Demand for Higher Education to 2030

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Higher Education Policy Institute

HEPI Report 105

About the Authors

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Executive Summary

This report, seven years after the last Higher Education Policy Institute (HEPI) report on demand for higher education, is produced in a very different policy environment. In particular, since then we have seen the first cohort of students go through the system paying fees above £9,000 and the removal of controls on student recruitment.[1]

In the six years between 2010 and 2016 (the most recent year for which data are consistently available), there has been a 5.5 per cent increase in undergraduate numbers despite a decline in the number of 18-year olds. The demographic decline will halt in 2019 and the young population will increase by nearly 23 per cent during the next decade. That itself will lead to an increase in demand. However, demography is just one factor that determines demand for higher education. The rate of participation is the other main factor, and the participation rate of young people aged 20 and under has increased by nearly 25 per cent since 2006.

This increase in participation has been driven only partly by an increase in Level 3 attainment. While this grew strongly between 2006 and 2013, the increase has stalled in the years since. The two main drivers of the increase in participation in recent years have in fact been, first, the increasing rate of applications by young people to enter higher education: the proportion of the young population applying to higher education increased by 50 per cent between 2006 and 2016. The second key driver is the increased likelihood of an applicant being accepted, which increased by 12 per cent between 2010 and 2016.

Neither of these changes has been driven by an improvement in the grades achieved at Level 3, which the Universities and

Colleges Admissions Service (UCAS) reports have reduced slightly, reporting also that the lowering of entry standards has been most pronounced in higher and medium-tariff institutions. Nor do they appear to have been driven by the removal on the cap on student recruitment, as the increases both in applications and acceptances predate the removal of the cap.

Looking to the future, the increase in demography alone, with no increase in participation or any other changes, will lead to demand for about 50,000 additional places by 2030. And if participation continues to increase at the medium-term (15-year) rate, which is not implausible and would still leave the participation rate in England lagging behind that of some other western countries, then that would imply demand for about 350,000 additional places. This should be regarded as the minimum level of additional demand unless other policy factors or other disruptions intervene.

The main known factor that will have a disruptive effect is Brexit. Unless special arrangements are negotiated that will maintain demand from EU students, their numbers are likely to reduce by over 56,000. On the other hand, if there is an improvement in participation by under-represented groups – in particular males (whose participation lags far behind that of females), and socially disadvantaged groups (whose participation rate relative to the more advantaged increased rapidly until recently, but which has slowed in the past three years) – then that will have a positive impact on demand. On the basis of known facts, an increase in demand of over 300,000 by the end of the next decade is the most likely outcome.

This analysis has serious implications for higher education policy. Present arrangements imply an open-ended government cheque book since recruitment is unconstrained, and each student recruited is entitled to a loan that is subsidised (and, since the Prime Minister's intervention in October 2017 more heavily subsidised) by taxpayers. A driver of the review of post-18 education that has recently been established is concern over the high cost to graduates of loan repayments. It is difficult to see how that will be addressed without additional government expenditure.

But even if the circle is somehow squared by requiring some graduates to pay more in order to enable the Government to provide additional subsidy to others, the need for government subsidy for 300,000 additional students makes it highly unlikely that the present open-ended government cheque book can be maintained. Some form of control over student numbers is likely to be required, especially if the subsidy for those who do participate in higher education is to be maintained, let alone increased.

Introduction

Between 2002 and 2013, HEPI produced a number of reports that discussed the trend in demand for higher education and the factors that would influence future demand. This report, reviews how things stand now, in the very different policy environment to that which existed in 2011, and looks forward to the end of the next decade. These reports are not intended to produce precise forecasts, but to identify trends and some of the factors that will influence demand in the future, while nevertheless showing in concrete terms the implications of some of these trends.

The data used in this report come from published sources, or from specially commissioned reports from the Higher Education Statistics Agency (HESA) and the Universities and Colleges Admissions Service (UCAS), with calculations undertaken by ourselves, based on these data.[2] Since devolution, both the policies for higher education and the drivers of demand have diverged between the different parts of the United Kingdom. For that reason, this report, as with the earlier reports, is concerned with demand for higher education in England only. It is also concerned with domestic and EU demand, but it does not consider the question of demand from international students, which is driven by quite different dynamics.

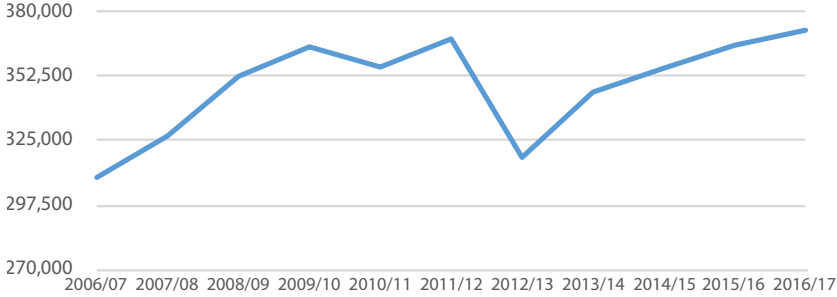
In forming a view about future numbers, we have focused in this report on demand from full-time young undergraduates. Full-time entrants represent over 85 per cent of the total of undergraduate students in our universities, and over 95 per cent of these are under 30 (more than 80 per cent are 20 and younger).[3] The recent decline in mature and part-time participation is deeply regrettable – and for a small number of

institutions has had, and is likely to continue to have, serious consequences. But in terms of demand for places over the sector as a whole, this has a relatively small impact.

In our 2011 report, we suggested there could be an increase in demand for higher education of as much as 10 per cent in the 10 years to 2020 despite the declining young population (see below). Figure 1 shows the change in the student population between 2006-07 and 2016-17.

In the six years between 2010 and 2016, there has been a 5.5 per cent increase in total student numbers. With the number of 18-year olds in the population stabilising after next year, and given the increases in participation that have occurred steadily over recent years, as well as record acceptance rates in 2017, the most likely outcome is some but not a great deal of, further growth – leading to total growth of a little under 10 per cent between 2010 and 2020.[4] In the present report, we look forward to 2030 using a methodology similar to that used in previous reports.

Figure 1: England domiciled first year full-time undergraduate students in UK-based institutions



Source: Commissioned analysis by HESA from HESA Student Record 2000/01-2016/17

Policy context

There have been numerous changes to the UK higher education policy landscape since HEPI published its last report on demand for higher education. Not only have we had two Prime Ministers and four different Ministers of State for Universities, Science, Research and Innovation, but during this period we have also witnessed some major changes, including a referendum on the UK's future in the European Union.

Tuition fees

Most notably, in England, in the academic year 2012/13, graduate-paid tuition fees were trebled to £9,000 under David Cameron's Coalition Government. Speculation was initially strong that elevated fees would deter students from embarking on higher education in English institutions and that the hardest hit by the fee increases would be those from the poorest backgrounds. However, despite the number of applications to English universities dropping considerably in the first year of the fee increases (down by almost 40,000), student numbers quickly recovered and have since reached record levels across the UK. According to UCAS, a record 496,000 students were accepted to higher education institutions in 2013 and, from then on, new records were set for acceptances every year until 2016. There was only a marginal fall in the number of acceptances in 2017 (down to 534,000 from 535,000 the year previously).[5]

Moreover, application data show that students from disadvantaged backgrounds have not been put off by the rise in tuition fees and are going to university in record numbers. According to UCAS, young people from the most disadvantaged backgrounds are now 78 per cent more likely

to be accepted for higher education than they were in 2006, though the improvement has largely stalled in the past three years.[6] This is despite the recent debate over the student finance system in England, which was reignited by the 2017 General Election campaign. Part of the debate has centred around the fact that students from the least affluent backgrounds end up borrowing the most money (to cover tuition fees and maintenance costs) and are, therefore, facing the prospect of leaving higher education with the largest 'debts' of over £50,000. Although students recognise this substantial financial commitment, their growth in numbers in English institutions over recent years appear to show that many consider the costs of higher education to be an investment worth making.

Student number caps

Another recent change in England is the complete removal of student number controls, first announced by the Coalition Government in December 2013. The restrictions were lifted incrementally, with the total removal of student number caps coming into effect from 2015.

The Government initially predicted that lifting the caps could result in 60,000 extra entrants to English universities each year, accounting for a 20 per cent increase in full-time undergraduate numbers from the UK and EU.[7] It may, however, still be too early to measure the full extent to which lifting student number caps has increased demand for English higher education institutions, as English universities have only been able to recruit as many students as they wish across all grades for the past two years. Moreover, while the policy affects students from other EU countries, the behaviour of these students may have been influenced by the Brexit referendum result. The predicted

60,000 extra entrants per year therefore appears to have been an overestimate and, indeed, what increases there have been in admissions appear to have predated the announcement of the removal of the student number limit. Nevertheless, even within the four-year period since student number caps began to be removed, some higher education institutions have notably increased their student intake. This is reflected in recent UCAS acceptance data, which show that high and particularly medium-tariff institutions have seen student numbers grow since 2013.[8]

The growth in student intakes at high and medium-tariff institutions has not, however, been without casualties. UCAS data also show that acceptances at low-tariff institutions have dropped considerably, reducing by five per cent alone since 2016. This suggests that student numbers could be in the process of being redistributed across the sector, as students seek to enter higher-tariff institutions, rather than growing exponentially.

Unconditional offers

The lifting of student number caps has also led to an increase in unconditional offers made to prospective students by higher education institutions. UCAS data reveal that in 2017, there were 51,615 unconditional offers made, which represents a 40 per cent increase on the number made in 2016.[9] While the rise in unconditional offers may not necessarily lead to increased demand for higher education, it is a logical response by institutions to (apparently misplaced) fears of flat-lining demand, brought about by the demographic dip in UK 18-year olds, as well as the 'free-for-all' climate created by the removal of student number controls.

Mandatory degrees

Higher education qualifications have become mandatory in some key professions. In 2013, degrees for new entrants to Nursing became mandatory in England – having first been announced by the Department of Health as a policy in 2009.[10] The effect of this has been that demand for Nursing courses continues to outstrip supply.[11] Changes to funding for Nursing and Midwifery courses in England after the Government abolished NHS bursaries for the academic year 2017/18 have, however, seen applications for Nursing courses fall by 18 per cent from the previous year, cutting the potential growth in demand in this area significantly. In August 2017, the Government committed to fund a further 10,000 nurses, midwives and allied health professionals across higher education institutions by 2020. This goes some way to increasing the fixed supply of nurses entering the profession each year, but is unlikely to substantially increase demand. In fact, research conducted by London Economics suggests the new funding regime, which requires prospective nursing students to take out a traditional student loan to fund their higher education qualifications, could increase the costs to students in this field by 71 per cent and will, in all likelihood, reduce demand for higher education in this area by 6.2 per cent.[12]

The College of Policing also announced in 2016 that new police officers in England and Wales will have to be educated to degree level from 2020 onwards.[13] Providing the Government learns its lesson from cutting funding in Nursing and ensures sufficient financial support for all new Policing students, institutions could be training up to 5,000 new police officers a year, based on last year's intake into the police force. This would represent a marginal, although not insignificant, increase in students in

our universities and colleges; and as other professions become all-graduate, that will contribute to increased demand.

Lower entry age

The current trend for large numbers of 18-year olds to go to university immediately after finishing their A-Levels or equivalent Level 3 qualifications is beginning to have an impact on entry rates to higher education for older students. If more young people are going to university at the age of 18, the pool of 19- or 20-year olds applying to university will decrease. The effects of this trend are already starting to play out, with 2017 witnessing, for the first time since 2012, a drop in the number of overall UK acceptances to higher education courses (down 0.5 per cent), brought about in the main by lower numbers of applicants aged 19 and over.[14] Should this trend continue, demand for courses typically associated with mature learners – such as part-time degrees – could decrease further, particularly if the part-time student finance model continues to disincentive learners. The latest HESA data shows that the number of part-time students in the UK has continuously declined between the academic years 2012/13 and 2016/17.[15] Only Scotland is bucking the trend when it comes to demand from mature students, having experienced a 9 per cent increase in students aged over 25 in 2017. This suggests that the prospect of free higher education is to encourage learners to enter university later in life.

Degree apprenticeships

In 2014, the Coalition Government introduced apprenticeships on a national scale in England. The first nine of the Government's industry-designed apprenticeships were launched in March

2015. This was followed by a pledge in the 2015 Conservative Party manifesto to create three million new apprenticeships by 2020. These include 'Higher level' degree apprenticeships and, as their name suggests, degree apprenticeships combine university study and workplace learning to enable learners to gain a full undergraduate or postgraduate degree. Having only recently been rolled out en masse, their uptake remains relatively low. Research conducted by Universities UK (UUK) nevertheless suggests we can expect a substantial increase of degree apprenticeship entrants by the end of the academic year 2017/18.[16] Although total numbers of apprenticeship starts have dropped in recent months owing to employers' concerns over the Apprenticeship Levy, the number of Higher-level degree apprenticeship starts nevertheless bucked the trend and have risen to 11,600 in the first quarter of 2017/18 from 10,100 in the same quarter a year previously.[17] (The main casualties have been felt in apprenticeships started at the lower Intermediate and Advanced levels, with both groups having experienced dramatic falls in the number of people starting these schemes).[18]

Although the numbers of students enrolled on Higher level degree apprenticeships remain tiny in comparison to the numbers undertaking more traditional qualifications, degree apprenticeships provide an entry point into higher education for those who might not otherwise have considered it as an option. Should this be the case, and should demand for degree apprenticeships continue to grow as predicted, we could reasonably expect degree apprenticeships to increase demand for UK higher education as a whole, particularly improving numbers in the part-time and mature student markets owing to the flexible learning they provide and their appeal to older

learners. This has recently proved the case, with only 2,100 of the Higher or degree apprenticeships created in the year to July 2017 awarded to 18-year old school-leavers, while more than 26,000 places were taken up by apprentices aged 25 or over.[19]

Where we stand today

The General Election of June 2017 has reignited concerns over the sustainability of tuition fees in England, which currently stand at a maximum of £9,250 after universities were allowed to raise fees in line with inflation from the academic year 2017/18. Further planned fee increases have been put on hold following Prime Minister Theresa May's announcement at the 2017 Conservative Party Conference to review the student finance system, freeze current fee levels and raise the threshold for repayments. The Government announced a major review of tertiary education on 19 February 2018 and the review process is set to last 12 months.[20] Future demand for higher education could, therefore, go one of two ways depending on the outcome of this review: should tuition fees be cut in the future, this could tempt more young people to consider a university qualification (though the introduction of fees does not appear to have had an impact in the opposite direction). However, should the student finance system remain unchanged, the way the tuition fee debate has been thrust back into the public consciousness could cause potential applicants to reconsider the returns of investment in higher education in a way that they may not have done previously.

The biggest changes could, however, still be to come, with the continued rollout of the Higher Education and Research Act (HERA) 2017, which purports to create a new 'market' for higher

education in England. As of 1 January 2018, the new universities' regulator, the Office for Students (OfS), has been operational and may, in the future, have a significant impact on the number of higher education institutions operating in England (through its powers to attribute degree-awarding powers and revoke university titles), as well as influence student choice through the information it provides.

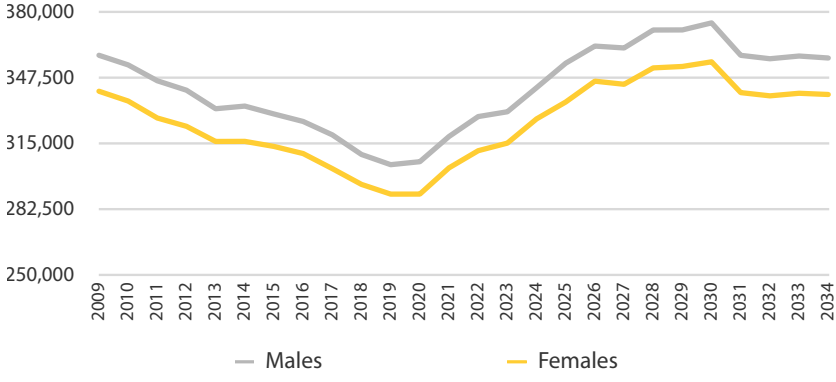
Further social changes may also occur, which are as yet impossible to predict but may still have ramifications for the pipeline of talent heading to our universities.

Demography

The key determinant of demand for higher education places is the size of the population, and in particular the size of the young population. Data published by the Department for Education (DfE) show that full-time young students dominate higher education: over 95 per cent of full-time initial entrants to higher education in 2015/16 were aged under 30 and even among the under 30s, those aged 20 and under accounted for 80 per cent of entrants.[21]

Changes in the young population are therefore the key determinant of future higher education demand. Figure 2 shows the changing population of 18-year-olds between 2009 and 2030. It shows the 18-year old population has been declining steadily for a number of years, but that the decline stabilises in 2019, and from 2020 increases again, rising by nearly 23 per cent by 2030. After this point it falls slightly before stabilising again.

Figure 2: English 18-year old population 2009-2034



Source: Office for National Statistics (ONS) - Summary of key birth statistics, 1938 to 2016[22]

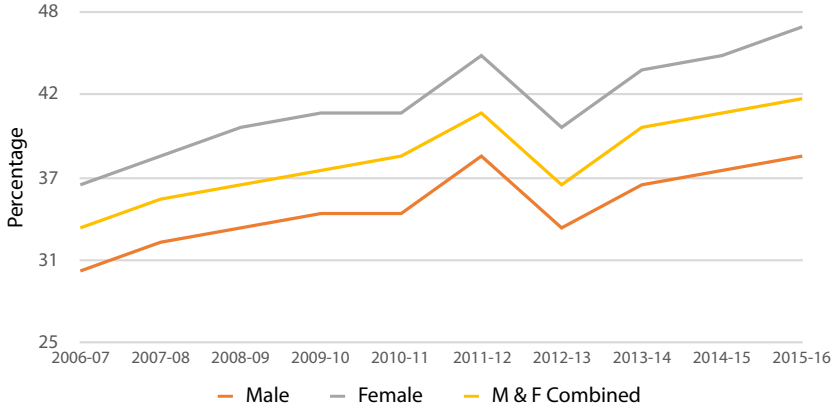
The discussion that follows sheds some light on the factors which have led to the increase in numbers despite the demographic decline, and discusses the extent to which similar factors may impact on demand in the future.

It is noteworthy that the number of boys born each year is consistently around 5 per cent higher than the number of girls. That brings into even sharper focus the difference in the number of male and female higher education students. Simply to match the performance of females there would need to be 5 per cent more males in the student population than females. As it is, there are very many more females than males.

Participation

Demography is just one factor that determines the extent of demand for higher education. The other is participation – the rate at which the population, especially the young population, enters higher education. Figure 3 shows the growth in the Higher Education Initial Participation Rate for the population aged 20 and under (the young participation rate).

Figure 3: Higher Education FT and PT initial participation rates (aged 20 and under)



Source: Department for Education Statistical First Release SFR47/2017, 28th September 2017

There are two striking things about the trends reported here. First is the steadily increasing overall rate of participation (the increase and then decline between 2011 and 2012 should be largely discounted as the result of young people bringing forward their participation in order to avoid the 2012 fee increase); and second is the widening gender difference.

The next two sections discuss the three key factors that determine the growth in young participation: school (and specifically Level 3) success, the willingness of young people to apply to higher education and the ease of entry to higher education institutions.[23]

Supply chain

Previous (mainly school) attainment, and specifically A-Level attainment, is, together with demography, the most important driver of demand from young people for full-time higher education.

As Table 1 shows, the years from 2010 until 2014 saw a steady improvement in achievement at Level 3 by the age of 19, but this improvement appears to have stalled in the years after that. In 2014, 60 per cent of the age cohort achieved Level 3 by the age of 19, rising to 60.4 per cent in 2015 and reducing back to 60.1 per cent in 2016. In 2017, data to age 19 are not available but to age 18 the proportion obtaining Level 3 reduced from 74.3 per cent in 2016 to 73.9 per cent.

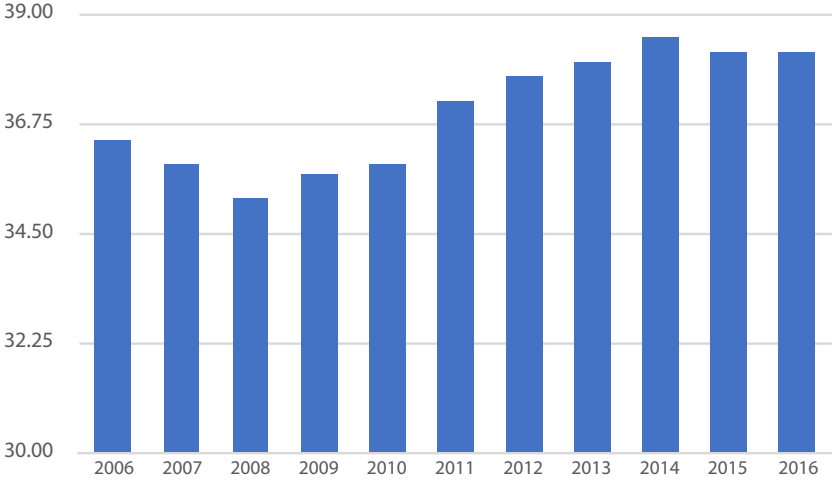
Table 1: Percentage of young people qualified to Level 3, by age and cohort

Cohort (19 in…)	Number in cohort**	Percentage attaining by age			
		16*	17	18	19
2006	633,117	0.1	15.3	40.2	46.9
2007	653,657	0.1	15.8	41.3	48.2
2008	647,457	0.1	16.0	41.9	49.6
2009	658,408	0.1	17.1	43.3	51.4
2010	665,139	0.1	16.9	44.7	53.8
2011	661,689	0.1	17.4	47.4	56.5
2012	640,619	0.1	18.2	48.9	57.9
2013	640,930	0.1	23.1	50.5	59.1
2014	626,238	0.1	23.4	51.3	60.0
2015	619,372	0.1	23.2	51.7	60.4
2016	631,710	0.1	22.7	51.6	60.1
2017	616,941	0.1	22.1	51.8	
2018	611,951	0.1	14.7		
2019	597,653	0.1			

Source: DfE matched administrative data
DfE: Level 2 and 3 attainment in England: Attainment by age 19 in 2016
www.gov.uk/government/collections/statistics-attainment-at-19-years

Those figures relate to total Level 3 achievement. The most significant attainment indicator for the purposes of projecting higher education demand is the proportion of the population achieving Level 3 qualifications through A-Levels.[24] Although there are other Level 3 qualifications, A-Levels are by far the most popular, and the one most commonly possessed by English higher education entrants, as well as a reliable predictor of whether or not a student will go on to higher education.[25] However, Figure 4 shows that despite a steady increase from 2008 to 2014, achievement appears to have stalled.

Figure 4. Proportion of 19-year olds attaining Level 3 via A-Levels (percentage of age cohort)



Source: DfE Statistical First Release 18.03.10 Table 4.

The proportion of the age group achieving A-Levels rose from 36.4 per cent in 2006 to 38.0 per cent in 2013, but has remained around that figure (increasing to 38.5 per cent in 2014 and reducing back to 38.2 per cent in the subsequent two years).

Taking a 10 year view, what increase there has been in Level 3 achievement has been largely due to the achievement of vocational qualifications, such as BTEC diplomas. As shown in Table 2 below, holders of vocational Level 3 qualifications increased from 7.7 per cent of the cohort in 2006 to 18.3 per cent in 2016 – a more than doubling of the proportion of the cohort achieving Level 3 through this route.

Table 2: Percentage attaining Level 3 at 19 by qualification type and cohort England, cohorts 19 in 2004-2016

	Percentage achieving Level 3 by qualification type					
Cohort (19 in…)	A-Levels, Applied A levels	AS Levels	Advanced Apprenticeship*	Vocational qualification outside of Apprenticeship	International Baccalaureate	Percentage achieving Level 3 by age 19**
2006	36.4	1.5	1.0	7.7	0.2	46.9
2007	35.9	1.6	1.0	9.4	0.3	48.2
2008	35.2	1.6	1.1	11.4	0.3	49.6
2009	35.7	1.7	1.2	12.5	0.3	51.4
2010	35.9	1.6	1.5	14.3	0.5	53.8
2011	37.2	1.6	1.7	15.3	0.5	56.5
2012	37.7	1.6	1.9	16.0	0.6	57.9
2013	38.0	1.7	1.7	16.8	0.6	59.1
2014	38.5	1.7	1.6	17.6	0.5	60.0
2015	38.2	1.7	1.6	18.3	0.6	60.4
2016	38.2	1.5	1.5	18.3	0.5	60.1

Source: DfE matched administrative data
DfE: Level 2 and 3 attainment in England: Attainment by age 19 in 2016
www.gov.uk/government/collections/statistics-attainment-at-19-years

Although the proportion of the young population with A-Levels has not increased recently, an increase in the number with other Level 3 qualifications will lead to an increase in higher education numbers (albeit at a lower level).[26] In particular, the number of students with BTECs has been increasing rapidly, but from a very low base. So despite these increases, BTEC holders still comprise only a small proportion of entrants to higher education.[27] In addition, the dropout rate of those with

BTECs (the number of those not completing their qualifications at higher education level) is significantly (more than four times) higher than those with A-Levels.[28] Yet because overall BTEC holders represent a small proportion of total student numbers, this fact does not significantly impact upon total student demand for higher education places.

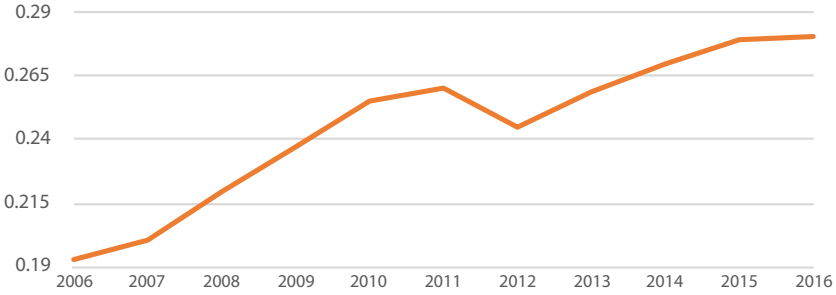
Ease of entry to HE

On the basis of these analyses, it would appear that improvements in school performance do not provide the answer – certainly not the entire answer – to recent increases in the numbers admitted to higher education, and nor does demography. However, even if the supply chain is not expanding, higher education numbers will grow if more young people apply for places – regardless of their prior school achievement – and also if the standards demanded for entry are eased. Both these appear to be happening. Figures 5 and 6 are derived from data published by UCAS in their *End of Cycle* reports and by the Office for National Statistics (ONS). Together, they show both how applications have increased and how access to higher education has become less difficult over the past 10 years or so.

Willingness to apply

Figure 5 shows the ratio of the number of applicants to higher education (through UCAS) to the number of 18- to 20-year olds in the population, and reveals a rapidly growing application rate. The desire of young people to enter higher education is rapidly increasing: this says nothing firm about their qualifications to enter higher education, it simply shows that they increasingly wish to do so.

Figure 5: Relationship between size of population (Great Britain) and number of applicants to higher education (UK)

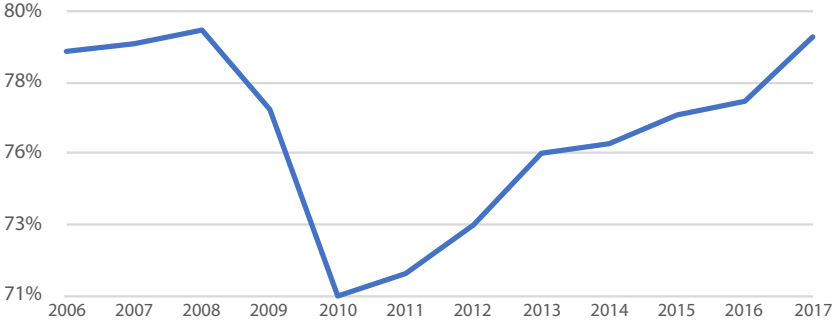


Source: Calculations based on 'Summary of key birth statistics, 1938 to 2016', published by the ONS, Births Time Series Data published by National Records of Scotland and UCAS *End of Cycle Report* 2017[29]

Likelihood of being accepted

While Figure 5 shows the likelihood of a young person applying to higher education has increased, Figure 6 shows how likely it is that an applicant through UCAS will be offered a place.

Figure 6: Proportion of applicants accepted (all UK and EU-domiciled students – all UK institutions)[30]



Source: Calculations based on UCAS End of Cycle Report 2017, data tables

The rapidly increased likelihood since 2010 of being accepted might be explained by an improvement in the prior achievement of applicants, even if the overall number of those with Level 3 has not increased. If the grades that applicants have achieved have improved, then that might explain why more of them are being admitted to higher education. However, the UCAS 2017 *End of Cycle Report*, on 'Qualifications and competition' states:

> *A-Level acceptances had a typical attainment of 11.8 points in 2017, but average attainment has very gradually declined across the time period, decreasing from 12 points in 2012*.[31]

The present relative ease of entry to higher education represents a substantial change from the environment in which our previous report was written. During this time, principally because the Labour Government (under Gordon Brown) had recently reduced the number of students that higher education institutions might recruit, there was a large number of disappointed applicants (there was an immediate 11 per cent reduction in the number of applicants who were accepted between 2008 and 2010). Since then the proportion of applicants securing a place has increased sharply, and now matches the previous recent high point in 2008. It will be seen that an applicant has a nearly 12 per cent greater chance of being accepted in 2017 than in 2010.

In our previous report we observed that information produced by UCAS showed that a substantial number of students were admitted to higher education institutions with no UCAS tariff points. In fact, the modal number of points was zero – there were more students admitted with no tariff points than with any other number of points.

Whereas that might have been interpreted as indicating a low level of requirement for admission to universities and colleges in the UK, in fact it transpires that it was indicative of the fact that a large number of qualifications – especially from overseas – did not have tariff points attributed to them. That has now changed and the number of students with no tariff points has reduced substantially.

On the other hand, as referenced above, the 2017 UCAS *End of Cycle* report does indicate a lowering of entry standard, and UCAS also reports that the lowering of entry standards was most pronounced in higher and medium-tariff institutions. Lower-tariff institutions have actually increased their entry standards in the past five years.

Reference was made earlier in this report to the fact that in 2013 the Government announced the removal of the controls that were previously in place on the number of students that each higher education institute might recruit, and these changes took effect over the next two recruitment cycles. There had been speculation that cash-hungry institutions might recruit more students than they had previously been allowed, in order to bolster their finances, and specifically that institutions might lower their entry demands in order to be able to recruit more students. Although it does appear to be true that universities with more demanding entry requirements have reduced them, the beginning of this trend appears to have predated the removal of the student number controls, which does not appear to have been its driver – with a declining population and an unchanging total of student numbers, the policy change may not have been as dramatic as it appears.

Another policy change that might have been thought to lead to an increase in demand for higher education is the requirement that all young people should continue in one form or another of education and training until the age of 18, legislated for by the previous Labour Government, and implemented by Governments since. In the conclusion of our previous report we said we thought this could be the driver of greater Level 3 participation and therefore demand for higher education. As with the removal of student number controls, and as previously explained, there is no sign yet of the greater Level 3 participation that we anticipated (most of the increase in the numbers with vocational qualifications predated the introduction of this measure). The reason why this is so would itself be an interesting topic for further investigation, but is not considered further here.

Combining easier entry to higher education with greater propensity to apply has therefore led to increasing numbers of students, despite the reducing young population and only limited improvement in Level 3 examination attainment.

Adding participation change to demography

In the recent past, the young participation (initial entry) rate has increased at the rate of nearly one percentage point per year, but the long-term (15 year) trend has seen an increase of about 0.75 percentage points per year. For the purpose of this analysis and for illustration, we have assumed here an increase over the next 13 years of the long-term rate – that is to say 11.25 percentage points over the next 15 years, leading to a young initial entry rate of 54 per cent, a figure that is 26 per cent higher than the present 43 per cent. That would put the UK among the current highest performers in the OECD area, but still not the highest, and it could well be that other countries will increase their participation in the meantime. It is an ambitious but not implausible scenario, and is consistent with recent trends.

Table 3 shows the increases in the number of young entrants that would be implied – first with no increase in participation (third and fourth columns) and then assuming the increase in participation discussed above (fifth and sixth columns).

Table 3. Estimated change in full-time England-domiciled undergraduate entrants due to demographic change and combining demographic change with increases in participation

	Estimated young entrants in 2015/16[32]	Change in entrant numbers in 2030 (with no change in participation rate)	Percentage change to 2030	Change in entrant numbers in 2030 (with male & female participation rate increase of 26%)	Percentage change to 2030
All males	150,565	6,983	4.6%	47,945	31.8%
All females	182,275	7,726	4.2%	57,126	31.3%
All	332,840	14,709	4.4%	105,071	31.6%

With an average course length of around 3.3 years, the nearly 333,000 entrants in 2015-16 equate to about 1.2 million students in total. The 14,709 additional entrants arising from demography alone (with a static participation rate) will amount to around 50,000 additional students and the 105,000 additional entrants, if participation continues to increase at the medium-term rate, will require about 350,000 additional places.

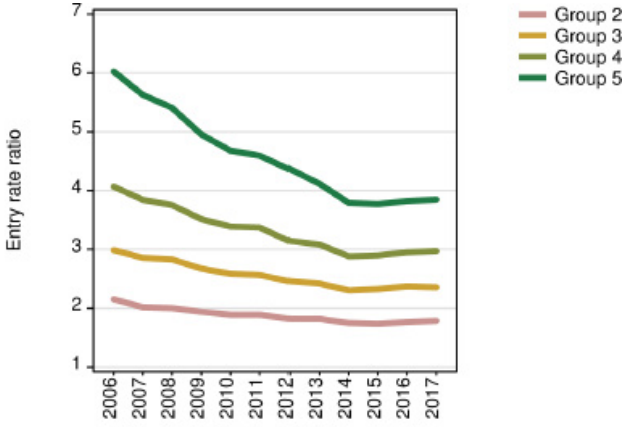
Disruptions

The discussion above has been based on a continuation of known and recent trends. However, whereas the unknown is by definition unknowable, there are some specific developments that have the potential seriously to disrupt demand in the future and one of which – Brexit – is known and is likely to happen. The effects of three such disruptive factors are discussed here.

Effect of socio-economic background

The relative admission rates of the most disadvantaged groups compared to the most privileged improved rapidly until 2014 (from a negative factor of six in 2006, it reduced to a negative factor of less than four just eight years later). That improvement has stalled since 2014, as is illustrated in Figure 7.[33]

Figure 7: Ratio of 18-year old acceptance rate for MEM groups 2 to 5 vs MEM group 1[34]



Source: Reproduced from UCAS 2017 *End of Cycle Report* Figure 5.2

The continuing differential participation rate between social groups has two implications:

- First, if there is a higher birth rate among the more privileged social groups (as there had been at the time 2010 report was written) then that would imply more eventual demand for higher education than if the birth-rates between social groups had been the same. Unfortunately, the ONS has changed the basis on which it categorises social groups, but on the basis of its present categorisations it appears that since 2014 there has been no such social group differential in birth rates.[35] That question is not considered any further here.

- On the other hand, the lower rates of participation of young people from less advantaged backgrounds opens the possibility of significantly increased demand if they were to improve their participation. If, for example, the rate of participation of the least advantaged (MEM 1 and MEM 2) were, between now and 2030, to improve at the same rate as during the years since 2006 then the participation rate of the MEM 1 Group would increase from 13.8 per cent to 29 per cent and the MEM 2 Group from 24.7 per cent to 43.2 per cent. This implies increased entrant numbers of nearly 7,000 and total numbers of nearly 22,500.[36]

Gender

Ten years have passed since we first noted that if males were to begin to behave more like females then that would have a large impact on the number of young people demanding higher education. At that time, we showed that if boys were to make up the participation difference with girls at age 18 then

that would have generated demand for an additional 130,000 additional places in that year.

In the meantime, although the likelihood of males applying for higher education relative to females increased very slightly in 2017, the likelihood of males being admitted relative to females has not improved and indeed has deteriorated.[37] The relatively poor performance of males is not only a UK phenomenon. Of the 41 countries analysed in the 2017 edition of *Education at a Glance*, the OECD found that only in Turkey, Germany and Indonesia did males have a greater rate of participation in tertiary education than females. On present evidence, it is difficult not to conclude that at the ages at which young people prepare for and then enter higher education, girls have an edge that is substantial and enduring. This is not the place to speculate on the reasons for that, but for the purpose of this report it is sufficient to observe that the gap between male and female performance has not narrowed and shows no sign of narrowing.[38]

Nevertheless, it is worth again observing that the large and growing gap between male and female participation itself offers great potential for increased future demand. Table 4 replicates Table 3, and extends it to show the effect on the number of young entrants if males were to achieve the same rate of participation as females at the end of the period under review. If males were to match the participation of females, then by 2030 demand for higher education places will have increased by nearly 50 per cent, or over half a million places (Tables 3 and 4 refer only to entrants, not totals), relative to 2015-16. We emphasise that there is no present sign of such a transformation in the behaviour of young males – but if and

when there is such a change in behaviour then that will place the higher education system under great pressure and will require a comprehensive reassessment of present policies.[39]

Table 4: Impact of demographic change with male participation increasing to match that of females

	Estimated young entrants in 2015-16	Change in entrant numbers in 2030 (with no change in participation rate)	Percentage change to 2030	Change in entrant numbers in 2030 (with male & female participation rate increase of 26%)	Percentage change to 2030	Change in entrant numbers in 2030 (with female participation rate increase of 26% and male participation increasing to match female)	Percentage change to 2030
All males	150,565	6,983	4.6%	47,945	31.8%	101,653	67.5%
All females	182,275	7,726	4.2%	57,126	31.3%	57,126	31.3%
All	332,840	14,709	4.4%	105,071	31.6%	158,778	47.7%

EU and Brexit

In our 2004 report, *Projecting demand for UK higher education from the Accession Countries,* we predicted the number of students from the accession countries would increase by between 20,000 and 30,000 – up to fivefold – by 2010.[40] The then Chief Executive of the Higher Education Funding Coucil for England (HEFCE), Sir Howard Newby, said that he expected a significant increase, but no more than by about 15,000 students. The then Higher Education Minister, Alan Johnson, said, 'We do not anticipate large rises in EU student numbers', describing our prediction as 'an unhelpful exaggeration'.[41] By 2010, in fact, numbers had increased by over 25,000, exactly halfway between our low and high predictions. At the beginning of the period, just half of the students from accession countries were

undergraduates. By the end of the period, three-quarters were undergraduates. This was a more than fivefold increase.

Any number of factors may affect the willingness of students from the EU to continue to come to the UK post-Brexit and pay international student fees without the support that is currently available to them in the form of loans (which, on the basis of evidence from the Student Loans Company about the number of students in arrears, suggests that many of those concerned consider these loans to be non-repayable). From the point of view of government finances, a reduction in non-EU students may be positive (although in terms of the overall economic effects it would be seriously deleterious).[42] But from the perspective of many universities, the likely reduction in EU students and the reduced level of income which that would imply could be very serious indeed.[43] Even without the shadow of Brexit, the number of EU students is likely to decline, as rapidly falling populations in the countries concerned means not only a smaller population from which to recruit but also more intense competition from universities within those countries to recruit students.

Considering only the impact of Brexit, it seems highly likely that numbers from the EU will be affected by similar considerations to those that led to the previous increase, but in the opposite direction. There may be a number of wealthy students willing to pay higher fees without support, and it could yet be that the Brexit negotiations will lead to some special arrangement for EU students studying in the UK. But it seems reasonable to assume that a broadly similar pattern to that considered in our 2004 report will be followed with the exit of the UK from the EU, but in reverse.

If so, then by the end of whatever transition period is agreed, and certainly within the timeframe of this review, we could expect a reduction of nearly 75,000 EU students, or 80 per cent of the present number. However, in previous enlargements, the accession countries had a significantly lower level of income and wealth than the EU as a whole, and so the change in the fee regime – from international student fees to home and EU fees – would have been particularly attractive.

At present, however, the Student Loans Company report that a significant proportion (around 25 per cent) of eligible EU undergraduate students do not take out a loan, and it is reasonable to assume that they are from wealthy enough backgrounds not to need to do so.[44] If so, then the change to overseas status would have less of an impact on their decision whether to study in this country. On the basis that 25 per cent of the current 93,000 full-time EU undergraduate students in England will stay regardless of the fee regime, and applying an 80 per cent reduction to the remainder, that suggests a residual EU student undergraduate population of 37,000, compared to the 93,000 present today – a reduction of over 56,000 (60 per cent).

At the beginning of 2017, HEPI Report Number 91, using a quite different methodology based on economic modelling, concluded that there was likely to be a 57 per cent reduction in the number of students from the EU – very close to the 60 per cent reduction estimated here.[45]

Conclusion

As has been explained above, the purpose of this report is not to give precise forecasts but rather to identify the factors that will influence student demand in the future. Nevertheless, some more or less firm conclusions can be drawn.

Demography alone – without any increase in participation or other disruptions – will lead to demand for nearly 50,000 more undergraduate places by 2030.

However, participation has been growing steadily, year-on-year, since before the period under review. If participation were to increase at the average rate of the previous 15 years, then there would be demand for nearly 350,000 additional places by 2030. Such an increase is quite plausible: despite the recent increases, the level of participation in this country is not remarkable in comparison with other advanced countries. This should be regarded as the minimum likely additional demand.

Over and above that, if groups at present under-represented in higher education – in particular young people from disadvantaged backgrounds and males – were to increase their participation significantly, then demand for additional full-time undergraduate places could increase by very much more. At present, there is no sign that males might improve their performance; but until the recent past students from disadvantaged backgrounds have been increasing their participation strongly. If students from the lowest two participating groups were to increase their levels of participation by the average at which they have increased over the past decade or so, then that would imply demand for an additional 22,500 or so further places.

Against these increases should be set a decrease of 56,000 or so from EU students, though that will depend on the details of the Brexit negotiations.

There could also be any number of environmental developments that intervene to confound the analyses contained in this report; among them:

- A halt in the increase in young participation. The most important driver of the possible increase in demand is the continued increase in young participation assumed here. That increase has been persistent and consistent over the past two decades – and, as is pointed out above, participation in this country is still not among the highest in the developed world. Nevertheless, it is possible that the increase in participation will stall.

- Hitherto young people have shown themselves largely unresponsive to increases in the cost of higher education. If the economic environment deteriorates, as is widely predicted, then enthusiasm for deferring entry into the job market could be impacted either positively or negatively – the past does not provide any particular indicators to inform this.

- Although the increased cost of higher education does not appear to have affected demand so far, it is possible that negative publicity concerning the impact of student loans on young graduates embarking on their early lives will in due course have an effect on demand.

- It is possible that there will be other significant social dislocations that will reduce the desire of young people to attend university, not apparent at present.

- Against these possible negative eventualities is the possibility that instead of the participation rate increasing in line with the average of the last 15 years, it will maintain its recent momentum and increase at the rate of one percentage point per year rather than the 0.75 percentage points assumed in these analyses.

- Another potential driver of increased demand is the possibility of a significant increase in the number of alternative providers, made way for in the Higher Education and Research Act 2017. Not only might this impact on demand for places in some – most likely lower-tariff – institutions (which would not itself affect overall demand for higher education, which is the subject of this report), but given previous experience and the financial incentive, these newcomers to the sector would have the motivation to create additional demand from students who might not otherwise have participated.

- Government policies – for example the extension of Degree Apprenticeships – could have an impact on demand for traditional higher education.

- Finally, the long anticipated and repeatedly delayed impact of new forms of provision (such as MOOCS, distance universities) may have an effect on full-time demand.

Notwithstanding all these speculative and possible new developments, on the basis of what is currently known, an

increase in demand of at least 300,000 is an entirely plausible – and perhaps the most likely – outcome by the end of the next decade.

The policy consequences of this very large likely increase in demand need to be considered. Given the extent of the loan subsidy provided for student loans (which may in future be very much greater as a result of the Prime Minister's unexpected and panic-stricken intervention in October 2017), the higher education budget will need to be significantly increased in order to meet the financial consequences of such a large increase in numbers. At a time when public expenditure remains seriously constrained, this will be problematic.

On the other hand, given the political imperative that led to the Prime Minister's intervention, together with the Opposition's stance on student finance, a reduction in the loan subsidy below present levels seems unlikely. It seems highly likely therefore that some form of rationing – whether overtly in the form of student number controls or otherwise – will need to be introduced.

This would not be a surprising – and could have been a foreseeable – consequence of the lifting of the student number control. If it comes to pass, it would repeat the experience of the early 1990s – the last time there was no limit on student recruitment in England – when numbers increased rapidly beyond the Government's budget and student number controls were reintroduced not long after they had been relaxed. Australia has had a similar experience of late with 'demand-led funding'. Student number controls were lifted recently, and there was an open-ended commitment from the Government to meet the cost. That became unaffordable and the Australian

Government has, effectively, started to reintroduce student number controls.

On reflection, it is perhaps unsurprising that so long as each student recruited carries a cost to the taxpayer, governments will feel the need to control student numbers and therefore their costs.

Finally, it needs to be borne in mind that this report is concerned with student demand – the demand side of the equation. The willingness of institutions themselves to satisfy demand – the supply side – is an entirely different matter and will depend on their capacity, financial and other incentives, social policy and environmental circumstances. It is entirely possible that we may return to the situation of a decade earlier where there was substantial unsatisfied demand for higher education, which itself will create opportunities for new and different forms of providers to fill the void.

Endnotes

1 Undergraduate students in England, which is the subject of this report.

2 Unless otherwise stated, the data and analysis in this report relate to England institutions and domiciled students only.

3 See the Department for Education's *Statistical First Release SFR47/2017*, 28th September 2017. Data for 2015-16 are the most recent available.

4 UCAS 2017 *End of Cycle Report*

5 Source: UCAS End of Cycle data resources

6 UCAS 2017 *End of Cycle Report*, 'Patterns by Applicant Characteristics', p.5

7 Nick Hillman, *A guide to the removal of student number controls*, HEPI report 69, September 2014, pp.1-2 (http://www.hepi.ac.uk/wp-content/uploads/2014/09/Clean-copy-of-SNC-paper.pdf)

8 Interim assessment of UCAS acceptances for the 2017 cycle, 18 September 2017

9 UCAS *End of Cycle Report* 2017, p.4

10 'Nursing to become graduate entry', *BBC News*, 12 November 2009 (http://news.bbc.co.uk/1/hi/health/8355388.stm)

11 UCAS *End of Cycle Report* 2017, p.6

12 'Reintroduce bursaries to tackle nursing shortages, says Unite', Unite press release, 26 January 2018 (http://www.unitetheunion.org/news/reintroduce-bursaries-to-tackle-nursing-shortages-says-unite/)

13 'All new police officers in England and Wales to have degrees', *BBC News*, 15 December 2016 (http://www.bbc.co.uk/news/uk-38319283)

14 *UCAS End of Cycle Report* 2017, p.7

15 'Higher Education Student Statistics: UK, 2016/17 – Student numbers and characteristics', HESA, 11 January 2018 (https://www.hesa.ac.uk/news/11-01-2018/sfr247-higher-education-student-statistics/numbers)

16 Universities UK, *Degree apprenticeships: realising opportunities*, March 2017, p.10 (http://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2017/degree-apprenticeships-realising-opportunities.pdf)

17 All UK employers with a pay bill of over £3 million per year pay the Apprenticeship Levy. The levy is set at 0.5 per cent of the value of the employer's pay bill, minus an Apprenticeship Levy allowance of £15,000 per financial year. The funds generated by the levy must be spent on apprenticeship training costs. The government tops ups employer-paid funds by 10 per cent.

18 Intermediate apprenticeships are classed as Level 2, Advanced apprenticeships are classed as Level 3 and Higher apprenticeships are classed as Levels 4, 5, 6 and 7, equivalent to a foundation degree and above. In the first quarter of 2017/18, Intermediate apprenticeship starts dropped to 52,000 from 87,100 at the same point the previous year, while Advanced apprenticeships starts dropped to 50,800 from 66,900 in the previous year. Source: DfE/EFSA, *Apprenticeship and traineeships: January 2018*, table 2.1

19 Martin Birchall, 'Employer levy concern must be addressed', *The Times*, 24 January 2018 (https://www.thetimes.co.uk/article/employer-levy-concern-must-be-addressed-9ckqcwhfm)

20 See 'Prime Minister launches major review of post-18 education', 19 February 2018 (https://www.gov.uk/government/news/prime-minister-launches-major-review-of-post-18-education)

21 See the Department for Education's *Statistical First Release SFR47/2017*, 28th September 2017. Participation data for 2015-16 are the most recent available.

22 This chart is based on ONS births data and assumes that live births will be 18-years old 18 years later.

23 Level 3 comprises the qualifications above GCSEs and below tertiary level. It includes A-Levels, International Baccalaureates and BTEC Nationals.

24 To attain Level 3 via A-Levels, a candidate must achieve at least two A*-E grades. The distinction between General ("GCE") and Applied ("AVCE") A-Levels should also be noted. In previous years, attainment of GCE A-Levels has been a stronger predictor of higher education demand than AVCE A-Levels. However, owing to the way HESA and Government data are now collected, separating these qualifications has not been possible in this report.

25 In 2017, A-Levels or equivalents (including from the Scottish Qualifications Authority, SQA) were the highest qualification of nearly 70 per cent of English applicants accepted on to higher education courses, with BTEC a distant second at 11.1 per cent. Source: UCAS 2017 *End of Cycle Report* – 'Qualifications and competition', p.4.

26 Data on progression rates to higher education from other Level 3s is limited. HEFCE research indicates that the progression rate from BTECs (a major form of Vocationally Related Qualifications, VRQ) is 41 per cent, while the progression rate from Advanced Apprenticeships is 6 per cent, but figures for VRQs overall, National Vocational Qualification (NVQ) Level 3 were unavailable. Source: HEFCE (2007, 9) *Pathways to Higher Education*.

27 The 2017 UCAS *End of Cycle Report* 'Qualifications and competition' (pp.4-5) reveals that six times as many students are admitted to higher education institutions with A-Levels only than with BTECs.

28 See Scott Kelly, *Reforming BTECs: Applied General qualifications as a route to higher education*, HEPI Report 94, p.7 (available at: http://www.hepi.ac.uk/wp-content/uploads/2017/02/Hepi_Reforming-BTECs-Report-94-09_02_17-Web.pdf)

29 The 'Summary of key birth statistics, 1938 to 2016' published by ONS and UCAS 2017 *End of Cycle Report* (available at: https://www.ucas.com/corporate/data-and-analysis/ucas-undergraduate-releases/ucas-undergraduate-analysis-reports/2017-end-cycle-report). Also https://www.nrscotland.gov.uk/files//statistics/time-series/2016-birth/births-time-series-tab01.xlsx from National Records of Scotland

30 The sharp decline in acceptances between 2008 and 2010 was the result of the then government setting a stricter cap on the number of students that universities might recruit.

31 The reduction in attainment identified by UCAS is too small to be remarkable (and may in part be because of the changes in the nature and form of A-Levels), but there certainly appears to have been no improvement in attainment that would explain the improvement of the prospects of applicants.

32 Department for Education's *Statistical First Release SFR47/2017*, 28th September 2017

33 UCAS 2017 *End of Cycle Report*, 'Patterns by Applicant Characteristics', p.6

34 The UCAS analysis divides applicants into five groups, based on multiple features of advantage/disadvantage (MEM Groups), with 1 being the most disadvantaged and 5 the least.

35 ONS 'Births by parents' characteristics in England and Wales: 2016', published 27 November 2017 (available at: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/bulletins/birthsbyparentscharacteristicsinenglandandwales/2016).

36 Calculations based on data provided by UCAS.

37 See UCAS *End of Cycle Report* for 2017, 'Patterns by Applicant Characteristics', p.26.

38 For further detail on this, see John Thompson and Bahram Bekhradnia, *Male and Female participation and progression in higher education*, HEPI Report 41 (available at: http://www.hepi.ac.uk/wp-content/uploads/2014/02/41Maleandfemaleparticipation.pdf)

39 In 2017, the A-Level results of boys were marginally better than that of girls, a change widely attributed to changes in the nature of the examination which focused very much more on a final summative exam rather than on coursework. However, the issue with the progression of boys into higher education is not so much the performance of those who take the A-Level exam but the number of those who do so. There is no evidence at present that the change in the nature of the exam is likely to lead to an increase in the number of boys who take A-Levels.

40 See Libby Aston, HEPI Report 4, available at: http://www.hepi.ac.uk/wp-content/uploads/2014/02/8ProjectingDemandforUKHigherEducationfromtheAccessionCountries.pdf

41 See 'Student growth prompts money call', *BBC News*, 4 March 2004, available at: http://news.bbc.co.uk/1/hi/education/3530655.stm

42 See Phil Vickers and Bahram Bekhradnia, *The economic costs and benefits of international students*, HEPI Report 32 (http://www.hepi.ac.uk/2007/07/12/the-economic-costs-and-benefits-of-international-students/ and Gavan Conlon, Rohit Ladher and Maike Halterbeck, *The determinants of international demand for UK higher education*, HEPI Report 91 (http://www.hepi.ac.uk/wp-content/uploads/2017/01/Hepi-Report-91-Screen.pdf).

43 Yet, the finances of those universities able to continue to recruit European students paying the international student fee in place of the home fee may well improve as a result – see Conlon, Ladher and Halterbeck, 2017, HEPI Report 91.

44 Student Loan Company SLC SFR 05/2017: Student Support for Higher Education in England 2017: 2016/17 payments, 2017/18 awards, Tables and Footnotes, Table 4B (ii)

45 See Conlon, Ladher and Halterbeck, 2017

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This report projects demand for higher education in England until 2030. Produced seven years after the last HEPI assessment of demand for English higher education, it reviews how things stand today, in a very different policy environment, marked by increased tuition fees, the removal of student number caps and the prospect of Brexit.

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March 2018
ISBN 978-1-908240-37-8

Higher Education Policy Institute
99 Banbury Road, Oxford OX2 6JX
Tel: 01865 284450 www.hepi.ac.uk

Printed in the UK by Oxuniprint, Oxford
Typesetting: Steve Billington, www.jarmanassociates.co.uk