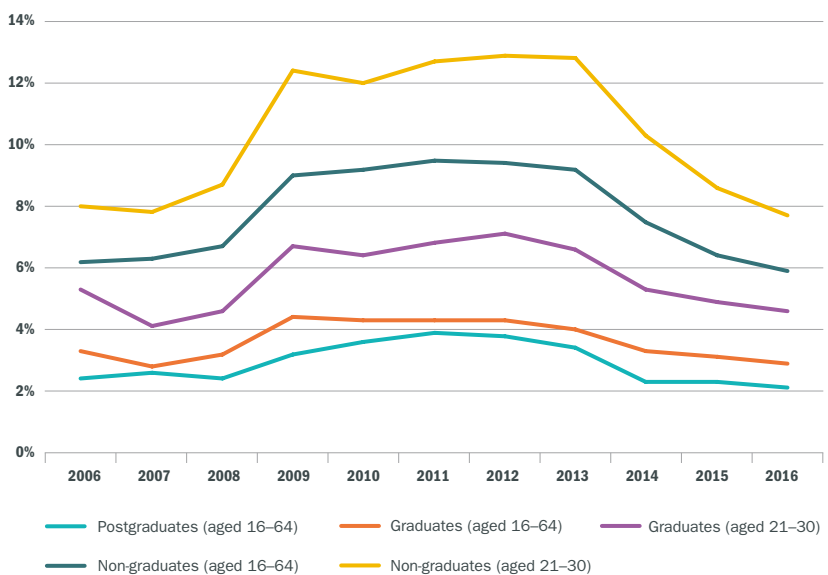
**FIGURE 21:**  
Destination of leavers by level of qualification, 2014–15



Source: HESA

Figures from the Department for Education (DfE) for England also show that both young and older graduates have consistently had lower unemployment rates than non-graduates (Figure 22), and although unemployment rates for all groups increased during the recession of 2008, the increase for those holding a higher education qualification was smaller, with recovery in employment occurring earlier than for non-graduates.

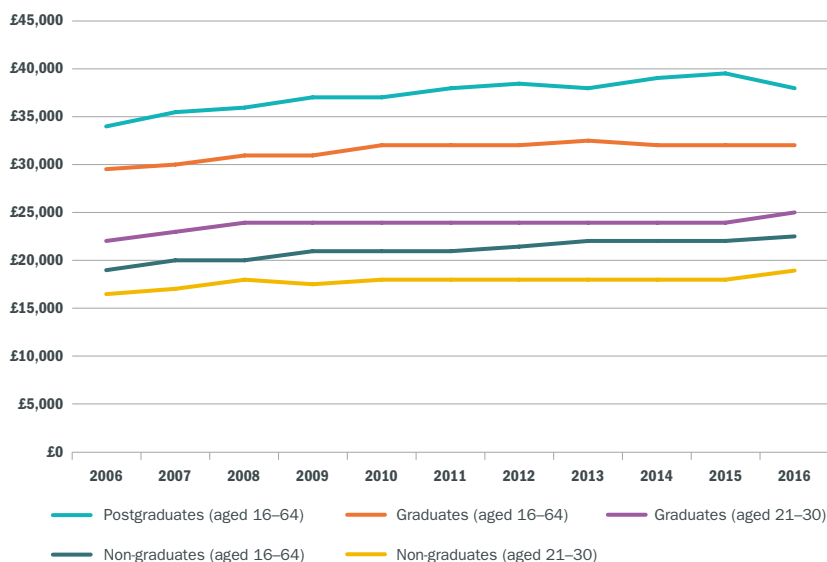
**FIGURE 22:**  
Unemployment rates in England by group, 2006 to 2016



Source: DfE, 2016

Figures from the same source also show that both young and older graduates earn more than non-graduates, with a median salary of £38,000 for those holding a postgraduate degree and £32,000 for an undergraduate degree in 2016, compared with £22,500 for non-graduates (Figure 23). This gap has remained in place even with an increase in the proportion of graduates in the population over the period (Figure 24).

**FIGURE 23:**  
Median salary (nearest £500) in England by group, 2006 to 2016

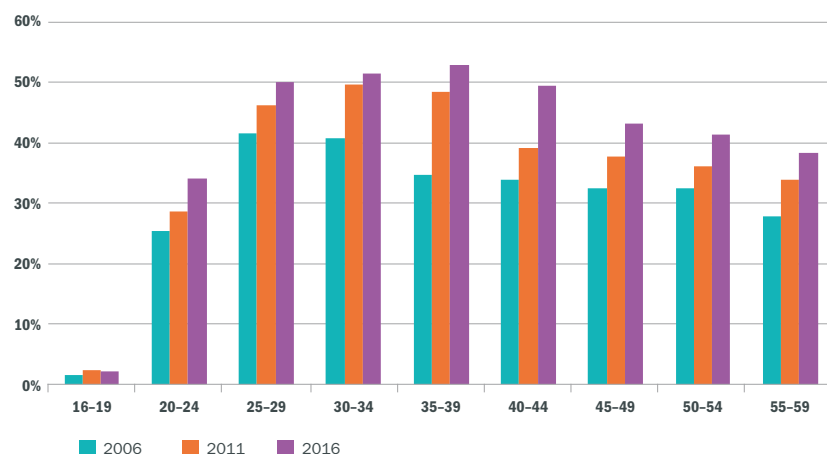


Source: DfE, 2016

Figure 24 shows that in 2016, more than half of people in their thirties now have higher education qualifications, up from 40.7% (for those aged 30-34) and 34.8% (for those aged 35-39) 10 years ago. The proportion of the UK population in employment with a higher education qualification has increased across all age groups over the past 10 years, but the UK is not alone in this trend, as other advanced economies are also increasing high-level skills in their labour force. Although the UK has increased the proportion of highly skilled adults – from 29.7% in 2005 to 43.5% in 2015 – this continues to be below levels seen in some other advanced countries, with the proportion of adults with high-level skills in the UK still behind those in Canada (55.2%), Japan (49.5%), Korea (45.5%) and the United States (44.6%) (Figure 25).

*Although the UK has increased the proportion of highly skilled adults – from 29.7% in 2005 to 43.5% in 2015 – this continues to be below levels seen in some other advanced countries.*

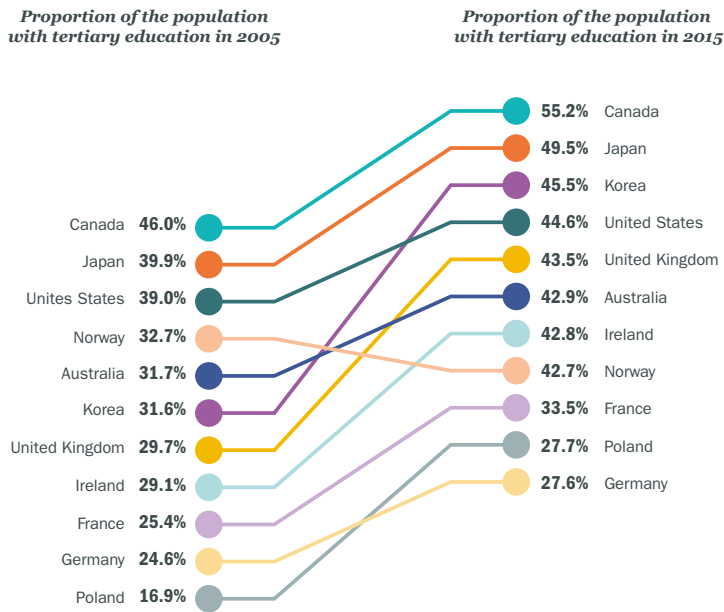
**FIGURE 24:**  
Percentage of UK population in employment with higher education qualifications by age, 2006, 2011 and 2016



Source: HESA from Labour force survey and Annual population survey



**FIGURE 25:**  
Growth of high-level skills in the adult population, 2005 and 2015

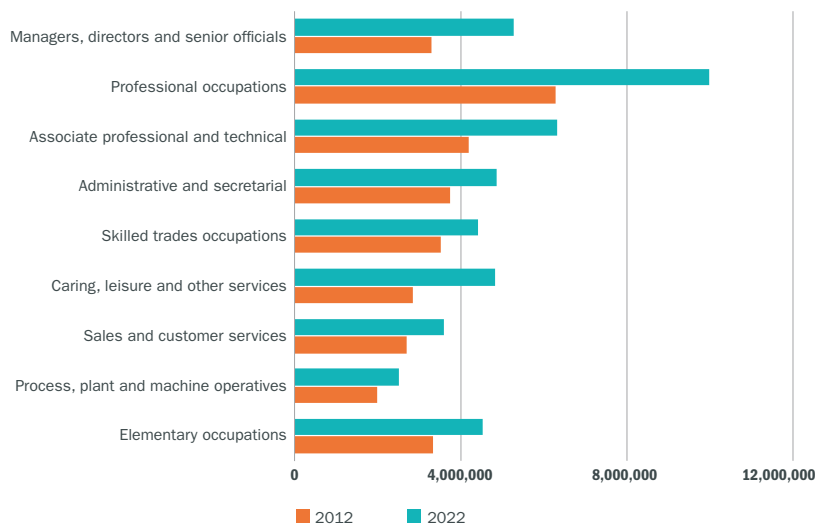


Source: OECD

This increase in the proportion of graduates internationally is meeting a growing demand for higher-level skills in the workforce as the global economy changes. Based on newly created jobs and the replacement of workers in current jobs (eg, due to retirement), it is estimated that 54.3% of the 14.3 million increase in jobs in the UK between 2012 and 2022 will be in occupations that are more likely to require higher-level skills (managers, directors and senior officials, professional occupations and associate professional and technical occupations) (Wilson R et al, 2014).

It is clear that as the economy changes, universities will play an increasingly central role in developing the UK workforce.

**FIGURE 26:**  
Occupational structure of the UK, 2012 and 2022



Source: UKCES

## CHAPTER 2

# STAFF

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*In 2015–16, there were 410,130 staff employed by higher education institutions, an increase of 12.6% since 2006–07. Over the same period, non-UK nationals accounted for just under two-thirds of the 18.5% growth in academic staff numbers at UK universities.*

## 2.1 OVERVIEW

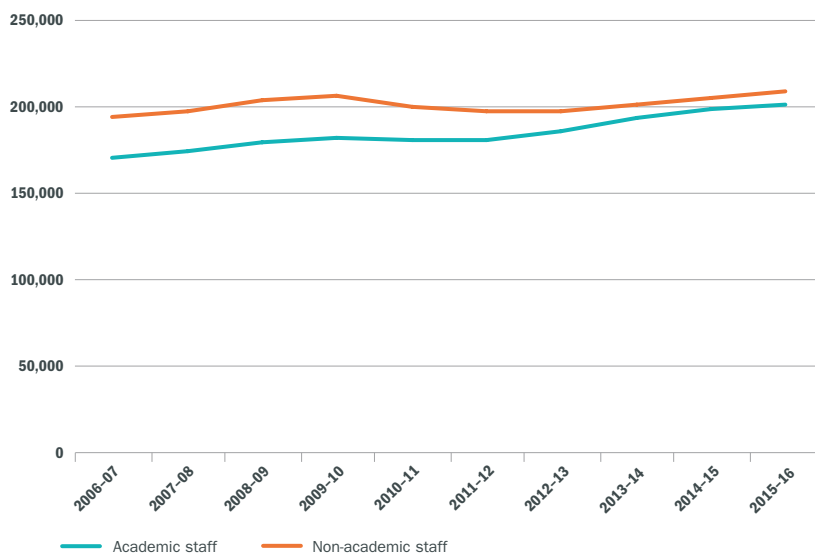
Over the last 10 years, the number of staff at UK higher education institutions has increased by 12.6%, or 45,965, with 68% of this attributable to growth in the number of academic staff. The proportion of staff on academic contracts has also increased over the period, with this group accounting for 49.1% of all staff in 2015–16, representing a 10-year high.

After a period of growth up to 2009–10, the number of non-academic staff decreased by 3.3% between 2009–10 and 2011–12, and the number of academic staff remained at 181,000. Since 2012–13, the number of staff in both groups has increased, with 2015–16 representing the highest reported number of both academic and non-academic staff over the last 10 years.

This pattern mirrors the increase in teaching activity over the last 10 years, as noted in Chapter 1, with the average ratio of students to academic teaching staff at UK higher education institutions increasing from 16:7 in 2006–07 to 17:3 in 2015–16.<sup>7</sup>

*Over the last 10 years, the number of staff at UK higher education institutions has increased by 12.6%, or 45,965.*

**FIGURE 27:**  
Staff by employment function, 2006–07 to 2015–16



Source: HESA Staff record

## 2.2 ACADEMIC STAFF BY NATIONALITY AND COST CENTRE

Focusing on academic staff, Figure 28 demonstrates the change in staff numbers by nationality over the last 10 years. The number of academic staff increased to a 10-year high in 2015–16, mirroring the increase in research and teaching activity over the same period. As outlined in Chapter 1, although student numbers have decreased since

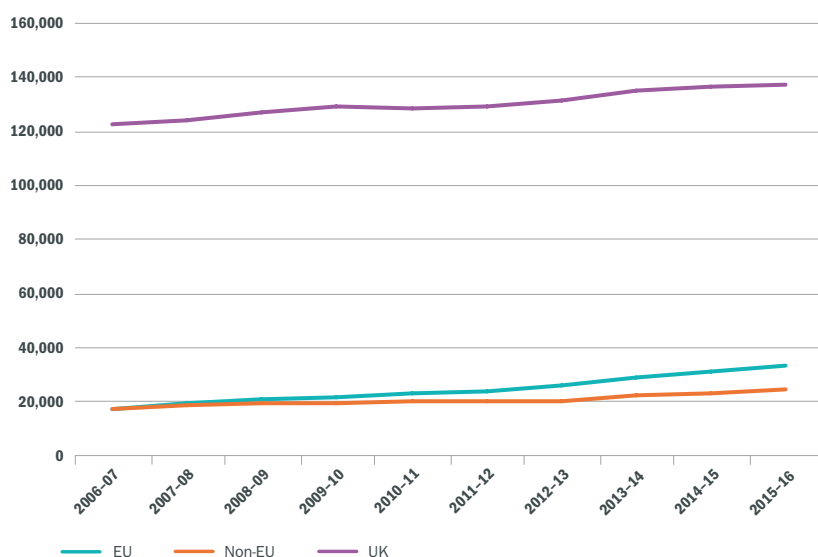
7 For a full definition of HESA’s student: staff ratio, see: [www.hesa.ac.uk/support/definitions/technical](http://www.hesa.ac.uk/support/definitions/technical)

2006–07, the amount of teaching activity increased by 11.3%, reflecting the shift from shorter, low-intensity courses to full-time qualifications. A key feature of the increase in staff over this period has been the growing proportion of academic staff that are non-UK nationals, which increased consistently from 21.9% in 2006–07 to 29.6% in 2015–16.

In 2015–16, EU nationals accounted for 17% (33,495) of all academic staff with known nationalities, with non-EU nationals accounting for 12.5% (24,370). This compares with 10.9% and 11% respectively in 2006–07 and demonstrates the importance of non-UK nationals in facilitating the growth in academic staff over a period that has seen increased activity in both teaching and research at UK higher education institutions. In fact, non-UK nationals have accounted for just under two-thirds of the growth in academic staff numbers since 2006–07, with EU nationals accounting for 42.7% and non-EU nationals for 18.5%.

*Non-UK nationals have accounted for just under two-thirds of the growth in academic staff numbers since 2006–07.*

**FIGURE 28:**  
Academic staff by nationality, 2006–07 to 2015–16



Source: HESA Staff record  
Note: Excludes academic staff with unknown nationality

As shown in Table 6, the number of academic staff at UK higher education institutions also varies by cost centre.<sup>8</sup> In 2015–16, medicine, dentistry and health accounted for the largest number of academic staff (48,795 or 24.6%), followed by administrative, business and social studies (40,900 or 20.6%) and biological, mathematical and physical sciences (31,425 or 15.8%).
















Over the last 10 years, there have been increases in the number of academic staff across all cost centres other than education, where numbers decreased by 9.5%. The largest increases were seen in administrative, business and social studies (31.1%) and biological, mathematical and physical sciences (25.3%).

Mirroring the trend seen in overall academic staff numbers, the proportion of non-UK nationals across all cost centres has increased over the last 10 years. In 2015–16, cost centres that reported a high proportion of non-UK academic staff included engineering

<sup>8</sup> HESA cost centres provide an indication of where staff activity takes place within a higher education provider (for example the departments), and may not always reflect the academic discipline of individual members of academic staff.

and technology (42%), biological, mathematical and physical sciences (38%) and humanities and language-based studies and archaeology (34%). For some subjects, such as engineering, and the humanities and language-based studies, non-UK national staff have accounted for most of the growth in academic staff numbers (63.5% and 54.6% of growth between 2006–07 and 2015–16 respectively). Cost centres where non-UK nationals accounted for a lower proportion of academic staff in 2015–16 included education (11%) and design, creative and performing arts (14%).

**TABLE 6:**  
Academic staff by nationality and cost centre, 2006–07 to 2015–16

	2006-07				2015-16							
	TOTAL ACADEMIC STAFF	% UK NATIONALS	% EU NATIONALS	% NON-EU NATIONALS	TOTAL ACADEMIC STAFF	% UK NATIONALS	% EU NATIONALS	% NON-EU NATIONALS				
<b>MEDICINE, DENTISTRY &amp; HEALTH</b>	40,930	78%	9%	8%	48,795	75%	15%	9%		19.2%		24.6%
<b>ADMINISTRATIVE, BUSINESS &amp; SOCIAL STUDIES</b>	31,205	73%	10%	11%	40,900	67%	17%	14%		31.1%		20.6%
<b>BIOLOGICAL, MATHEMATICAL &amp; PHYSICAL SCIENCES</b>	25,075	68%	15%	13%	31,425	61%	23%	15%		25.3%		15.8%
<b>ENGINEERING &amp; TECHNOLOGY</b>	21,025	67%	10%	18%	24,240	57%	19%	23%		15.3%		12.2%
<b>HUMANITIES &amp; LANGUAGE BASED STUDIES &amp; ARCHAEOLOGY</b>	16,065	68%	16%	10%	17,665	64%	22%	12%		10.0%		8.9%
<b>DESIGN, CREATIVE &amp; PERFORMING ARTS</b>	12,985	78%	5%	5%	16,165	81%	9%	5%		24.5%		8.1%
<b>EDUCATION</b>	14,195	81%	4%	4%	12,850	88%	7%	4%		-9.5%		6.5%
<b>ARCHITECTURE &amp; PLANNING</b>	3,360	74%	7%	10%	3,995	72%	15%	11%		18.9%		2.0%
<b>AGRICULTURE, FORESTRY &amp; VETERINARY SCIENCE</b>	2,065	80%	9%	6%	2,430	73%	18%	8%		17.8%		1.2%

Source: HESA Staff record

Note: Excludes academic staff with unknown nationality

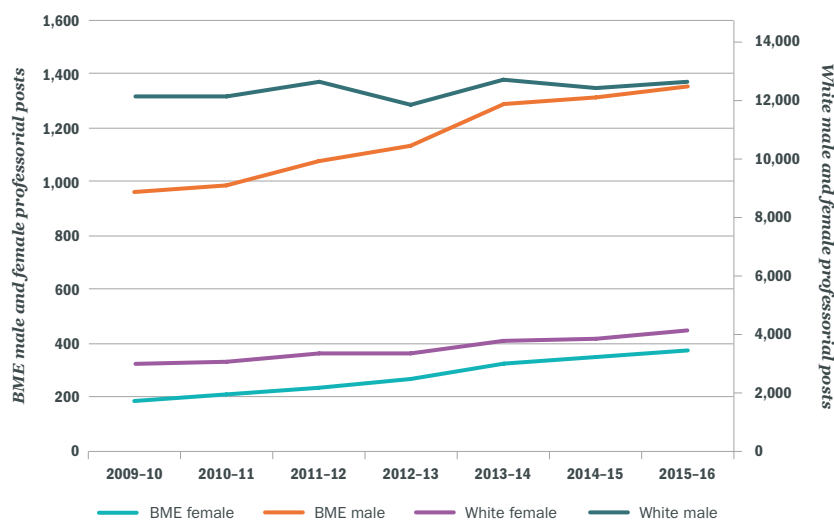
## 2.3 PROFESSORIAL POSTS BY GENDER AND ETHNICITY

Higher education institutions in the UK continue to work on increasing the diversity of their staff, with initiatives such as the Athena SWAN charter and the race equality charter focusing on improving the representation, progression, working environment and journey through career milestones of both men and women in academic roles in science, technology, engineering, maths and medicine (STEMM) and arts, humanities, social sciences, business and law (AHSSBL), and in professional and support roles and transgender staff and students.

Figure 29 shows the change in staff in professorial posts by gender and ethnicity. Between 2009–10 and 2015–16, consistent increases are reported in the number and proportion of both BME and female professors. The number of BME staff increased by 50.7% over the period (compared with a 10.5% increase in white staff), and made up 9.4% of all staff in professorial roles in 2015–16 compared with 7% in 2009–10.

Over the same period, the number of female staff in professorial roles increased by 41.8% (compared with 6.5% for males) and made up 24.3% of all staff in professorial roles in 2015–16 compared with 19.4% in 2009–10. However, despite this progress, white males continue to make up the largest group among staff in professorial roles, accounting for 12,615 staff (68.3%) in 2015–16.

**FIGURE 29:**  
Professorial posts by gender and ethnicity, 2009–10 to 2015–16



Source: HESA Staff record

## 2.4 AGE PROFILE

The last 10 years have also seen changes in the age profile of both full-time and part-time academic staff. This can be seen in Figure 30, which shows that the growth in academic staff reported elsewhere in this chapter has occurred across all age groups and modes of study (other than a slight decrease in full-time staff in the age group for 25 and under). Overall, the period between 2006–07 and 2015–16 saw the number of full-time academic staff increase by 21,330 (18.8%) and the number of part-time academic staff increase by 10,202 (18.2%).

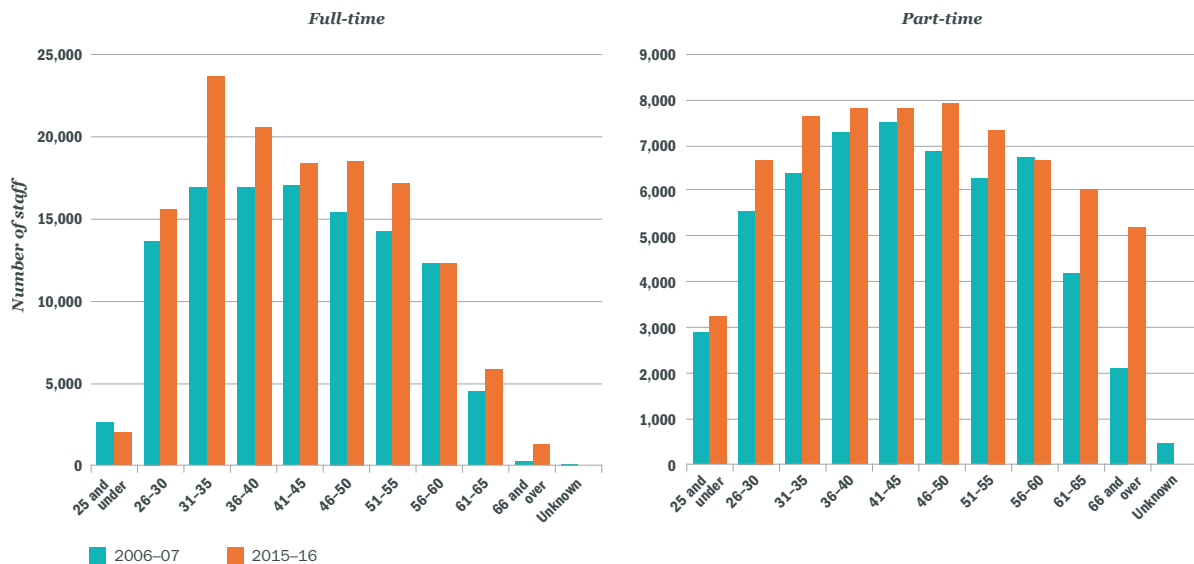
One pattern that is evident in Figure 30 is that growth has occurred in different age groups for full-time and part-time staff. For academic staff on full-time contracts, growth between 2006–07 and 2015–16 occurred across most age groups, with significant growth in the 31–35-year-old age group, which increased by 39.9% (6,755) over the period. In fact, this age group accounted for 31.7% of all growth in full-time academic staff over the period, with 36–40-year-olds accounting for a further 17.2%.

For academic staff on part-time contracts, increases in numbers have also occurred across all age groups; however, significant increases have been seen in the 61–65 and 65 and over groups, which increased by 44.1% (1,850) and 148.5% (an increase of 3,102 from a low base) respectively.

The changes described above have resulted in a shift in the age profile of full-time academic staff towards younger age groups, in particular 31–40-year-olds, and in part-time staff towards older age groups.

*The period between 2006–07 and 2015–16 saw the number of full-time academic staff increase by 21,330 (18.8%) and the number of part-time academic staff increase by 10,202 (18.2%).*

**FIGURE 30:**  
Change in age profile of academic staff by mode of employment between 2006–07 and 2015–16



Source: HESA Staff record

## CHAPTER 3

# FINANCE



*In 2015–16, the total income of the UK higher education sector was £34.7 billion, a 3.6% increase on the re-stated figure for 2014–15.*



## 3.1 CHANGES TO FINANCE DATA IN 2015–16

Owing to recent changes in accounting rules for higher education providers,<sup>9</sup> finance data returned to HESA by UK higher education institutions for the academic year 2015–16 is no longer comparable with previously published HESA data that has been used in past editions of *Patterns and trends*. The new financial reporting standard has resulted in significant changes to the reporting of financial data, including the way in which some income, expenses, assets and liabilities appear on university financial statements (Connolly & Sisson, 2017).

Although this has resulted in significant changes to the numbers reported by institutions, it is important to note that this does not reflect a change in substance of the sector's financial performance. For example, the new reporting rules have meant that some additional pension liabilities<sup>10</sup> – the universities' predicted share of pension scheme deficit recovery plans – are now reported in finance data for 2015–16 where previously they were not recorded in university financial statements. Although the amount the sector pays hasn't changed, the change in reporting has meant that these liabilities are now included and reflected in measures such as expenditure on staff costs, and surpluses or deficits, and net assets.

As a result, it is not possible to report long-term trends in university finances in the same way as in previous editions of *Patterns and trends*. Instead, for this edition, figures showing income and expenditure by activity, based on aggregations of detailed groupings for which re-statement is not available, are presented for 2015–16 only.<sup>11</sup> Where relevant, references are made to broad patterns in past data; however, direct comparisons over a longer period are not possible.

In a further change from previous editions of *Patterns and trends*, categories used in reporting income and expenditure of UK higher education institutions are now consistent with recent UUK outputs on university funding and spending (UUK, 2016b; 2016c).

## 3.2 INCOME AND EXPENDITURE OF HIGHER EDUCATION INSTITUTIONS

In 2015–16, UK higher education institutions reported a total income of £34.7 billion, representing a 3.6% increase on the re-stated figure for 2014–15. Figure 31 shows that most of this income was related to teaching, with UK government funding for teaching accounting for 9% (£3.2 billion) and fees accounting for 46% (£15.9 billion) of total

9 Financial Reporting Standard (FRS) 102 is the new financial reporting framework for higher education providers, coming into effect for the period starting on or after 1 January 2015.

10 Previously, university self-administered trusts (SATs) and the Local Government Pension Scheme (LGPS) pension liabilities were recorded, but multi-employer schemes such as the Universities Superannuation Scheme (USS) and the Superannuation Arrangements of the University of London (SAUL) were not.

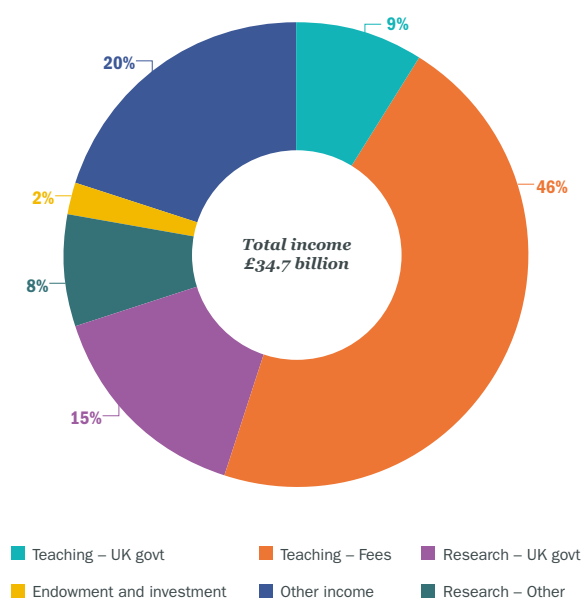
11 Where possible, for high-level income and expenditure figures, comparisons are made to re-stated data for 2014–15.

income in 2015–16.<sup>12</sup> The balance between these two income streams has changed significantly since 2006–07, when fees and UK government funding for teaching accounted for 22% and 29% of the total income of UK higher education institutions respectively. Further detail on funding for teaching in 2015–16 is shown in Figure 32.

Of total income to the sector in 2015–16, 23% (£7.8 billion) was related to research (examined in more detail in Figure 33), 2% (£833 million) was from endowments and investments, and 20% (£7 billion) was other income.<sup>13</sup> Income from endowments and investments increased by 9.2% compared with re-stated figures for 2014–15, with evidence from the 2017 Ross–CASE survey on charitable giving to universities (CASE, 2017) suggesting that 2015–16 saw a small decrease in donor numbers (-0.5%) but a large increase in new secured funds,<sup>14</sup> which for the first time have exceeded £1 billion.

In total, just under a quarter of total income received by UK universities in 2015–16 came from government sources, compared with a figure of around 45% for income from government sources in 2006–07. One of the main drivers of this change has been the significant shift in the balance of funding for teaching from government grants to tuition fees.

**FIGURE 31:**  
Income by source, 2015–16



Source: UUK analysis of HESA data

Figure 32 provides further detail on the main sources of teaching income for UK higher education institutions, which in 2015–16 amounted to £19.1 billion in total. Of this, just under half (£9.3 billion) came from tuition fees from UK, and other EU, students on undergraduate courses, with a further 6% (£1.2 billion) from tuition fees from UK

12 It should be noted that higher education policy, including funding for teaching, is devolved across the UK and these proportions will vary significantly across the devolved administrations.

13 ‘Other income’ includes income in respect of services rendered to outside bodies, including the supply of goods and services, from local authorities, residencies and catering operations, and intellectual property rights.

14 New funds secured in a year are new gifts and confirmed pledges from donors received during the year. They include both new single-cash gifts, and the full value (up to five years) of new confirmed pledges.

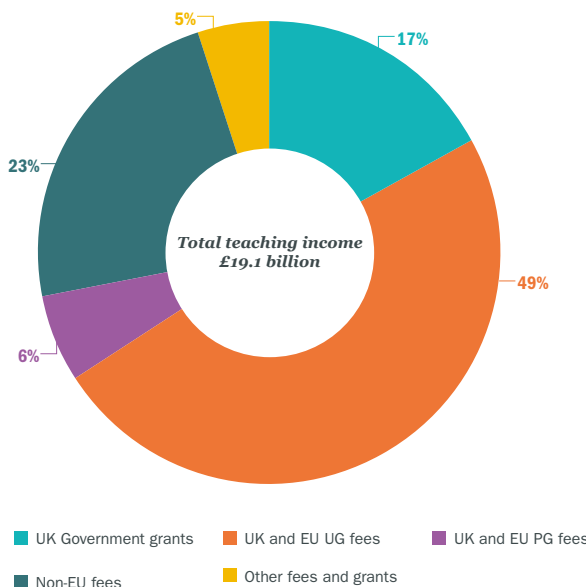
and other EU students on postgraduate courses, and 23% (£4.5 billion) from non-EU students on both undergraduate and postgraduate courses.

The significance of both UK and EU tuition fees for undergraduate courses, and fees from non-EU students, has increased since 2006–07, when each accounted for 17% and 16% of total teaching income respectively. As noted in Chapter 1, in 2015–16 non-EU students accounted for 13.5% of all students at UK higher education institutions, compared with 9.6% in 2006–07.

It is, however, important to note that these sector-level national figures do hide differences across the four UK nations. Higher education policy, including funding for teaching, is devolved across the UK with different regulatory and funding systems in place for undergraduates studying in England, Scotland, Wales and Northern Ireland. In the academic year 2015–16, this is most clearly demonstrated by the varying proportion of teaching income received from government sources, which ranges from 44% in Scotland and Northern Ireland, to 10% in Wales and 9% in England.

*The significance of both UK and EU tuition fees for undergraduate courses, and fees from non-EU students, has increased since 2006–07, when each accounted for 17% and 16% of total teaching income respectively.*

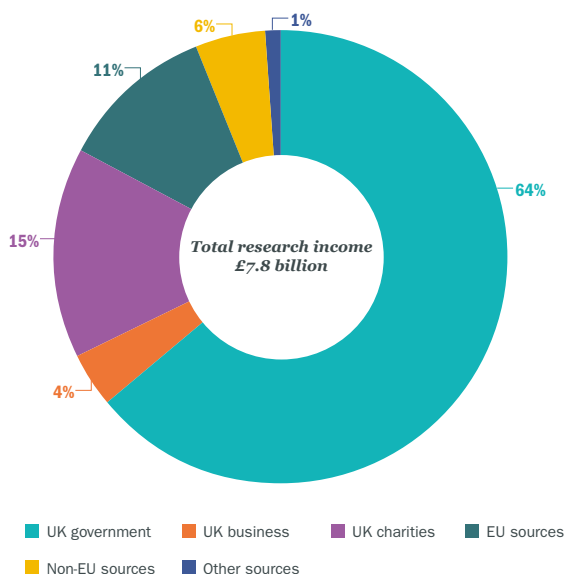
**FIGURE 32:**  
Teaching income by source, 2015–16



Source: UUK analysis of HESA data

In 2015–16, UK universities received £7.8 billion in research income, of which 64% (£5 billion) was from UK government sources including research councils, funding body grants and other government sources (as shown in Figure 33). A further 15% (£1.1 billion) of research income came from UK charities, with 16% from non-UK sources (£840 million from EU sources and £440 million from non-EU sources). Compared with 2006–07, the proportion of research income from non-UK sources has increased, by 4.7 percentage points for EU sources and 1.6 percentage points for non-EU sources. In fact, EU sources accounted for a fifth of the total increase in research income between 2006–07 and 2015–16. As noted in Chapter 4, the UK’s exit from the EU presents particular challenges in relation to continued access to research funding from EU sources.

**FIGURE 33:**  
Research income by source, 2015–16

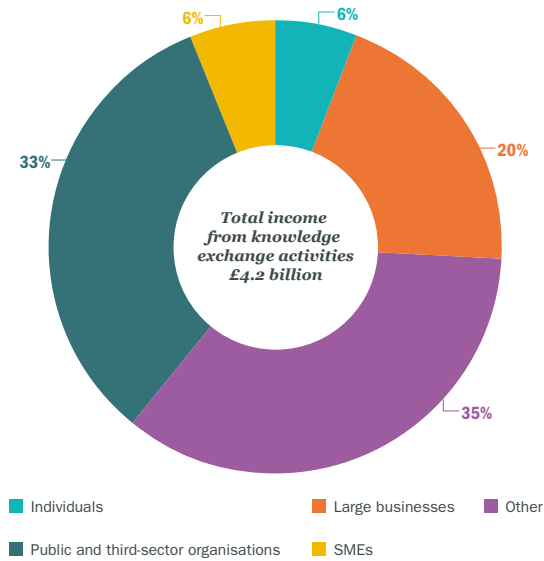


Source: UUK analysis of HESA data

An increasingly important income stream for universities is the funding that they generate from knowledge-exchange activities – the sharing of expertise and collaboration with businesses and the wider community – through the provision of continuing professional development, consultancy services, facilities and equipment-related services, and income from intellectual property.

Figure 34 shows that UK university income from these activities amounted to £4.2 billion in 2015–16, with 33% (£1.4 billion) from public- and third-sector organisations, 20% (£900 million) from large businesses, 6% (£200 million) from small- and medium-sized enterprises (SMEs) and a further 6% from individuals. In terms of activities, contracted research (30%) and collaborative research involving public funding (31%) accounted for the largest proportion of income, followed by provision of continuing professional development for partners and individuals (16%), consultancy activities (11%), facilities and equipment-related services (5%) and income from intellectual property (3%).

**FIGURE 34:**  
Income from knowledge-exchange activities by partner, 2015–16

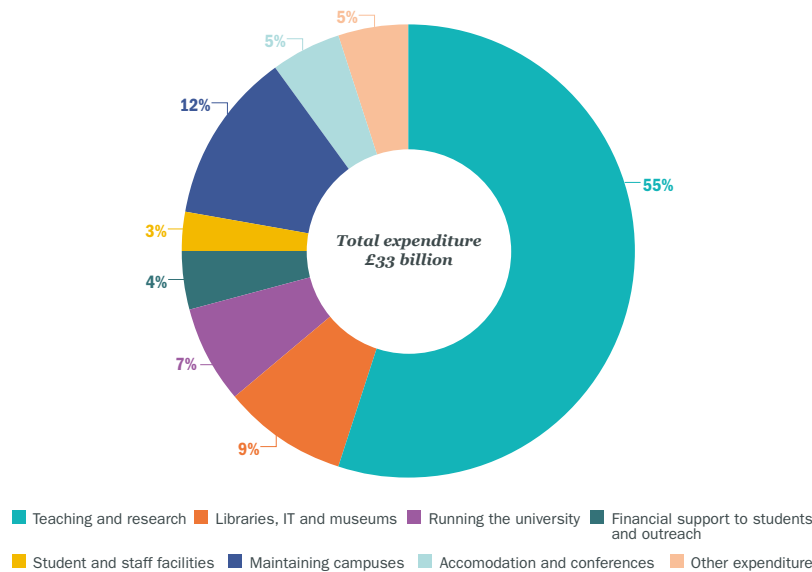


Source: UUK analysis of HESA data

Expenditure across UK higher education institutions stood at £33 billion in 2015–16, with staff costs accounting for 55% of expenditure. As noted earlier in this chapter, changes to financial reporting have meant that comparisons with earlier years are no longer possible. However, compared with re-stated figures for 2014–15, total expenditure increased by 1.1% over the last year.

Figure 35 presents a breakdown of operating expenditure at UK higher education institutions in 2015–16, and is based on expenditure categories used in the UUK publication, *University spending explained* (UUK, 2016c).<sup>15</sup>

**FIGURE 35:**  
Operating expenditure of UK universities 2015–16



Source: UUK analysis of HESA data

<sup>15</sup> This source also contains a mapping of HESA finance data to expenditure categories.

The majority of university spending in 2015–16 (55% or £18.2 billion) was related to teaching and research activities, which includes spending on academic and support staff working in academic departments. A further 12% (£3.8 billion) was spent on maintaining campuses, which includes costs related to repairs, cleaning, energy, and water and business rates. Libraries, IT and museums accounted for 9% of total spending (£3 billion), and running the university accounted for 7% (£2.4 billion) of total spending, which includes promoting universities to employers, managing admissions and the costs of recruiting staff.

Other categories of university spending include student and staff facilities (3% or £1.1 billion), which includes grants to student unions, on-campus healthcare services and careers advisory services, financial support to students and outreach (4% or £1.2 billion) and accommodation and conferences (5% or £1.7 billion).

In addition to the expenditure on operating activities highlighted in Figure 35, UK universities also invested £4.6 billion in new teaching spaces, new research facilities and refurbishment of existing buildings. With significant decreases in the availability of publicly funded capital grants over the last 10 years, universities are increasingly reliant on borrowing and cash from internal sources in order to fund this investment. HEFCE has noted that universities in England expect to finance 75% of their capital expenditure from their own cash in 2017–18, compared with 31% in 2014–15.

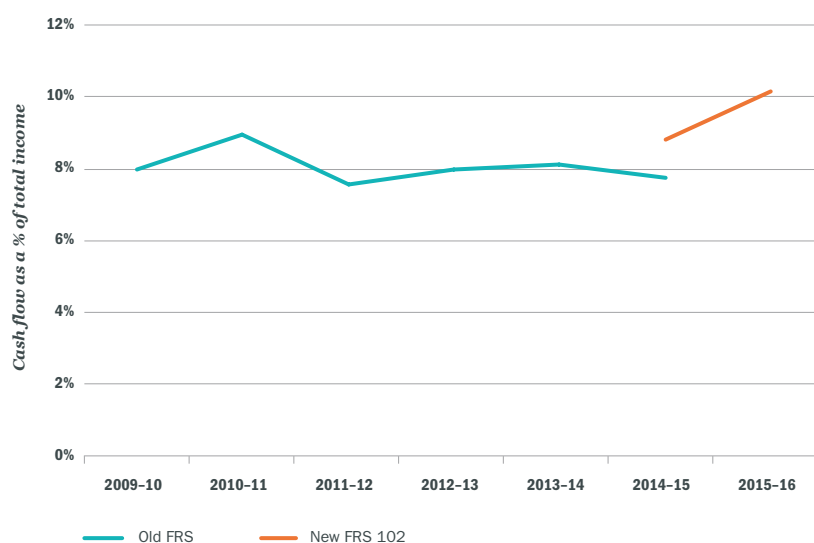
As noted earlier in this chapter, changes to financial reporting, including the inclusion in finance data of liabilities such as university spending on pension schemes for the first time, have meant that the measures traditionally used to demonstrate financial performance are no longer comparable over time or across institutions.

Given the importance of generating positive cash flows to fund investment in new buildings and to meet borrowing costs, Figure 36 shows an alternative measure of financial performance based on the ratio between net cash flow and total income over time. This demonstrates that despite increases in income in recent years, the level of cash generated as a proportion of total income has remained at broadly the same level, with a small increase following the introduction of the new financial reporting standard. In the absence of significant increases in publicly funded capital grants, sustaining the level of capital investment needed by UK universities to attract students and staff, and ensure long-term sustainability, will require continued generation of positive cash flows.

*Universities in England expect to finance 75% of their capital expenditure from their own cash in 2017–18, compared with 31% in 2014–15.*

**FIGURE 36:**

Percentage ratio of total net cash inflow from operating activities to total income



Source: HESA

These factors, and those identified in other chapters, lead to a number of financial risks and challenges for universities. In the short term, these include fluctuations in demand from UK and EU students, changes in demand from non-EU students and any reductions in public funding.

Analysis has shown that the sector in England forecasts a 3.1% increase in overseas students between 2015–16 and 2016–17, but notes that this may suggest overconfidence by the sector in student number forecasts (HEFCE, 2016a). Reforms to immigration policy by the government have affected demand from overseas students, with a slowdown in the growth of numbers at UK higher education institutions since 2010–11 (Figure 11); ongoing uncertainty over future policy changes and increased international competition may affect the number of non-EU students recruited in the future.

To be sustainable in the medium to longer term, universities also need to meet their ‘full economic costs’ of teaching, in particular for research activities for which universities are not receiving enough income to cover costs (HEFCE, 2016b). Full economic costs cover the day-to-day expenses described in Figure 35, including costs of staff, equipment and services. They also include the costs of replacing infrastructure and investing in innovation to meet the future needs of students, employers and society. HEFCE has noted that in England in 2015–16, £3.6 billion of investment is needed by the sector simply to upgrade its current non-residential estate to a ‘sound baseline condition’. This doesn’t include the additional costs of improving buildings to the standard needed to meet student expectations in an increasingly competitive domestic and global market. Universities are also facing increasing pressure in relation to the funding of pension schemes, both in terms of past service deficits and also future service costs. The Universities Superannuation Scheme (USS) – the largest pension scheme in higher education – reported an estimated deficit of £10 billion as at 31 March 2016 (USS, 2016).<sup>16</sup>

<sup>16</sup> USS is required to carry out its valuation as at 31 March 2017, with more information on the funding position expected later in 2017.

Universities manage these risks in a number of ways, including strategies to generate sufficient levels of cash for investment, bringing down costs and making resources go further (in England, universities have achieved efficiency and cost savings estimated at £2.4 billion over the past decade) and prudent and responsive financial management.

As shown in Figure 32, income from non-EU student fees accounted for 23% of total teaching income to the sector, and 13% of total income in 2015–16. In addition to generating income, this source of funding is important to helping universities manage their overall financial position because it allows universities to fund activities where costs exceed income – for example, teaching of some high-cost subjects and research activities (UUK, 2016b).

Further financial forecasts for universities in England have also shown that ‘net liquidity’ – which measures the ability of universities to meet their short-term obligations from cash at a particular point in time – is expected to fall from 126 days in 2014–15 to 67 days in 2017–18. This fall is due to universities increasingly spending cash on new facilities and refurbishment, and suggests that universities are not holding large cash reserves. HEFCE has noted that in England, this trend of decreasing liquidity and increasing borrowing to fund investment is unsustainable in the long term.



## CHAPTER 4

# EMERGING AND FUTURE TRENDS AND IMPLICATIONS FOR UNIVERSITIES



*Demographic, economic, technological and political changes are likely to have implications for future patterns and trends in the composition of students and staff, and in the finances of UK higher education institutions.*

Previous chapters have presented trends in students, staff and finances at UK higher education institutions over the last decade, highlighting the key patterns and trends shaping the higher education sector over this period. This chapter considers demographic, economic, technological and political changes, including emerging and projected trends, that are likely to have implications for the findings presented in earlier chapters in relation to students and staff and the finances of UK higher education institutions.

## 4.1 NATIONAL AND GLOBAL DEMOGRAPHIC TRENDS

This section looks at demographic trends and projections, and the implications these have for the number of individuals that universities will be able to recruit. It includes projections of UK-domiciled 18–20-year-olds, and refers to trends relating to young people from regions and countries where a large proportion of international recruitment is currently taking place.

### UK students

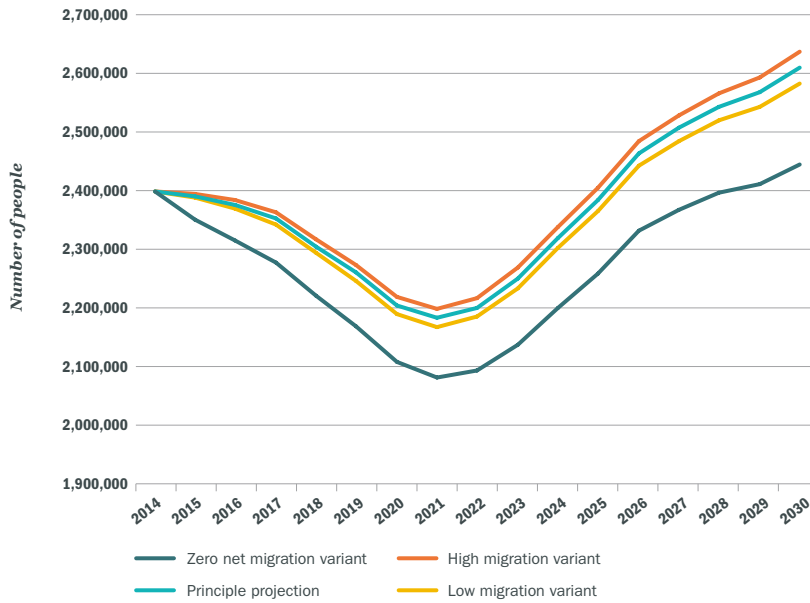
Young (18–20-year-old) UK-domiciled entrants make up a large proportion of this population. As seen in Chapter 1, the number of entrants to higher education decreased between 2011–12 and 2014–15, with only a small increase in 2015–16.

Figure 37 shows the national population projections for 18–20-year-old UK citizens using different assumptions, ranging from low to high migration assumptions, and including the ‘principal’ projection. According to the ‘principal’ projection, there would be a decrease of 18–20-year-olds by 10% (more than 230,000 young people) between 2014 and 2021, followed by an increase of 19% between 2021 and 2030. The levels of young people reached in 2014 (2.4 million) would be reached again in 2026. This may have implications for the number of young people entering university, with the pool of possible applicants decreasing up to 2021 before increasing year-on-year. Figures from UCAS (2017) have shown that increases in the proportion of 18-year-olds entering higher education in recent years (see Figure 3) have contributed to the growth in young, full-time undergraduates. However, with the number of 18-year-olds expected to continue decreasing to 2020, further improvement in the young entry rate will be needed to maintain student numbers at current levels. From 2021 onwards, assuming entry rates remain at current levels, the projected increase in the young population may result in increased student numbers.

*With the number of 18-year-olds expected to continue decreasing to 2020, further improvement in the young entry rate will be needed to maintain student numbers at current levels.*

**FIGURE 37:**

Office for National Statistics (ONS) national population projections for 18–20-year-old UK citizens, 2014 to 2030



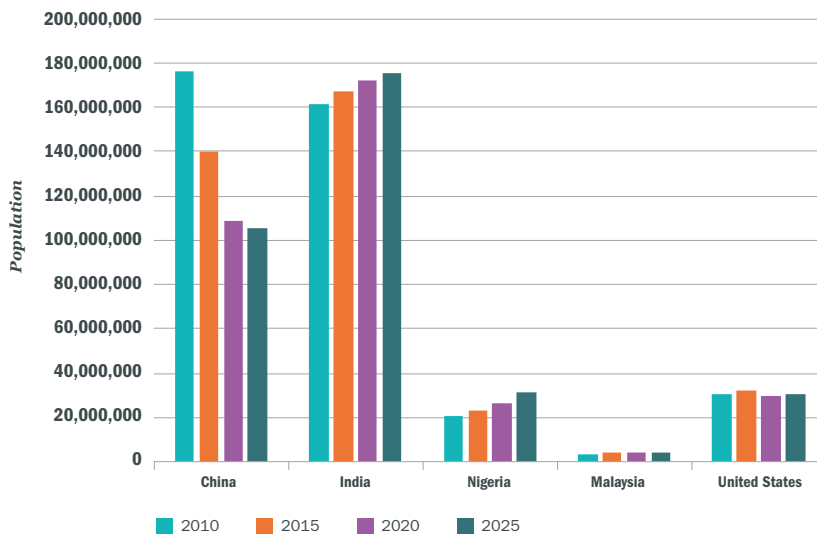
Source: ONS

### Students from non-UK countries

As seen in Chapter 1, 13.5% of students studying at UK higher education institutions in 2015–16 were from non-EU countries, representing a 4 percentage point increase in the proportion of non-EU students between 2006–07 and 2015–16. More than half of all non-EU students who studied at UK higher education institutions in 2015–16 were from the following five countries: China (107,960 students including Hong Kong or 34.8% of all non-EU students), the United States (17,115 students), India (nearly 16,745 students), Nigeria (16,100 students) and Malaysia (17,405 students).

**FIGURE 38:**

Projection of domestic 18–24-year-old population for selected countries



Source: World Bank

Figure 38 shows the projected demographic trends for these five countries for the 18–24-year-old age group, which accounted for 69% of all non-EU students at UK higher education institutions in 2015–16. China is the only country where a steep decrease in the young population is currently occurring. The 18–24-year-old Chinese population is projected to decrease from 176 million in 2010 to 105 million in 2025. In Malaysia, the population in this age group increased by 15% from 2010 to 2015, with projections of a further smaller increase (1.5%) between 2015 and 2025.

In India, by contrast, the size of the 18–24-year-old population is forecast to grow from 161 million in 2010 to more than 175 million in 2025. Nigeria is projected to have the highest proportional increase in 18–24-year-olds over the period, from 20.5 million in 2010 to 31 million in 2025 (an increase of 52.3%).

The young US population is forecast to be relatively stable between 2010 and 2025, compared with the other markets, with a small dip around 2020.

These projected demographic trends indicate potential challenges in recruiting non-EU students from some of the UK's largest source countries in the future. Economic and political factors, as well as demographic trends, will impact on the ability of the UK to sustain and grow numbers of non-EU students. Economic factors are explored in more depth in the following section.

The impact of future policy and political changes on the recruitment of EU students, which are likely to be more significant than demographic changes, are considered in more detail later in this chapter.

#### KEY EMERGING NATIONAL AND GLOBAL DEMOGRAPHIC TRENDS

- **UK students:** the current demographic decline of the 18–20-year-old UK population is projected to last until 2021, followed by an increase. 2014 levels of the young population are expected to be reached again in 2026.
- **Non-EU students:** numbers of non-EU students have been relatively consistent over the past three years (2013–14 to 2015–16), with a strong reliance on China (one third of non-EU students). Projected demographic trends indicate that the UK may face an increasingly challenging environment in recruiting students from some overseas countries on which the sector has relied in the past.
- **EU students:** future policy and political changes resulting from the UK leaving the EU are likely to have a more significant effect on EU recruitment than demographic changes. These are considered in more detail later in this chapter.

## 4.2 NATIONAL AND GLOBAL ECONOMIC OUTLOOK

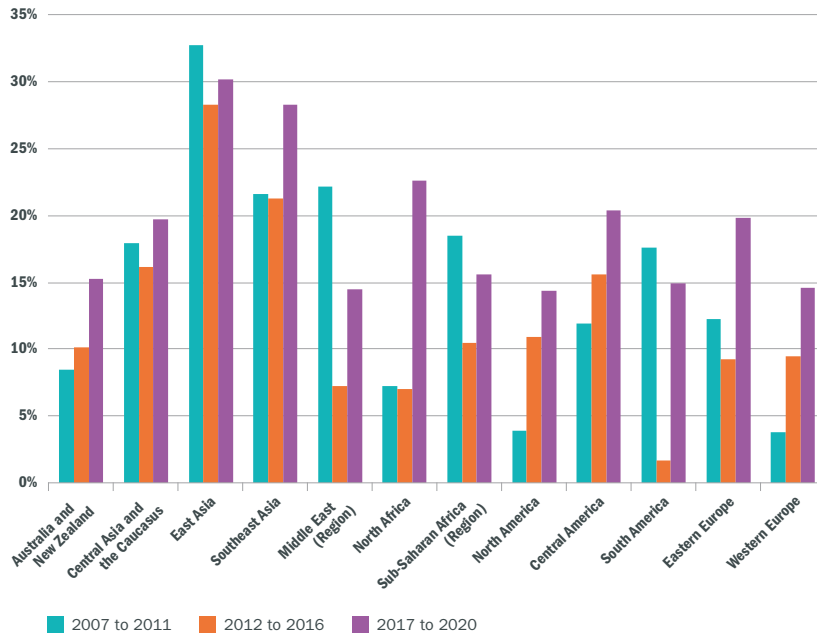
As outlined in Chapter 3, the last decade has seen significant changes in the finances of higher education institutions, including reductions in direct government funding and increased income from tuition fees, a greater reliance on more unpredictable sources of income, and an increased interest in university spending from various stakeholders, including students. This section considers emerging global and national economic changes, and potential implications for higher education institutions with a focus on the impact on university finances.

## Global economic outlook

This section considers emerging trends and, where available, forecasts for the global economic outlook. Evidence has suggested that economic factors (such as GDP per capita and exchange rates) can impact on international student demand for UK higher education. For example, it is estimated that a 1% increase in GDP per capita internationally could result in a 0.5% increase in undergraduate enrolments at UK higher education institutions, while a 10% depreciation in sterling could lead to a 2.1% increase in undergraduate enrolments at UK providers (HEPI, 2016).

Figure 39 shows changes in GDP per capita by world regions over the period 2007 to 2011 and 2012 to 2016, and forecasts for the period 2017 to 2020. Across all regions, growth in GDP per capita is forecast to pick up compared with levels seen between 2012 and 2016. For a small number of regions however – East Asia, the Middle East, Sub-Saharan Africa and South America – growth is forecast to be below levels seen in the period 2007–2011 following the global financial crisis. As shown in Chapter 1, most of the growth in international student numbers over the last 10 years occurred in the period between 2006–07 and 2010–11, during which numbers increased by 31.4%. In addition to a less restrictive immigration system, this coincided with a period of significant growth in GDP per capita for a number of regions, including the Middle East (where student numbers increased by 101.8% between 2006–07 and 2015–16) and South America (41.7%) (Figure 39). Lower projected growth in areas that currently account for a large proportion of international students at UK higher education institutions, for example East Asia, in conjunction with a more restrictive immigration policy, may lead to further pressures on the recruitment of international students.

**FIGURE 39:**  
Trends and forecast change in GDP per capita by world region



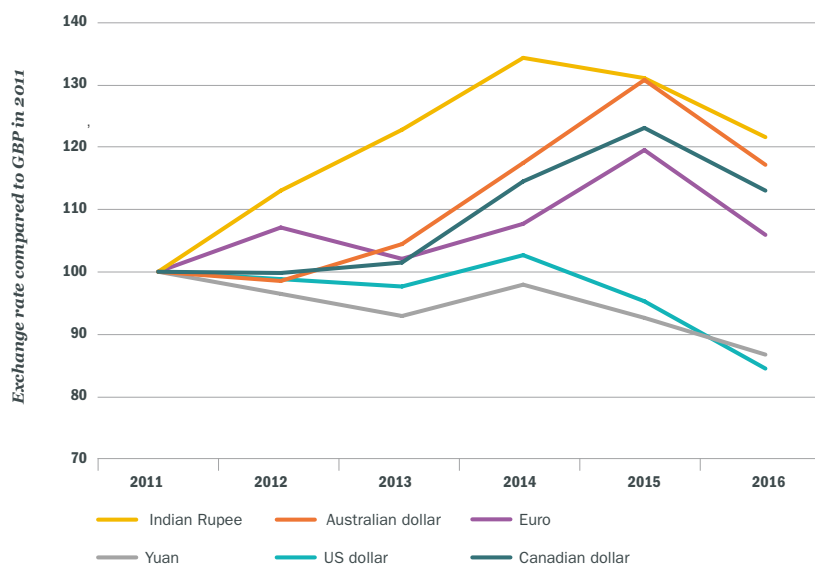
Source: IMF World Economic Outlook

As noted, exchange rates have been shown to impact on international demand for UK higher education. Figure 40 shows recent changes in the exchange rate for sterling against a selection of national currencies, covering some of the main countries from which international students at UK higher education institutions are recruited. The trends in Figure 40 show that following the period 2011 to 2015, when sterling strengthened against the Indian rupee, Canadian dollar, Australian dollar and the euro,

and during 2011–2014, when it broadly maintained the same level against the yuan and US dollar, there has been a significant devaluation against all the selected currencies. This has resulted in a 16% reduction in the exchange rate against the US dollar and 13% reduction compared with the yuan between 2011 and 2016.

**FIGURE 40:**

Change in sterling exchange rate against selected national currencies, 2011 to 2016



Source: Bank of England

In addition to the potential implications for the recruitment of international students, and in attracting international staff, a depreciation of sterling also has implications for operating costs that universities face, for example where they directly import goods and services from abroad (eg, scientific equipment and journals) and through supply agreements where costs may increase due to the global nature of supply chains. Construction costs, for example are also likely to be more volatile, with changes in currency value impacting on import costs of key components and labour (AUDE, 2016). Although some risks of currency volatility can be managed by universities – for example, through hedging against negative changes in currency exchanges and fixing exchange rates in contracts with suppliers – this does present a risk of increased volatility in some costs.

Although emerging trends and forecasts for both global GDP per capita and exchanges rates suggest a positive impact on the recruitment of international students, it is important to note that this effect is highly susceptible to policy decisions related to immigration. For example, the research cited above (HEPI, 2016) indicates that the removal of opportunities for post-study work in 2012 was associated with a 20.3% decline in enrolments at undergraduate level.

*Although some risks of currency volatility can be managed by universities – for example, through hedging against negative changes in currency exchanges and fixing exchange rates in contracts with suppliers – this does present a risk of increased volatility in some costs.*

### National economic outlook: macroeconomic forecast

As outlined in Chapter 3, although funding from direct government sources has declined in recent years, this source still accounted for 24% of total income to UK higher education institutions in 2015–16. This proportion varied by activity, with direct government funding accounting for 64% of research income and 17% of teaching income in 2015–16.

The period following the 2008 financial crisis saw increased pressure on public spending as first the coalition government, and then the Conservative government aimed to

eliminate the budget deficit and reduce national debt as a proportion of GDP. These fiscal rules contributed to a reduction in public spending as a proportion of GDP from 45% in 2010–11 to 39% in 2014–15 (Emmerson et al, 2016), with implications for the level of direct government support available to higher education institutions.

Recent government policy has seen a relaxation in this trend, with the chancellor announcing a new fiscal framework in the 2016 autumn statement. Table 7 shows the most recent macroeconomic forecasts for the UK economy, as of March 2017, which reflect the new fiscal rules which aim to reduce rather than eliminate the deficit – or public sector net borrowing – to below 2% of GDP by 2020–21, and to reduce public sector net debt as a proportion of GDP by 2021–22.

**TABLE 7:**

Macroeconomic forecasts for the UK economy

	2016	2017	2018	2019	2020	2021
<b>REAL GDP GROWTH (% YEAR ON YEAR)</b>	1.8	2	1.6	1.7	1.9	2
<b>PUBLIC SECTOR NET BORROWING (AS % OF GDP)</b>	2.6	2.9	1.9	1	0.9	0.7
<b>PUBLIC SECTOR NET DEBT (AS % OF GDP)</b>	86.6	88.8	88.5	86.9	83	79.8
<b>UNEMPLOYMENT RATE</b>	4.9	4.9	5.1	5.2	5.2	5.1

Source: OBR 2017

Although the macroeconomic trend represents a relaxation in fiscal tightening over the short term, as evidenced by subsequent announcements of increased government funding for science and research, in the medium term, it is likely that there will be continuing pressure on government spending.

In addition to the potential impact on public spending, changes in the measures outlined in Table 7 may also have implications for student demand for higher education.

Evidence has indicated that demand for higher education varies in response to changes in the performance of the economy and labour market, with differing implications for full-time and part-time study (HEFCE, 2014). This research suggests that a lower cost of forgone income, due to limited employment opportunities and lower earning potential during a recession, results in greater attractiveness of full-time study. At the same time, increased pressures on personal finances and support available from employers make part-time study less attractive.

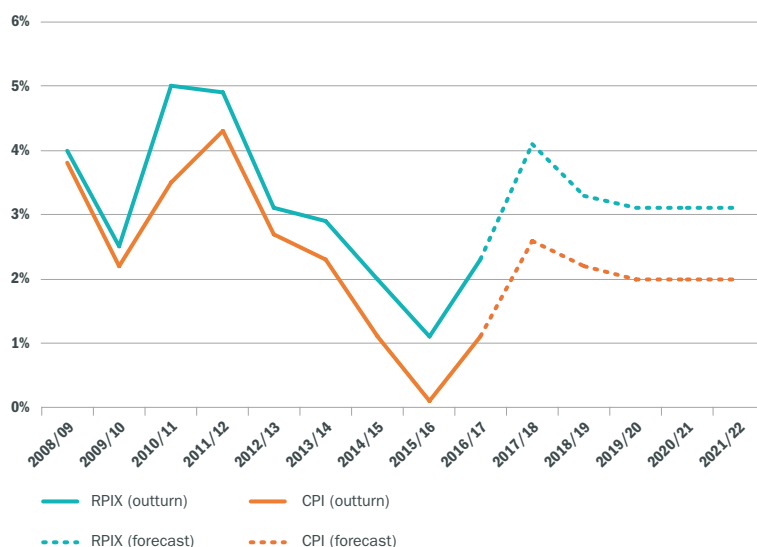
In combination, these effects lead to a homogenisation of demand for undergraduate provision towards full-time modes of study during periods of poor national economic performance.

In addition, reductions in government spending may also impact on public sector employment, which has in the past made up a significant proportion of part-time provision. The Office for Budget Responsibility (OBR) has stated that the government is likely to meet its new fiscal rules, but also acknowledges that there is a higher than usual degree of uncertainty in its forecasts, primarily due to the potential impact of Brexit. The forecasts outlined in Table 7 suggest that the UK is likely to see a short-term decrease in economic performance, including a marginal increase in the unemployment rate by 2018. From 2019 onwards, however, the impact of the UK's potential exit from the EU from 2019 is likely to lead to increased uncertainty regarding many of the measures.

## National economic outlook: inflation forecast

Figure 41 shows recent trends in the Consumer Price Index (CPI) and Retail price index (RPIX) between the financial years 2008–09 and 2016–17, and recent forecasts for inflation to 2021–22 (OBR, 2017). Both measures reflect changes in the price of a ‘basket’ of goods and services, with each covering different items and methodologies, meaning the CPI is often lower than RPIX. The CPI forms the basis of the government’s inflation target that the Bank of England is required to achieve (currently 2%), while the RPIX is the index used for uprating tuition fees for publicly funded higher education institutions in England.<sup>17</sup>

**FIGURE 41:**  
Inflation forecasts for the UK economy



Source: OBR March 2017 forecasts

The level of both are therefore of interest as they reflect the costs faced by students and institutions, and in England, of potential increases in the fee cap. It should be noted that increases in institutional costs are likely to differ from these standard measures of inflation. The Higher Education Pay and Prices index, previously produced by Universities UK, showed that on average between 2000 and 2010, the increase in institutional, non-pay related costs were 1.3 percentage points above the increase in RPIX (Student Funding Panel, 2015).

Figure 41 shows that after a period of relatively low inflation, the annual average rate of RPIX fell from 4% between 2008–09 and 2012–13 to 2% between 2013–14 and 2016–17. This, however, is expected to increase in the short term, largely as result of the fall in the value of the pound, to an annual average of 3.3% between 2017–18 and 2021–22.

For higher education institutions, these inflationary pressures are likely to present challenges in relation to the main cost areas outlined in Chapter 3, including operating and capital investment costs (particularly for more import-intensive items such as energy) and staff costs, which in 2015–16 accounted for 55% of university expenditure.

The policy changes described later in this chapter, mean that from 2017–18, institutions in England will be able to increase the maximum fee they charge by RPIX. The Higher

*For higher education institutions, inflationary pressures are likely to present challenges in relation to operating and capital investment costs, and staff costs.*

17 The Student Fees (Inflation Index) (England) (Amendment) Regulations 2016.



Education and Research Act 2017 has also indicated that the first year of differentiated increases in fee caps by outcomes of the Teaching Excellence Framework (TEF) will be no earlier than the academic year 2020–21. This presents the potential for increasing differentiation in the level of resource available for teaching across institutions in England, and increasing differences in tuition fees across the devolved administrations. The potential implications of these changes on cross-border flows of students across the UK and on funding are considered in more detail later in this chapter.

### National economic outlook: interest rates

As highlighted in Chapter 3, the last decade has seen a significant reduction in government grant funding, particularly for capital investment. Over the same period, universities have faced the need for increased investment to keep pace with technological change and rising student expectations. This has resulted in increasing diversification in sources of funding for investment, and increasing importance of internal cash and borrowing in the funding of capital investment.

For the costs of borrowing, including bank loans and bonds, it is useful to consider recent trends and forecasts for UK interest rates. As shown in Figure 42, both the UK bank rate and UK gilt yields are at historically low levels, with the OBR forecasting marginal increases for both measures over the period to 2022 (OBR, 2017).

**FIGURE 42:**

OBR trend and forecast for UK bank rates and gilt yields



Source: OBR, 2017

As demonstrated in Chapter 3, the need to find alternative sources of funding following cuts to government grants, in combination with the historically low interest rates presented above, has resulted in increased borrowing at a sector level.

Despite forecasts for lower UK interest rates continuing in the short- to medium-term, a number of challenges remain that may impact on the continuation of the investment trends outlined in Chapter 3. These include changes in lender confidence, resulting in potential restrictions on the availability or cost of finance, particularly for different types of institutions. Any weakening in liquidity and cash levels over a period where borrowing is increasing, in response to the need for higher levels of capital investment, would also represent a less sustainable financial trajectory for the sector (HEFCE, 2017).

## KEY EMERGING GLOBAL AND NATIONAL ECONOMIC TRENDS

- Improving global GDP per capita and falls in the value of the pound suggest a positive impact on the recruitment of international students. However, it is important to note that this effect is highly susceptible to policy decisions related to immigration.
- Although the national economic outlook and a relaxation in fiscal tightening over the short term will reduce pressures on public funding in the medium term, it is likely that there will be continuing pressure on government spending.
- Inflationary pressures can impact on the costs faced by students and higher education providers. For universities, rising inflation presents challenges in relation to increased costs, including staff and energy costs. In England, inflationary increases in fee caps based on institutional outcomes of the TEF, will be linked to forecast figures for RPIX.
- The short- to medium-term forecast suggests that interest rates will remain at a relatively low level, although changes to lender confidence and any weakening in higher education provider cash levels could lead to pressures on borrowing and the ability of institutions to invest.

## 4.3 TECHNOLOGICAL CHANGE

This chapter also considers the impact of technological change on universities, both in relation to the number of students that universities educate in the medium- to longer-term, and how universities will go about educating these students. These impacts will have implications for future trends in student numbers, and potentially on the future financial trends of UK higher education institutions.

The future world of work and employment is shaped by many significant forces, including technological change, trends in demographics, and global shifts in economic power and influence. Technological change encompasses not only scientific breakthroughs, but also disruptive innovations, radical new business models and improved ways of working. To be as competitive as possible, businesses need to optimise their use of technology and their workforce. As changes occur, so will the nature of their demands for their workforce.

Long-term projections show that the shape of the UK labour market will be affected by growth in private services (such as professional services and IT), construction and in the health and social care sectors. As noted in Chapter 1, the largest share of growth in jobs is likely to come from the high-skill, rather than the low-skill end of the labour market.

The future shape of the UK labour market has a close relationship with the demand for higher education from students. UUK analysis suggests that there is currently an undersupply of graduates relative to the number of jobs demanding them, and that this undersupply is projected to continue (UUK, 2015). The analysis also shows that there will be unmet demand for workers with higher, but not necessarily degree-level, qualifications.

The nature of and extent of undersupply, and unmet demand, will impact on the size and shape of the higher education sector. Labour market demands will affect the types of qualifications students wish to study towards, including the subject of study and level of

*The largest share of growth in jobs is likely to come from the high-skill, rather than the low-skill end of the labour market.*

qualification gained. The increased emphasis on apprenticeships and technical education may also have implications on the range of provision that higher education institutions offer, and some may look to strengthen their relationships with partners such as schools and further education colleges. Differences in demand and provision may impact on recruitment patterns across the higher education sector, and outcomes experienced by specific institutions.

Technological change not only affects the numbers of students studying in higher education, and the types of qualifications they wish to study, but will also affect how students wish to be educated. To remain competitive and to attract students, higher education institutions will need to consider how best to use technology to achieve the best possible student outcomes and the highest quality student experience. Examples of technology-enhanced approaches already in use include (HEPI, 2017):

- the use of technology to simulate experiments and field trips
- the use of massive open online courses (MOOCs) within face-to-face provision
- the redesign of assessment
- flipped learning – the use of online preparatory activities to enable face-to-face time to be used for richer interaction, or to improve the use of time in expensive facilities such as laboratories

How technology is used to enhance the student experience will affect how a higher education institution plans its spending on equipment, its use of teaching and learning space, and its plans for building future spaces. This will ultimately have an impact on the capital expenditure plans for an institution, how these plans are to be financed and the institution's ambitions for future growth. As demonstrated in Chapter 3, with significant reductions in public funding for capital investment, universities face a number of financial challenges in ensuring that they can deliver the scale of investment required to meet student demands, remain internationally competitive and continue to be financially sustainable.

It will also be important for institutions to consider how longer term technological change impacts on their offer to students and their relative position in the competitive environment, and for their long-term financial planning to take this into account, particularly in the context of the current range of day-to-day spending (Figure 35).

#### KEY EMERGING TRENDS RELATED TO TECHNOLOGICAL CHANGE

- Continued technological change will impact on the future shape of the UK labour market, with implications for the demand for higher education from students. There is currently an undersupply of graduates, and this is projected to continue.
- Differences in demand by students and provision across higher education institutions may impact on recruitment patterns across the higher education sector, and the outcomes experienced by specific institutions.
- Technological change will also impact on how students wish to be educated and how higher education institutions invest to provide a high-quality student experience. This will have implications for long-term financial planning for institutions.

## 4.4 POLITICAL AND POLICY CHANGES

This section considers some of the recent political and policy changes that could impact on universities, with a focus on the potential implications for the measures of students, staff and finances covered in Chapters 1–3 of this report.

### Brexit

As noted earlier in this chapter, the potential impact of the UK's exit from the EU presents one of the main areas of uncertainty for UK higher education and the wider UK economy. At this stage, it is difficult to determine the exact effect on universities without further information on the terms of exit and the UK's future relationship with the EU. However, potential changes could impact on the recruitment of EU students and staff to UK higher education institutions, and access to sources of funding, particularly in relation to research and capital investment. This impact is also likely to differ across the devolved administrations, reflecting the variation in undergraduate funding systems across the UK from no tuition fees charged to EU students in Scotland, to the loan-based system in England with fees of up to £9,000 in 2015–16.

As outlined in Chapter 1, in 2015–16, EU students accounted for 5.5% of all students enrolled at UK higher education institutions, 4.7% of undergraduate students and 8.5% of postgraduate students. Chapter 2 also noted that EU nationals account for 16.9% of all academic staff at UK higher education institutions in 2015–16, and a significant proportion of teaching and research staff in biological, mathematical and physical science subjects and humanities and languages (Table 6).

Any restrictions in the freedom of movement of EU citizens following the UK's exit from the EU, and the immigration status of students and staff wishing to study or work at UK higher education institutions may therefore impact on the number of students recruited and the availability of academic staff, particularly for the subjects identified above.

Recent data on applications suggests that, despite government commitments to continued availability of student support for EU students over the length of their course, there have been reductions in demand for undergraduate study following the referendum vote, with applications from EU students for entry in 2017 falling by 7% compared with the previous year (UCAS, 2017).

Although it is difficult to determine the potential long-term impact of the UK exiting the EU on student recruitment, research by HEPI has suggested that the removal of loan support for tuition fees for EU students and increasing fees for other international students may lead to a £40 million decline in higher education finances due to a reduction in EU enrolments, although this impact is likely to vary considerably across institutions.

Chapter 3 showed that EU sources of funding accounted for 11% of all research income to UK higher education institutions in 2015–16, increasing by 177% since 2006–07.

*Any restrictions in the freedom of movement of EU citizens following the UK's exit from the EU, and the immigration status of students and staff wishing to study or work at UK higher education institutions may therefore impact on the number of students recruited and the availability of academic staff.*

## Political and funding changes in England and the devolved administrations

Higher education policy is devolved across the UK, with different regulatory and funding systems, including fee levels, in place for undergraduates studying in England, Scotland, Wales and Northern Ireland. It is therefore useful to consider the impact of political developments across England and the devolved administrations separately, although evidence has shown that increased divergence of higher education policy does impact on flow of students and funding across the UK (UUK, 2015).

The outcome of the June 2017 general election resulted in a hung parliament in Westminster with no party having an overall majority of seats. It is unclear what impact this will have on key areas of UK government policy of importance to the higher education sector including those related to Brexit and immigration. Higher education institutions will need to plan in the context of this uncertain environment, with consideration of the potential for any future political changes.

### England

In May 2017, the Higher Education and Research Act 2017 (the Act) was passed by parliament, representing the most significant changes to higher education legislation in England since the Further and Higher Education Act 1992. The Act introduces several changes that are likely to impact on the trends in funding, students and staff at higher education institutions discussed elsewhere in this report.

These changes include:

- introduction and roll-out of the Teaching Excellence Framework, which will allocate ‘awards’ to institutions based on quantitative and qualitative assessments of teaching quality; in later years, awards will be linked to the ability to raise fee caps by inflation
- a greater focus on encouraging the entry of new providers of higher education, including the power to award degrees on a probationary basis, and removing some restrictions on gaining university title
- reorganisation of the architecture overseeing research funding and strategy

The proposals suggest that these changes are likely to lead to increased income from tuition fees at a sector level, but with increased differentiation in the level of income from this source across higher education providers in England.

An increased focus on the entry of new providers, and differentiation in awards for teaching excellence, are also likely to lead to increased competition, with implications for the trends in student and staff numbers and investment highlighted in earlier chapters, particularly across higher education institutions in England.

### Scotland

A recent audit of higher education funding and student support in Scotland has warned of ‘underlying risks’ to Scotland’s higher education sector as a result of mounting funding pressures.

In its assessment of the Scottish funding system, Audit Scotland (2016) found that:

- every Scottish and EU undergraduate place in Scotland was underfunded by 6% in 2014–15, with further cuts of 2.9% to the funding of teaching in 2016–17 described as a risk to high-quality learning and teaching

- capital funding, needed to maintain buildings and buy teaching and research equipment for staff and students, had fallen by 69% in real terms since 2010–11

In addition, regulatory and funding changes resulting from the passing of the Higher Education and Research Act 2017 present a number of challenges for higher education institutions in Scotland in the medium term. The creation of UK Research and Innovation, and the location of Research England within it, have raised concerns in Scotland and the devolved administrations about the continuing cross-UK focus of research in the future. The introduction of a link between fees and outcomes in the TEF for institutions in England is also likely to increase the differential unit of teaching resource for institutions in England and Scotland over time.

## **Wales**

Following publication of the Diamond Review of higher education funding and student finance (Welsh Government, 2016), the Welsh Government has outlined its plans to make significant changes to higher education funding in Wales. Key proposals include:

- removal of the tuition fee grant provided to Welsh students, and EU students studying in Wales from 2018–19. This grant had lowered the amount of loan these students needed to take out in order to study in Wales or other parts of the UK. With removal of the grant, Welsh students will be required to take out fee loans of £9,000 (or more if studying elsewhere in the UK)
- increased support for living costs, including a £1,000 non-means-tested grant available to all full-time Welsh-domiciled undergraduates from 2018–19. This can be topped up with a further loan and in combination results in the most generous maintenance package for undergraduates in the UK
- provision of the same level of maintenance and fee loan support for those wishing to study postgraduate taught courses

Transition to the new student funding system, and wider funding environment, means that the sector in Wales is faced with considerable forecasting uncertainty. In addition to uncertainties related to Brexit, other factors include the lack of innovation and capital funding in Wales:

- **innovation funding:** the Welsh Government no longer provides matched infrastructure funding to support business engagement, commercialisation and leverage of other innovation funding sources. This puts Wales at odds with other parts of the UK (£160 million was allocated through the higher education innovation fund in England in 2015–16).
- **capital funding:** following the removal of Welsh Government capital funding in 2012, universities in Wales now need to borrow to make capital investments in order to remain competitive and provide the level of experience that students now demand and that is on offer elsewhere in the UK.

## **Northern Ireland**

Universities in Northern Ireland continue to face significant funding challenges and an uncertain political environment. A funding gap of between £900 and £2,500 per student (depending on the course of study) has emerged between universities in Northern Ireland and England.

Under-resourced compared with their UK competitors, universities in Northern Ireland have had to take corrective action, primarily through reducing their undergraduate student intakes and staff numbers, to maintain the quality of their provision.

### **KEY EMERGING POLITICAL AND POLICY TRENDS**

- The potential impact of the UK's exit from the EU presents one of the main areas of uncertainty for UK higher education and the wider UK economy. This is likely to have implications for the recruitment of students and staff.
- Increasing divergence in higher education policy across England and the devolved administrations, including differentiation in student funding systems, is likely to have implications for the flow students and funding across the UK.

# CONCLUSION



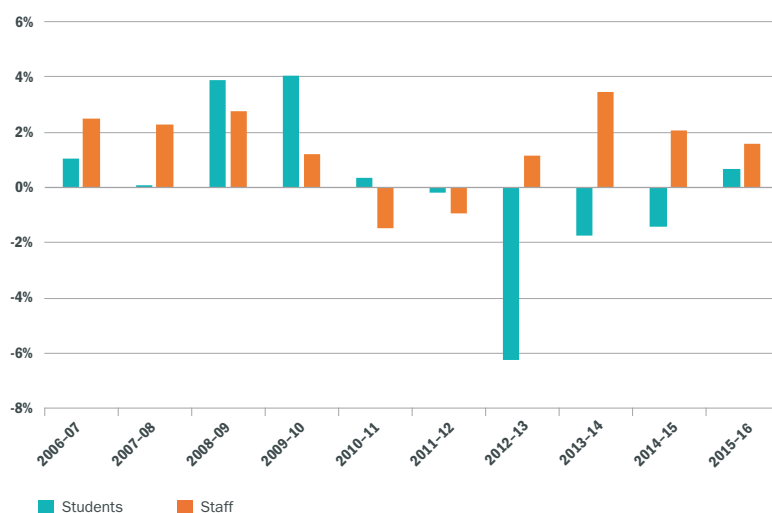
*The UK higher education sector has changed in size and shape over the past decade. The overall trajectory from 2006–07 has seen periods of growth and increasing diversification of students, staff and income.*

*Emerging demographic, economic, technological and political changes are likely to have further implications for future patterns and trends in students and staff at, and finances of, UK higher education institutions.*



FIGURE 43

Annual percentage change in students and staff, 2006–07 to 2015–16



The 10-year period since 2006–07 has seen significant changes for the higher education sector. These include reforms to student funding across the UK, which in England have seen fees increase to £9,000, continued reductions in direct public funding from government, particularly for capital investment, an increasing proportion of non-UK nationals among academic staff, and an increasing reliance on international sources of funding for both teaching and research.

Despite the challenges of a dynamic and sometimes uncertain operating environment, the UK higher education sector can point to a number of successes over the period:

- Student satisfaction has increased over the period, from 79.9% in 2006 to a new high of 86% at the end of the period in summer 2015.
- Despite significant changes in student funding, demand for higher education remains high across the UK, with the number of young students from disadvantaged backgrounds entering higher education reaching record levels in 2015–16.
- The 2014 Research Excellence Framework (REF) exercise found that 76% of work submitted by UK universities was internationally excellent or world-leading.

However, emerging and projected demographic, economic, technical and political trends suggest that UK universities face a number of significant challenges if they are to maintain their position and attract the staff, students, funding and partnerships that are central to their success. In particular, the uncertainty surrounding the UK's decision to leave the EU poses a number of concerns and potential challenges for the sector, including increased barriers to recruiting talented European staff and students, damage to international research collaboration and loss of funding for research and innovation.

Despite this, the UK's universities have a vital contribution to make to a successful, dynamic and internationally competitive post-Brexit UK. The higher education sector can play a central role in driving inclusive economic growth locally, regionally and nationally, improving productivity, and strengthening international trade and diplomatic relationships across Europe and the wider world. In this increasingly competitive international environment, the UK higher education sector will continue to work hard to maintain its position and attract the staff, students, funding and partnerships that are central to its success.

*The higher education sector can play a central role in driving inclusive economic growth locally, regionally and nationally, improving productivity, and strengthening international trade and diplomatic relationships across Europe and the wider world.*

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