

Demand for Higher Education to 2029

Bahram Bekhradnia and Nick Bailey

1. This is the fifth report on demand for higher education that HEPI has published, updated each year in the light of the most recent information. Last year's report extended the review beyond 2020, to 2029-30. This year's report incorporates the most recent population projections from the Office of National Statistics and the Government Actuary's Department, and it also incorporates some regional analyses.
2. There are two main influences on demand for higher education – changes in the population from which students are drawn, and the ability and willingness of this population to participate in higher education (as well as the extent of that participation¹). This report looks at each in turn, both nationally and regionally.

Part I: Demography

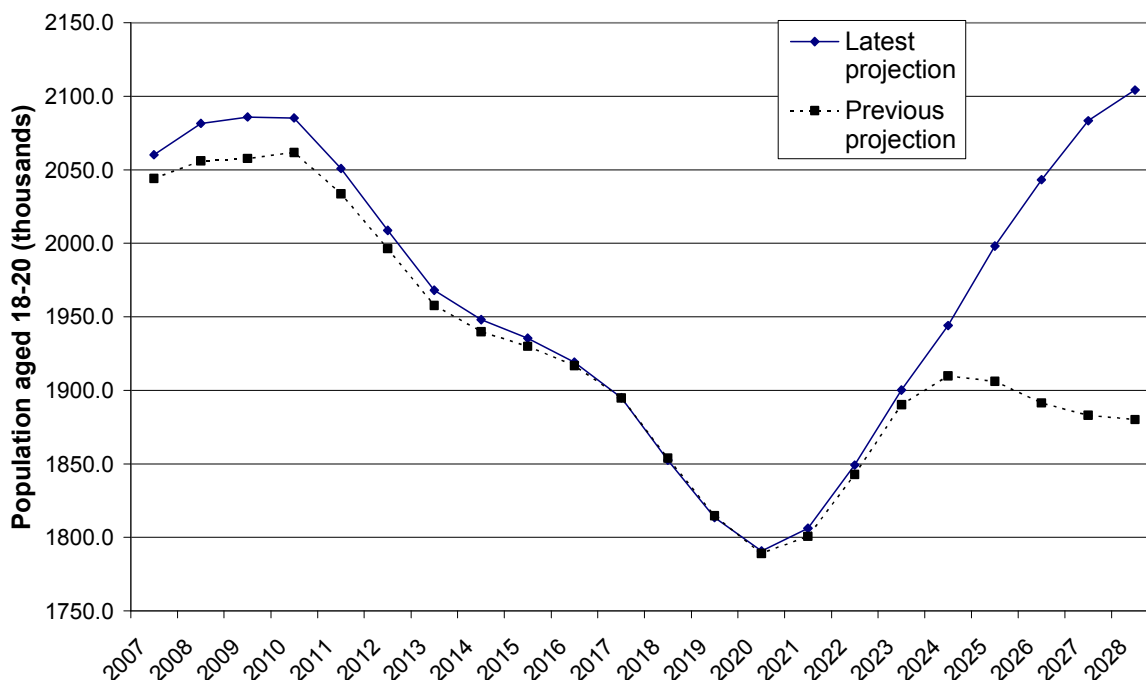
Full time demand

3. The increasing demand for higher education in recent years has been influenced largely by increases in the 17 to 30-year-old population – 64 per cent of full time higher education first degree entrants are under 21 and nearly 90 per cent are under 30 – figures that have stayed stable over the last 8 years².

¹ This will depend on the length of the course, the proportion of students completing, when those who do not complete leave, numbers repeating years of study and starting new programmes, and so on. In all the scenarios described in this report the net effect of any changes in these parameters is assumed to be negligible.

² Unless otherwise stated, all numbers in this report relate to English-domiciled students.

Figure 1: 18-20 year olds from 2007 to 2029³



4. Figure 1 above shows the way the 18-20 year old population has changed and how it will change in the next 20 years or so. Between 2007 and 2010 the 18-20 year-old population will continue to increase – by 4 per cent – and consequently higher education demand is set to continue to grow for at least three more years. After peaking in 2010, the number within this age group will decline significantly for the following decade – by more than 13 per cent between 2010 and 2020 – to the lowest number since the 1998-99 academic year.

5. As discussed in last year’s report, after 2020 the population starts to increase again. However, as shown in Figure 1 above, this year we are seeing very different projections for the population after 2024. In the previous report the population was predicted to flatten out from 2024 at around 1.9 million, well below the peak of 2010-11. The revised projections provided this year by ONS suggest that the 18-20 year-old population will continue to increase up to 2029 (the latest figures available). At this point the population aged 18-20 will be at its highest since 1990, almost 40 years previously.

6. This change in the population projection has occurred in respect of years where the children have not yet been born and therefore where most assumptions are being made. The differences between the two years’ population projections highlight the difficulty of predicting future demand for HE, and the uncertainties faced by HE institutions.

7. Changes in the assumptions about migration lie behind these changed projections. The most recent population figures assume 45,000 more immigrants of all ages migrating to the UK each year after 2015, which equates to over 600,000

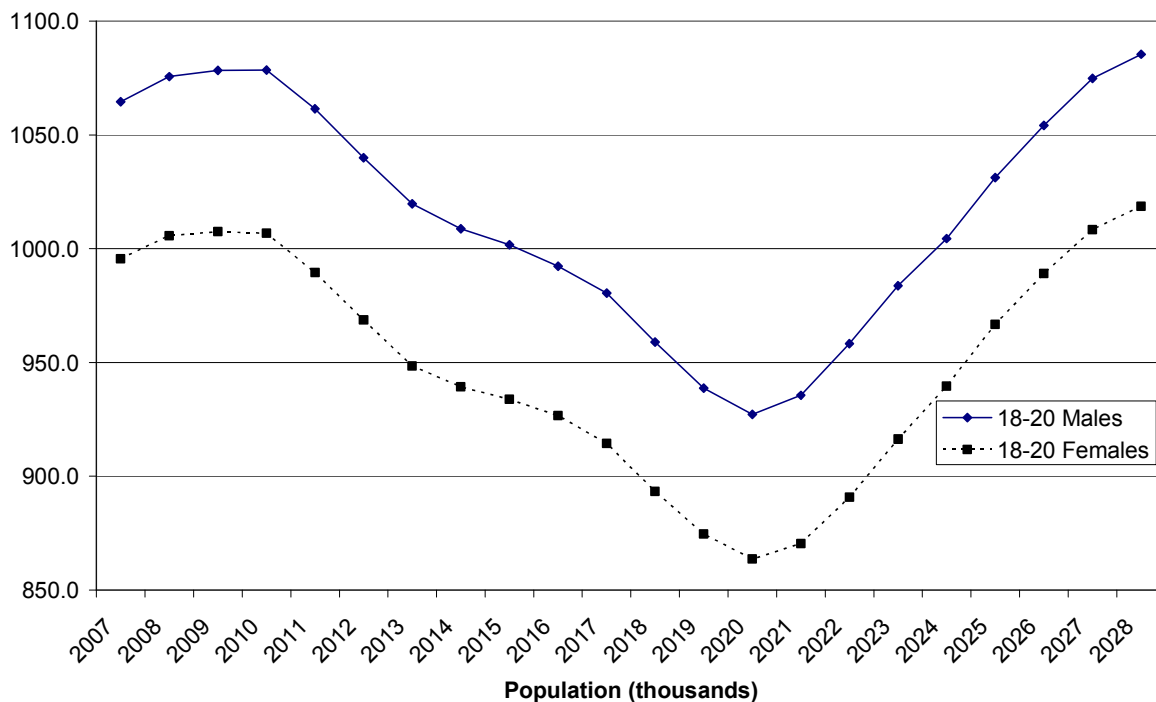
³ For the source of this and other tables and figures, please refer to the full report on the HEPI website at www.hepi.ac.uk.

by 2030. This change in the assumptions about migration is almost wholly accounted for by changes in the assumptions about migration from other EU member states. That in turn is influenced by experience following recent enlargements of the EU. It remains to be seen if these migrants display characteristics similar to the host population, but for the purpose of these projections it has been assumed that they will

8. The numbers underlying Figure 1 show, as a result of the new population projections, that there will be a significant reduction in the population that comprises the main client group for higher education over the next 13 years, followed by an even more dramatic increase over the following 8. Over this period the 18-20 population is predicted to change by 600,000 (a reduction of 300,000 followed by a similar increase, though not at a constant rate): 14 per cent of the current population will be lost and then regained.

9. Figure 2 below shows the 18 to 20-year old population split by gender. This shows that a higher proportion of this population are males, with the proportions remaining constant across the years at 52 per cent to 48 per cent. Each year for the foreseeable future there will be approximately 65,000 more males than females within the dominant higher education entrant age group.

Figure 2: 18-20 year olds from 2007-08 to 2029-30 by gender (000s)



10. Table 1 below sets out the change in full time student numbers that would occur over the next two decades, if higher education numbers rose and fell in line with the demographic changes discussed above, and assuming all other influences on demand remain unchanged – most notably school achievement and the participation rates for each male and female age group. Subsequent sections factor in these other features.

Table 1: Changes in full time English domiciled student numbers at English HEIs expected from changes in the population

	Estimated student numbers in 2007-08	Change in numbers 2007-08 to 2020-21 arising from population change	Total student numbers arising from population change in 2020-21	Change in numbers 2007-08 to 2028-29 arising from population change	Total student numbers arising from population change in 2028-29
All males	375,043	-25,368	349,675	11,462	386,505
All females	482,405	-33,856	448,549	13,496	495,901
All	857,448	-59,224	798,224	24,958	882,406

11. Previous reports have pointed out that the social composition of the population is changing – fewer are being born in the lower socio-economic groups and more in the higher. This, combined with the very different rates of HE participation between the different groups, means that even the core population on which other refinements are based cannot be derived from these raw data. Calculations reproduced in the full report show that, if nothing else changes – i.e. even if there are no other changes in participation – differential births by different social groups will lead to a 5 per cent increase in the proportion of the under 21 age group participating in higher education by 2020-21, and a 9 per cent increase by 2029-30. Table 1 above therefore needs to be modified to reflect the different rates of population change between the social groups.

12. Table 2 therefore modifies the data shown in Table 1 to take this into account, and provides the population basis for the discussion in the remainder of this report.

Table 2: Changes in full time English domiciled student numbers at English HEIs expected from changes in the population and social class composition

	Estimated student numbers in 2007-08	Change in numbers 2007-08 to 2020-21 arising from population and social class mix change	Total student numbers arising from population change in 2020-21	Change in numbers 2007-08 to 2028-29 arising from population and social class mix change	Total student numbers arising from population change in 2028-29
All males	375,043	-14,477	360,566	32,058	407,101
All females	482,405	-20,519	461,886	38,904	521,310
All	857,448	-34,996	822,453	70,963	928,411

13. It will be seen that allowing for the effect of differential births and participation by the different social groups leads to an anticipated decrease of nearly 35,000 students in 2020-21 compared to 2007-08 instead of a reduction of over 59,000, and an increase of over 70,000 by 2029-30 instead of less than 25,000.

14. If population changes were to be the only factor to affect student numbers then there would be nearly 930,000 full time students in higher education by 2029-

2030, an increase of over 10 per cent over 2007-08. This is the core analysis on which the refinements discussed below are based.

Part time demand

15. Table 3 shows how the changing population will affect part time numbers in the future. Whilst demographic changes will lead (all else being equal) to an increase in full time numbers – of 10 per cent between 2007-08 and 2029-30 – part time numbers will see an increase of 7 per cent.

Table 3: Changes in part time numbers due to population change (FTEs)

	Estimated student FTE in 2007-08	Total student FTEs arising from population change in 2010-11	Total student FTEs arising from population change in 2020-21	Total student FTEs arising from population change in 2028-29
All males	64,077	65,989	68,565	70,632
All females	106,969	109,173	112,156	114,351
All	171,046	175,162	180,720	184,984

16. Beyond the likely effects of demographic change, this report does not consider changes in part time numbers in any detail. This is not because part time students are not important, nor because there is not considerable potential to increase part time numbers. It is, rather, because this report is a study of student demand and it attempts to make projections based on known facts and trends, and there are as yet no indications that part time numbers are likely to increase – other than as a result of demography. It is true that there has been a great deal of exhortation – and there have been a number of official policies – aimed at increasing the number of part time students, especially those in employment. However, these have been matched by other policies, like the removal of funding for students studying for equivalent and lower qualifications (ELQs) and the imbalance of student support between full time and part time students, which may make part time study less attractive. In any case there are no indications so far that policy changes are significantly affecting demand. If such trends become apparent in the future, then they will be reflected in future analyses.

Part II: Level 3 participation

17. Part I of this report has considered the impact of demography on higher education demand. Part II looks at the factors that determine eligibility and willingness to participate in higher education, beginning with the most important indicator – the proportion of the population taking A levels.

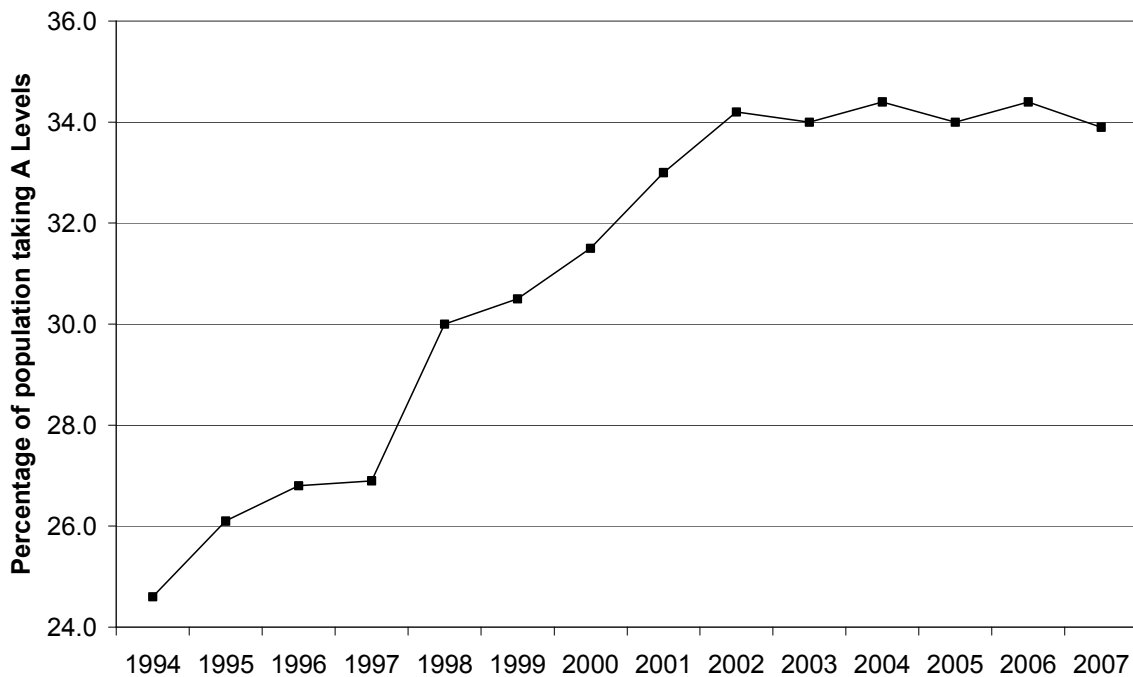
A level passes

18. Among A level students, it is the proportion of young people taking GCE (as distinct from VCE) A levels that is the major factor in influencing the numbers that go on to higher education. Far more pupils take these examinations, and the

Department for Innovation, Universities and Skills has estimated that 84 per cent of those with 5 GCSEs grades A-C who take GCE A levels go on to study in higher education. A far smaller number of A level students take vocational A levels (VCE A levels, previously known as Advanced GNVQ), of whom about 51 percent are estimated to enter higher education.

19. So for there to be a substantial increase in higher education participation there would need to be an increase in the proportion of young people taking A levels, and such an increase is not occurring. Figure 3 below shows the pattern of participation in GCE/VCE A level since 1994. It will be seen that the proportion of 17-year olds achieving 2 A levels increased rapidly until 2002, when the increase levelled out. There is no evidence here that achievement at the key point in the supply chain is changing in a way that suggests that higher education participation will increase in the future.

Figure 3: Proportion of 17-year olds with 2 or more GCE/VCE A levels



Gender disparity

20. Previous HEPI reports have highlighted the gap between male and female entry to higher education, which itself simply reflects the much higher achievement of girls at A level. The underperformance of boys in this respect shows no sign of abating. As Table 4 shows, the proportion of 19-year-old females with two or more A levels over the past four years has consistently been 8-9 percentage points higher than the males. This means that although there are over 20,000 more male 19-year-olds in the country, the figure is reversed when looking at potential higher education entrants⁴. The implications of this for an eventual increase in HE demand are discussed below.

⁴ In 2007 there were 23,000 more male 19-year-olds than females in England but almost 25,000 more females qualified to Level 3 than males.

Table 4: Proportion of 19-year-olds qualified to A Level by gender

	Male	Female	All
2004	34.4%	42.9%	38.5%
2005	34.2%	42.8%	38.4%
2006	33.6%	42.6%	38.0%
2007	33.3%	42.1%	37.6%

21. The Government has put a great deal of effort into widening participation, and these data suggest that this might be most effective if directed at raising boys' achievement at GCSE and persuading them to take Level 3 exams.

Non-progression post-GCSE

22. Progression to Level 3 is the most important factor in increasing participation by young people, whether by males or females. Table 5 below shows that large numbers of pupils with good GCSEs do not at present progress to Level 3: 52 per cent of pupils with 7 GCSEs, grades A*-C have not achieved a Level 3 qualification by 18, 39 per cent of those with 8 GCSEs have not done so, 21 per cent of those with 9 GCSEs and as many as 14 per cent of pupils – 19,000 – with 10 or more GCSEs grades A*-C fail to progress to Level 3. If they had, then the number of young entrants to higher education might have been 58,000 or more greater than the 322,000 who entered in 2006-07. These are pupils in the top 50 per cent of achievers at GCSE. There is no good reason why the majority of them should not continue their education to a higher level. Indeed, it is one of the least satisfactory aspects of our education system that such a high proportion of young people do not go on to achieve Level 3 qualifications, and it is this that the Government is tackling with its new requirements for young people to continue to receive education and training to 17 and then 18 plus. This is likely in due course to impact significantly on demand for higher education. This point is taken up further below.

Table 5: Non-progression to Level 3 from GCSE, by number of GCSEs held⁵

GCSEs (A* to C) at 16	Number not progressing to Level 3 by 18	Percentage of the relevant group
None	154000	99%
1 to 4	122000	90%
5	21000	70%
6	19000	61%
7	18000	52%
8	17000	39%
9	16000	21%
10+	19000	14%
Total	386000	60%

Regional analysis

23. For the first time this report includes analysis of regional trends across England. Although all regions of England are expected to see a large decrease in the 15 to 19-year old population to 2020 Table 6 shows a larger reduction in the Northern regions than elsewhere. In the 11 years after 2020 the young population will grow in all regions, but the North East and North West are not expected to reach the 2006 figure. In the Southern and Eastern regions all of the reductions to 2020 will be more than offset by an increase over the following 10 years and an eventual rise in the 15 to 19 population.

Table 6: Changes in 15 to 19-year-old population to 2031 by region

	15 to 19-year-old population in 2006	Percentage difference to 2020	Percentage difference to 2031
North East	174.0	-19%	-7%
North West	474.3	-17%	-5%
Yorkshire and The Humber	356.2	-13%	5%
East Midlands	295.3	-10%	7%
West Midlands	367.7	-13%	1%
East	355.5	-5%	12%
London	441.3	-8%	9%
South East	535.5	-8%	7%
South West	334.8	-9%	7%

24. The changes shown in Table 6 imply that the current differences in demand for HE across the regions of England are likely to grow further in the future, putting increasing pressure on higher education institutions in the North.

25. The significant differences in the regional population profiles are repeated in terms of A Level achievement, as is illustrated in Table 7 below. There seems to be

⁵ These data are derived from matched administrative data, and it is possible that they overstate the extent of non-progression to some extent. In particular it may be that some of those apparently not progressing have in fact progressed but have failed to be matched; others may have left the country, and others will have died. However, it is unlikely that such considerations will greatly impact on the overall findings.

a marked regional split, with the three Southern regions, plus the Eastern region, currently showing 37-42 per cent or more of their young population with 2 A Levels, and the Northern and Midland regions performing considerably less well.

Table 7: Proportion of 18-year-olds with two A Levels by region

	Percentage of 18-year-old population to have achieved two A Levels by 31 August				Percentage point change 2003-2006
	2003	2004	2005	2006	
ENGLAND	35%	36%	35%	36%	0.2%
North East	29%	29%	29%	29%	0.0%
North West	32%	32%	32%	32%	0.1%
Yorkshire and the Humber	31%	31%	31%	32%	0.2%
East Midlands	33%	34%	34%	33%	-0.1%
West Midlands	33%	33%	33%	33%	0.2%
East of England	39%	39%	38%	37%	-1.7%
Greater London	35%	36%	37%	38%	3.1%
South East	43%	43%	42%	42%	-0.3%
South West	38%	38%	37%	37%	-0.8%

26. As the population in the South of England continues to grow faster than that in the North, the difference between the respective numbers of young people achieving A levels (and therefore likely to be able to enter higher education) has widened. In order to compete with universities in the South, universities in the North will need to recruit more students from outside their region.

27. Table 8 below identifies the proportion of full time first degree accepted applicants in 2007-08 who came from the region in which the institution was located. This does not show any marked pattern, with Greater London and the North West showing a relatively high proportion, and the East Midlands a rather low proportion.

Table 8: Proportion of accepted applicants from institution's region

Region of institution	Proportion who came from institution's region
North East	48%
North West	63%
Yorkshire and the Humber	40%
East Midlands	34%
West Midlands	54%
East of England	49%
Greater London	63%
South East	47%
South West	42%

28. The figures in Table 8 do not appear to identify any particular problems faced by the institutions in the Northern regions, as the proportions of students from their own regions are not particularly high. However, looking at this issue in a different way appears to identify a cause for concern. Table 9 shows the proportion of entrants who stayed in their home region to study at HE level.

Table 9: Proportion of accepted applicants studying at an institution in their home region

Region of institution	Proportion who stay in home region
North East	65%
North West	66%
Yorkshire and the Humber	59%
East Midlands	43%
West Midlands	50%
East of England	28%
Greater London	57%
South East	41%
South West	47%

29. Higher education institutions in the North of England are retaining the highest proportion of “home” students. In fact, 89 per cent of the accepted applicants from the North East in 2007 chose to go to institutions in the North of England. Likewise 85 per cent of those from the North West and 80 per cent from Yorkshire and the Humber stayed in the North of England to study in HE. This means that institutions in the Northern regions are already retaining a very large proportion of potential students from the immediate area and have little scope to increase numbers from this group. This is especially important considering the fact discussed above that it is the Northern regions where the population will decline the most. This underlines the importance for universities in these regions of attracting applicants from further south.

Part III: HE Demand in the Future

30. The previous sections have discussed different aspects of demand, that may lead to increased numbers in the medium term and none of which are likely to lead to reductions in demand. It should be emphasised that the factors discussed are all matters that can be quantitatively assessed, and do not allow for non-quantitative factors, such as, for example, changes in the employment market, that might influence the propensity of young (or older) people to go to university.

31. One of the most striking discrepancies in HE participation at present is the marked difference in participation between males and females – a phenomenon that is common throughout the world, and which reflects differences in achievement at school.

32. In 2007-08 there are estimated to have been nearly 50,000 fewer full time male students aged 18-20 than female (and over 100,000 fewer full time students of all ages), whereas in the population at large there were 70,000 more males than females aged 18-20. If the performance of males had matched that of females then there would have been more than 130,000 more male students of all ages (506,000, compared to the 375,000 that in fact participated in that year, and compared to 482,000 female students). That is shown in Table 10 below, and in itself is a remarkable finding.

Table 10: Projections of full-time student numbers, based on improvement in the performance of males

	Estimated student numbers in 2007-08	Estimated student numbers in 2007-08 if male participation equal to female	Estimated student numbers in 2020-21 if male participation equal to female	Estimated student numbers in 2028-29 if male participation equal to female
All males	375,043	505,951	489,188	550,874
All females	482,405	482,405	461,886	521,310
All	857,448	988,356	951,074	1,072,184

33. Table 10 also shows that if over the next 20 years males do indeed succeed in improving their performance to match that of females, then that would mean that in 2029-30 instead of the 71,000 additional full time students that there would be on present patterns of participation, there would be a further 144,000 additional students – an increase over 2007-08 of 215,000 altogether – and full time student numbers would rise from their present level of 857,000 to 1.072 million.

34. Although there is absolutely no indication at present of any improvement in the performance of males, there is no reason in principle why that should not over time occur – in the same way as just 20 years ago males greatly outperformed females in terms of school achievement and subsequent higher education participation. It would therefore be reasonable to suppose that there will be some improvement in the next two decades.

35. The most compelling reason to believe that there could be some increase in the proportion of young people participating in higher education arises from the large numbers of pupils who do not obtain a Level 3 qualification despite having obtained better than average GCSEs. The analysis in paragraph 22 above suggested that if these had stayed on in education and taken A levels, then that alone would have increased the number of students by nearly 20 per cent, or nearly 150,000. Again, while it may be implausible to think that all might do so in future, there is every reason to think that some may, particularly now that the law requires pupils to continue in education and training beyond the age of 16. This reform, in view of the large numbers at present leaving education at 16, could have the largest impact on HE participation since the introduction of GCSEs in 1988.

36. As in previous years, there seems little to be gained from attempting a precise prediction of the number of students 20 years hence. However, this report has shown the likely range of demand, and more importantly some of the factors that are likely to impact future numbers.

37. Demography provides the basis for any assessment of future demand. If nothing else changes, then we can be reasonably confident that total demand will increase between 2007-08 and 2010-11 by about 25,000 FTEs, that numbers will reduce back to about 25,000 below 2007 levels by 2020-21, and will then increase again between 2020-21 and 2029-30 by about 110,000, to about 85,000 above the level of 2007-08.

38. However, there are strong reasons for thinking that participation will increase, and that the base level suggested by demography alone will be exceeded. Table 11

below offers two projections, the first based on changes attributable to population-related factors alone – this is the base projection that will be realised if there are no changes in participation patterns – and a high variant, based on boys catching up half the difference between the current performance of males relative to females in full time participation, and also half of those with 7 or more GCSEs who currently fail to achieve a Level 3 qualification doing so in future. On these two bases student numbers might increase by between 85,000 (the base projection) and over 270,000 (the high variant) between 2007-08 and 2029-30, or by between 8 and over 25 per cent.

Table 11: Indicative projection of student numbers

		Estimated student FTE in 2007-08	Total FTE 2020-21	Total FTE 2028-29
Base projection	Full-time	857,448	822,453	928,411
	Part-time	171,046	180,720	184,984
	Total	1,028,494	1,003,173	1,113,394
High variant	Full-time	857,448	943,286	1,119,336
	Part-time	171,046	180,720	184,984
	Total	1,028,494	1,124,007	1,304,319