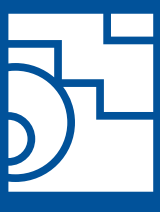
Research report

The future size and shape of the higher education sector in the UK: threats and opportunities



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Research reports

This series of Research reports published by Universities UK will present the results of research we have commissioned in support of our policy development function. The series aims to disseminate project results in an accessible form and there will normally be a discussion of policy options arising from the work.

This report has been prepared for Universities UK by Nigel Brown, Bahram Bekhradnia, Sue Boorman, Alan Brickwood, Tony Clark and Brian Ramsden. Universities UK acknowledges, with thanks, the contributions of participants at the seminars held during the course of this project.

Nigel Brown Associates is an association of freelance consultants and researchers who work with Nigel Brown to bid for and undertake research and consultancy projects for national and institutional clients. The members of the association vary from project to project depending on the range of expertise required.

The future size and shape of the higher education sector in the UK: threats and opportunities

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Foreword

This is the second report of a major project that Universities UK initiated last year. The project is intended to provide a framework for analysing how the size and shape of UK higher education may change over the next twenty years in response to demographic changes.

Our first report, which was published in March, analysed the demographic data on the age groups most relevant to the future demand for higher education. The analysis led to a set of demand-based projections for the four countries of the UK for 2027. A concluding section of the first report provided an initial analysis of what the key uncertainties and drivers might be for the different student markets that universities currently operate in. The projections provided an initial baseline for later work as it was recognised that there are a number of external factors that could have a significant impact – both positive and negative – on future student demand over the next twenty years.

The subsequent phase of the project – as reported here – has examined the potential impact of known and readily foreseeable policy developments as well as the external drivers. From this analysis three scenarios for the size and shape of the sector in 2027 have been developed and their impact on the different types of student market have been considered. The scenarios do not represent our predictions of what might happen but describe in a stark form what could occur if particular policy choices were made.

In a final section the report discusses how universities might respond to changing market conditions. It recognises that, as well as responding to the changing nature of student demand, universities will need to consider opportunities that lie outside core teaching and research activities. These developments also have implications for government policy and these will be discussed in an English context in Universities UK's commissioned submission to the current review of higher education being undertaken by the Secretary of State.

This report provides input to the strategic planning process of member institutions as well as making a contribution to the debate on the future of the higher education sector in the UK, and our thanks go to Nigel Brown Associates for their hard work in preparing it.

Sir Muir Russell

Chair, Project Steering Group and Principal, University of Glasgow

Summary

Nature and purposes of this study

1 This report takes forward the assessment of the future size and shape of the higher education sector[1] in the UK in twenty years' time, building on the demographic projections in the first report on this study[2]. It is essential to emphasise from the outset that this is **not** an attempt to forecast the future, but rather an attempt to provide higher education institutions with some warning of the possible challenges that lie ahead through the development of scenarios that reflect possible futures for higher education so that they are well placed to anticipate those challenges.

2 The experience of the last twenty years shows why it is so difficult to **forecast** developments so far ahead. In 1987 demographic decline in the number of 18- to 20-year-olds was about to hit the higher education sector. However, a combination of factors served instead to produce a very rapid expansion at least up until the mid-1990s particularly in full-time undergraduate numbers, which has resumed subsequently, mainly as a result of a demographic upturn. These factors included:

- the introduction of a common qualification at 16+ (GCSE) leading to increased numbers staying on in education beyond the age of 16 in England and Wales;
- the desire on the part of the National Health Service that new entrants to nursing and other professions allied to medicine should be expected to gain an initial higher education qualification and to enter into partnership with higher education institutions to deliver this requirement;
- a significant change in the expectations of young women and their families that they would participate in higher education (partially fuelled by the developments in nurse education);
- the introduction of a new public funding method for full-time undergraduates, which provided a real incentive to institutions to recruit additional students.

3 Apart from the obvious point that significant change to the environment in which institutions operate can and does happen sometimes very rapidly, the main conclusion from the experience of the last twenty years is that the most important factor is how well placed institutions are to recognise the potential threats and opportunities posed by significant external changes and to respond to these changes in order to grasp the opportunities and manage the threats.

4 It is also important to emphasise that this study has been predominantly concerned with the future of teaching and learning and, in particular, the prospective level of demand for the various student markets with which the publicly funded higher education sector engages. The study is only concerned with research activity to the extent that it is for some universities the primary determinant of institutional reputation, which in turn is a significant determinant of student demand, especially for students from outside the UK and at postgraduate level. Research activity is also, for some institutions, a major source of income that can serve, other things being equal, to mitigate the impact of any fall in income arising from a reduction in demand from students for teaching programmes. The same arguments apply to knowledge transfer activities which overlap with both teaching and research and can serve as an alternative source of income.

5 Our approach has built on the demographic projections and consideration of the main student markets presented in our first report. It has included:

- an assessment of the level of uncertainty in the demographic projections arising from uncertainty in the key assumption about net inward migration over the next twenty years and from changes in the socio-economic mix of the population;
- an assessment of the impact of current and prospective policies (such as the introduction of the new diplomas alongside A-levels, and the requirement for young people to remain in education and training up to the age of 18) and key drivers of student demand, bearing in mind that policies can and do change in response to changes of government or evidence that policies are not delivering;
- the development of three scenarios for the higher education sector in 2027 based on key uncertainties and the drivers underpinning them (in particular the level of public and private investment in higher education, the level of competition from new non-traditional providers into the different higher education student markets and the level of engagement by employers with the higher education sector).

6 This analysis incorporates an assessment of the threats and opportunities presented to the sector by each of the scenarios and is brought together to provide an overall assessment of the size of the higher education sector by 2026/27 under the three scenarios broken down by the different student markets. We also provide an analysis of how, under each of the scenarios, the pattern of institutions might be expected to change.

7 The final section of the report examines the way in which universities might, individually and collectively, be expected to seek to anticipate these threats and opportunities, building on the strategic planning and monitoring of the external environment that they already undertake.

Demography

8 As our first report demonstrates, higher education faces significant demographic change over the next twenty years amongst the age groups from which it traditionally recruits full-time and part-time undergraduates. In particular the number of 18- to 20-year-olds who make up over 70 per cent of entrants to full-time undergraduate programmes is projected to fall sharply from 2009 to 2019 before rising again up to 2027. The older age groups, from which part-time undergraduates are mainly drawn, will, on the other hand, experience modest growth over the same time period.

9 Table 1 below summarises the demographic-based projections for full-time undergraduates for 2019 and 2027 compared to current numbers for the UK as a whole and the four countries of the UK. It should be noted that these projections assume no change in the current flows of students between the different countries of the UK.

Table 1
Demographic-based projections of full-time undergraduate student numbers 2019/2020 and 2026/2027

	2005/06 Students (000s)	20019/2020 Students (000s)	percentage change 2005/06 to 2019/2020	2026/2027 Students (000s)	percentage change 2005/06 to 2026/27
England	976.8	930.1	-4.8	1,004.7	+2.7
Wales	64.8	59.3	-8.5	61.6	-4.9
Scotland	125.5	111.8	-10.9	115.0	-8.4
Northern Ireland	31.7	27.5	-13.2	27.5	-13.2
UK	1,198.8	1,128.7	-5.9	1,208	+0.8

Source: Universities UK (2008) *The future size and shape of the higher education system in the United Kingdom: demographic projections and GAD 2006 projections.*

10 These figures demonstrate both the sharp decline to 2019 across the UK and also reflect the different pattern of demographic change for the key 18- to 20-year-old age groups across the four countries of the UK. Demographic projections for the nine English regions are not available on the same basis. However, the 2004-based projections for the English regions showed a variation in the decline of the number of 15- to 19-year-olds from over 15 per cent in the North East and the North West regions to reductions of only 4.7 per cent in the Eastern region and 7.1 per cent in London over the same period. Although the pattern of recruitment within England is complex, these differences are likely to impact significantly on institutions that recruit most of their undergraduates locally or regionally.

11 The 25- to 50-year-old-age groups from which most part-time undergraduates are drawn show a more favourable demographic pattern over the next twenty years and the demographic-based projections consequently show a modest increase in part-time undergraduates over the next twenty years for the UK as a whole, although for Scotland the projection is for a decline in part-time undergraduates. Some English regions are also projected to experience a decline in the number of 25- to 50-year-olds at least up to 2020, which may produce a reduction in part-time undergraduate enrolments that is predominately local.

12 There are two major sources of uncertainty in the demographic-based student number projections:

- the uncertainty in the projected rate of net inward migration; and
- the social class mix of the relevant populations.

13 The student number projections also assume that migrants and their children will behave in the same way as UK-born citizens in relation to participation in higher education. There is no way of testing out this assumption in the short term and we have therefore assumed throughout that there will be no marked behavioural differences between new migrants and others.

14 The 2006-based population projections prepared by the Government Actuary's Department (GAD) and published by the Office for National Statistics (ONS) showed a sharp increase in the projected rate of net inward migration compared to the previous projections prepared in 2004. Given the political sensitivity of migration rates we have prepared an alternative student projection using the 2004 GAD projection of migration, which was significantly lower. Overall, using this basis, student numbers in higher education would be around five per cent lower than using the 2006-based population projections and full-time undergraduates 6.5 per cent lower or nearly 80,000 across the UK as a whole.

15 One of the major factors affecting the propensity to enter higher education is social class. It is known that those from higher socio-economic groups are more likely to achieve five GCSEs grades A-C at the age of 16 and have a higher propensity to stay on in education post 16 and gain level 3 qualifications at the age of 18 and hence progress to higher education.

16 The Higher Education Policy Institute (HEPI), in its reports on projections of changing student numbers in England, has drawn attention to the changing social class balance within the English population and its possible impact on full-time undergraduate demand[3]. There is a shift in the balance between socio-economic groups as birth rates in **England** have been declining faster amongst those from the lowest socio-economic groups. The changing balance in the socio-economic make-up of the young population is therefore one of the major uncertainties about future numbers gaining level 3 qualifications and entering higher education.

17 Although it is unclear how far this analysis of changes applies to the socio-economic make-up of the population of the UK as a whole, we estimate that such changes could increase full-time undergraduate numbers by around 30,000 by 2026/27, leaving a net uncertainty of around 50,000 within the demographic-based projection of full-time undergraduates.

18 An important factor in the size and shape of the sector in twenty years time will be the way in which institutions respond to the decline in demand for full-time undergraduate places implied by these projections. One would expect that competition for full-time undergraduate students would increase, but some institutions will probably be able quite readily to maintain current enrolment levels, although not necessarily in every subject. It is interesting to note in this context that, since 1999, during a period of demographic increase, full-time undergraduate numbers have risen by over 18 per cent across the UK as a whole. Over this period not all institutions have, however, increased their full-time undergraduate places. Furthermore, a significant element within the increase has been a 77 per cent growth in the number of full-time undergraduates from outside the EU, while numbers from the EU have actually fallen, notwithstanding the new accessions in May 2004.

19 Other options for institutions as they respond to a reduction in full-time undergraduate numbers include:

- seeking out new markets;
- increasing the level of activities in areas other than provision for full-time undergraduates;
- concentrating on niche markets;
- increased collaboration to engage the market better as with some current initiatives on international marketing and recruitment.

Factoring in current trends and policies

20 We have identified and analysed four main areas of policy relevant to future student demand:

- The government's policies for 14- to 19-year-olds which aim to increase the proportion of young people gaining level 3 qualifications and progressing to higher education through the introduction of diplomas and the requirement on young people to remain in education or training until the age of 18. The impact of these policies is uncertain but it should be noted that participation rates have scarcely increased since 2000. If these measures were, together, to achieve a three percentage point increase in participation in undergraduate education, the overall increase in entry would be about 25,000 or 70,000 across all years, predominantly in full-time undergraduate numbers.
- The government's decision to withdraw funding for students studying for a qualification at an equivalent or lower level (ELQ) than one they already have will particularly affect enrolments on part-time undergraduate programmes by as much as 40,000 students in total.
- The trend for more young entrants to higher education selecting to study part-time. This is modest and from a low base. On current trends we would not expect a change of more than about 3,000 students choosing part-time rather than full-time study over the next twenty years, particularly in the absence of changes in the pattern of student support.
- The impact of the increasing level of student loan debt on demand for postgraduate study. This could act as a disincentive to study at postgraduate level immediately following graduation, but this effect is also likely to be small, representing a reduction in demand for postgraduate study from home students of around 5,000 a year.

21 Outside of demographic factors we have not been able to identify any other current policies or drivers of demand that are likely to lead to significant changes on their own.

Scenario planning

22 It is important to emphasise that scenarios are devices for exploring a range of possible futures in the context of significant uncertainties in key areas. They are not forecasts of what will happen.

23 We used a two-stage process in developing the scenarios based on key uncertainties and drivers – a series of three seminars on key drivers of demand (funding for students and institutions; increased competition in student markets; and increased employer engagement) and a facilitated scenario planning event based around axes of uncertainty – essentially providing a measure of the ranges of the key uncertainties.

24 However, we also considered briefly, as is customary in scenario planning, the major international and national developments that could have an enormous impact on the UK higher education sector. These included climate change, increased international terrorism, the break-up of the United Kingdom and the accession of Turkey to the EU. All could have a major impact on demand for higher education in the UK, particularly on engagement with international student markets, but we judged that in the first instance these were issues and risks for governments to manage rather than for institutions directly.

25 The main conclusions from the seminar on **finance and funding** issues were that over the twenty year period:

- in the face of increased competition for public funding (within generally less benign economic conditions than had been the case in recent years) and in the absence of significant additional funding from employers, an increased contribution to the costs of higher education would be expected from individuals – graduates and students from well-off families – and these conditions were likely to apply across the whole of the UK. This shift was likely even with the possibility of successive changes of government;
- higher education institutions faced a significant challenge to manage performance and secure long-term sustainability in the face of increased staffing costs and pressures on income;

- public funding would continue to be available to support widening participation and certain subjects judged to be of national strategic importance or to meet the manpower requirements of key public services. Certain types of part-time undergraduate programmes might gain access to public funding on a *pro rata* basis.

26 The main conclusions of the seminar on **assessing the potential impact of external factors on demand** were as follows:

- there were some downside risks to the UK's position in the international market, not least the desire of other countries to increase their shares. The maintenance of the UK's reputation and those of individual institutions – as well as the quality of service delivered – were key to minimising the risks;
- there was likely to be some modest increase in private providers over the next twenty years, but falling short of a full opening up of the UK higher education market;
- the full application of digital technology to the delivery of the curriculum and assessment remained uncertain even on a twenty-year timescale because, so far, the investment required had not been forthcoming in the UK. Nevertheless, the current generation of undergraduates were the first to be fully digitally savvy. Pressures from students could prove to be a touch paper for the required investment. This together with developments in the technologies themselves such as hand-held devices accessing the internet wirelessly were likely to drive developments of increased applications of technology in the learning process and the management of learning.

27 The main conclusions from the seminar on **employer engagement** were as follows:

- notwithstanding the evidence to date of limited engagement, there was a small but real chance that over the twenty-year period employer engagement with the higher education sector would have increased based on the pioneering efforts of a few institutions which had recognised the possible synergies from working with employers on several fronts – enterprise, innovation, research and training and staff development. However, even by the end of the period it would be limited to a subset of institutions;
- the co-funding approach being adopted by the Higher Education Funding Council for England (HEFCE) carried inherent financial risks for institutions if employers did not keep the bargain or preferred more fully subsidised provision;
- increased employer engagement required the emergence of a system of part- qualifications based on a properly articulated credit accumulation and transfer system;
- the demographic decline in the number of 18-year-olds might cause employers to compete with higher education institutions for young people with level 3 qualifications.

28 In the development of the scenarios a series of key drivers and their associated axes of uncertainty were identified. These are set out in Table 2.

Table 2

Key areas of uncertainty and axes of uncertainty

Driver	Axes of uncertainty
Level of economic growth	High levels of economic growth across the period enable high levels of public **and** private investment in higher education to be sustained. Overall, historically low level of economic growth over the next twenty years with two significant periods of recessions lead to a reduced level of public **and** private investment in higher education.
Public funding of higher education	Maintenance of the status quo with current degree of regulation of fees. Reducing the public contribution with greater targeting of public funding on key groups, increased private contributions.
Government regulation of fees and quality	Government regulation is reduced. Government regulation is increased.
Cost pressures on institutions	Costs outstrip income, threatening sustainability. Costs are brought more into line with prospective income.
Quality of provision	Institutions reduce quality to sustain demand and/or reduce costs. Institutions sustain quality of provision.
Changes in pre-18 education and training	Increased propensity to enter higher education – higher proportion of the age group achieves level 3 and chooses to enter higher education. Lower propensity to enter traditional higher education because of the development of a more prestigious vocational route through Foundation degrees offered in further education colleges – similarities with the historic Scottish position.
Student and employer demand	UK higher education remains individually driven. UK higher education becomes more employer driven.
Changing aspirations	Three markets – 18+, people in work (or seeking to re-enter the workforce) and the retired; greater or lesser development of these markets.
Internationalisation	International demand dependent on reputation and quality. UK sustains its position in the international market with the exception of a limited number of high prestige institutions. UK higher education institutions lose substantial market share. An increasing proportion of UK students attend overseas institutions. Incremental increases in trans-national provision but remaining modest.
Impact of technology on learning	Revolutionary – global, online independent study with little or variable institutional affiliation. Evolutionary – increased use of information and communications technology (ICT) in delivery and learning management but without threatening institutional patterns.
Levels of flexibility	The full-time three/four year undergraduate degree remains the norm. Learning becomes entirely personalised and flexible re time and place with more widespread recognition of part qualifications.
The nature of the higher education workforce and human resources management	Inflexible system of national pay bargaining with few links to business and performance. A flexible dynamic higher education labour market with rewards linked to performance and movement between academia and other sectors coupled with increased flexibility and casualisation.
The future of higher education institutions as we know them	Much more diverse (like the United States only more so). Less diverse – more homogeneous, merging missions.
Divergence of the four UK systems	Increasing diversification and competition between the four nations (and perhaps increasingly between different English regions) with real impact on student behaviour. Systems become more similar under similar external pressures.

29 The three scenarios were constructed using these axes of uncertainty. There were a number of common assumptions:

- all start from the baseline demographic projection to 2026, recognising variation across the regions and countries of the UK and the uncertainties arising from net inward migration rates. All also incorporate the corresponding impact of demographic change across the EU and the impact of the Bologna process on competition within Europe;

- all assume that the British Council assessment of international student demand published in 2004 is soundly based, although it is currently under review on a country by country basis;
- none of the assumptions assumes an increase in the level of public funding for teaching and learning because of other pressures on the public purse from services to meet the needs of an ageing population. However, all assume a continuing commitment to invest in higher education;
- all the scenarios assume that the delivery of higher education will have been changed significantly by developments in communication and digital technologies but to a different degree in each scenario;
- there will be some increase in the engagement of employers with higher education teaching and learning although it will vary in extent and kind across the three scenarios;
- all the scenarios assume a common trajectory for the development of the different higher education systems that have emerged in the UK under devolution.

30 The first scenario, **'Slow adaptation to change'** has the following key characteristics:

- student demand changes in line with demography and few significant new sources of demand are identified. Total public funding falls in line with student numbers. Governments retain the current degree of regulation of quality and fees;
- institutions seek to increase their share of total numbers through changes to their portfolios leading to increased competition, but in some markets institutions collaborate. There is only modest investment in e-learning so that it remains a relatively small part of the total learning experience for most students.
- retrenchment will occur with the possibility of reductions in quality coupled with institutional reconfiguration and merger.

31 The opportunities and threats associated with this scenario include:

- the development of new programmes to capture new markets;
- increased demand for part-time and postgraduate programmes;
- increased international student numbers through marketing collaboration;
- some institutions become unviable;
- the priority to compete for students may tempt some institutions to reduce entry qualifications and reduce the standards for qualifications;
- loss of reputation of the UK system; and
- low demand subjects face closure despite enhanced public support.

32 The second scenario, **'market driven and competitive'** – i.e. non-traditional providers identify market opportunities and essentially cherry pick in those areas with low entry costs – has the following features:

- increased competition in all student markets – UK and international – both between traditional higher education institutions and with new providers;
- more widespread investment in e-learning particularly by larger institutions in partnership with private sector organisations with a much increased requirement on staff to provide academic support for students on a flexible basis;
- increased competition drives a major reconfiguration of the sector with fewer large multi-mission institutions and a much larger number of small specialist or niche market institutions; and
- increased competition with employers for well qualified 18-year-olds.

33 The opportunities and threats of this scenario are:

- increased capitalisation on strengths in niche markets;
- identification of lower cost approaches to the delivery of quality programmes;
- increased demand for employer-supported postgraduate provision;
- damage to the reputation of the UK higher education system through allowing private providers to access degree awarding powers;
- long-term financial sustainability remains elusive for the publicly funded sector;
- the publicly funded sector proves less attractive to students and employers than the private sector leading to unfilled funded places; and
- a small number of elite institutions seek to secede from the publicly funded sector.

34 The third scenario, **'employer-driven flexible learning'** is characterised by the coming together of a serious squeeze on funding for higher education with increased regulation of the purposes of the public funding element; the full development of technologically based learning through significant public and private investment; and the triumph of employer-led demand for part qualifications. It has the following main features:

- technologically-based and managed learning and the availability of a full credit and accumulation system coupled with reductions in public funding mean that most students study part-time on a virtual basis while they continue to work;
- co-funding between the funding councils and employers is a major funding route subject to significant regulation;
- the distinction between full-time and part-time study for the purposes of student support has been abolished;
- despite restrictions on public funding, full-time undergraduate study remains a significant feature of the system; and
- a much greater stratification of the higher education sector than now.

35 The opportunities and threats of this scenario are:

- the development of strategic alliances by institutions with groups of employers and their supply chains;
- institutions establish themselves as major regional providers through strategic alliances with local further education colleges and some private providers;
- institutions develop partnerships with major commercial players to become leaders on the technologically-based learning field;
- use of the credit accumulation and transfer system and the wide availability of technologically based learning open up higher education to a much wider group of people, including, in particular, older people;
- private providers cherry-pick lucrative vocational provision;
- the take over of failing institutions by the private sector;
- extreme stratification of the higher education sector leading to little opportunity for institutional development and reduced opportunities for many young people; and
- increased employer support fails to match reductions in public funding leading to sub-optimal mergers, including with further education colleges, and a loss of reputation for the sector.

Future size of the sector

36 The analysis in this study leads to the conclusion that the most vulnerable market segments are full-time undergraduates and international students from outside the EU, especially under scenarios 2 and 3. This conclusion is of particular importance because very many institutions depend for their financial sustainability on a combination of these two student markets.

37 Part-time undergraduate and postgraduate taught numbers on the other hand are expected to increase in all the scenarios driven in part by a more helpful demography and at postgraduate level the increasing demand for people with the highest level of skills by employers. Overall numbers would be broadly similar on all three scenarios, but the mix between full-time and part-time would shift substantially towards part-time under scenarios 2 and 3 in particular. This would lead to a significant reduction in full-time equivalent numbers. Furthermore, part-time numbers do not always deliver the same *pro rata* income as full-time students and have similar fixed costs. Replacement of full-time numbers by part-time numbers may not of itself help to secure increased viability and, currently, most part-time provision is concentrated in a relatively few specialist part-time providers.

Future shape of the sector

38 In the development of the scenarios the future pattern of higher education institutions was identified as a key uncertainty rather than something that simply emerged from the analysis.

39 Under scenario 1 the pattern of institutions was seen as being largely as now, but with a reduced number of institutions as some have been taken over or merged in the face of increased competition. Scenario 1 also envisages increased transnational provision with overseas universities.

40 Scenario 2 envisages a significant reconfiguration of the higher education sector with a much greater variety of institutions than now, including many more private providers. The variety would include fewer large broad-mission institutions than now, a much larger number of small and medium-sized institutions operating in niche markets and a range of non-traditional providers, including overseas universities operating in the UK, further education colleges, private providers with degree-awarding powers and e-learning and borderless providers.

41 Scenario 3 envisages a much more stratified system with:

- a small number of elite institutions with high fees, strong research and high numbers of international students;
- some major regional centres;
- some predominantly virtual institutions;
- some access institutions providing face-to-face teaching as now; and
- further education colleges operating at lower unit costs and offering programmes franchised from the regional centre or centres.

Institutions' responses to the threats and opportunities

42 Higher education institutions already have a sophisticated understanding of the student markets that they operate in and their competitive position in those markets. In the light of the prospective demographic changes in demand they will need to assess the extent to which their traditional markets will be affected, the impact of increased competition on those markets and their capability and capacity to enter new markets. Sector bodies, like Universities UK, working with the Department for Innovation, Universities and Skills (DIUS) in England and the devolved governments in the other countries of the UK, can provide the sector with well-informed and up-to-date advice in order materially to assist institutions in dealing with the demographic uncertainties.

43 The scenarios demonstrate, however, that institutions will also need to develop their capability to identify and anticipate less predictable developments through continuing to monitor developments. This will need to include:

- bringing together consideration of institutional and student funding;
- assessing the threat posed by the emergence of a greater range of competitors with their own degree-awarding powers;
- identifying and accessing new markets;
- keeping abreast of prospective developments in the international student market;
- keeping under review the institution's engagement with technologically-based learning and its wider implications, including the deployment and management of staff and the development of the estate – this may also include the possibility of partnership with the private sector to develop the technology in the most appropriate way; and
- increased collaboration to mitigate some aspects of increased competition through the development of a range of academic partnerships which may lead to consideration of wider collaboration or even merger to ensure the sustainability of teaching over the longer term.

1 Introduction

44 This is the second report of the research project commissioned by Universities UK on the size and shape of the higher education sector in the UK in twenty years time. It is essential to emphasise from the outset that this is **not** an attempt to forecast the future, but rather an attempt to provide institutions with some warning of the possible challenges that lie ahead so that they are well placed to anticipate those challenges.

45 It is also important to emphasise that this study has been predominantly concerned with the future of teaching and learning. In particular, it examines the prospective level of demand for the various student markets with which the publicly funded higher education sector engages. It is only concerned with research activity to the extent that it is for some universities the primary determinant of institutional reputation, which in turn is a significant determinant of student demand, especially for students from outside the UK. Research activity is also, for some institutions, a major source of income that can serve, other things being equal, to mitigate the impact of any reduction in demand from students for teaching programmes.

46 Our approach has combined four interlinked elements.

- a projection of student demand based on a detailed analysis of current demographic trends which formed the major part of the first phase of the project. The report on this phase of the work was published in March 2008.[4] This provides projections of student numbers broken down between mode of attendance and level of study for the four countries of the UK and for the UK as a whole for 2026/27. It includes international as well as home students. For UK-domiciled students it is based on the latest (2006 based) projections from ONS and GAD[5] but assumes no policy changes;
- an assessment of the extent of uncertainty in the pure demographic projections arising from uncertainty about future net inward migration rates and changes to the socio-economic mix of the population;
- an assessment of the potential impact on demand from current and prospective policies and from **existing or anticipated changes in key drivers**. It also includes an assessment of how the sector is likely to respond to the challenges of the demographic decline in the number of 18- to 20-year-olds between 2010 and 2019, bearing in mind the significant increase in undergraduate numbers experienced since 1999/2000 largely driven by rising numbers of 18-to 20-year-olds; and
- the development of three scenarios for higher education in 2027. This involved a two- stage process:
  - the analysis through a series of seminars of three drivers identified through initial discussion as the key ones – first, future funding levels, second increasing competition in traditional higher education markets from outside the current sector, and third increased employer engagement with the higher education sector; and
  - an externally facilitated event both to develop and to assess the implications of the scenarios based around the three key uncertainties and others identified within the process.

47 This report brings together the four elements to provide a view of how the major student markets are likely to change under the three scenarios and how the pattern of higher education providers might be expected to respond in the face of these market changes. Finally, we consider how institutions can prepare themselves to anticipate the kind of changes, threats and opportunities presented by the three scenarios.

2 Background

48 This study was commissioned by Universities UK to provide a basis for it members to consider the potential impact on their operations of longer-term trends relevant to the demand from the main student markets in which they operate.

49 The study has to be seen in the context of the uncertainties arising from the significant fall in the number of 18- to 20-year-olds in the next decade, the uncertainties arising from the planned review of the operation of variable tuition fees in England in 2009, and the impact on institutional costs of the implementation of the new higher education pay framework.

50 The timeliness of this review has been underscored by the decision by the Secretary of State for Innovation, Universities and Skills to undertake a state of the nation review of higher education in 2008 in advance of the review of the operation of variable tuition fees. In particular, he has invited Universities UK to look into the implications of the projected demographic changes and the policies it might call for to assist institutions as they manage their student markets in the face of those demographic changes.

51 However, the overall aim of this study remains to assist universities so that they are well placed to anticipate and adapt to major changes which are not readily predictable and may occur very rapidly if some tipping point is reached in the framework within which higher education operates.

3
Methodological approach

52 Our approach has had three main elements:

- an analysis of demographic change over the next twenty years for the UK and the EU presented in our first report, to include an assessment of how the sector might respond to demographic decline in the numbers of 18- to 20-year-olds and of the degree of uncertainty in the projections arising from uncertainties about rates of net inward migration;
- uncertainties in demand arising from the impact of current participation trends and from relevant public policies; and
- the development of scenarios for higher education in 2027- there were two stages in the development of these scenarios:
  - a series of three seminars based on a detailed analysis of three key drivers of the higher education system (funding, competition and employer engagement); and
  - an externally facilitated scenario planning event.

Why simple forecasting is not a realistic approach

53 The experience of the last twenty years shows why it is so difficult to forecast developments so far ahead. In 1987 demographic decline of 18- to 20-year-olds was, as now, about to hit the sector. However, a combination of factors served instead to produce a very rapid expansion at least up until the mid-1990s particularly in full-time undergraduate numbers. These factors included:

- the introduction of a common qualification at 16+ (GCSE) leading to increased staying on in education beyond the age of 16 in England and Wales;
- the desire on the part of the National Health Service that new entrants to nursing and other professions allied to medicine should be expected to gain an initial higher education qualification and to enter into partnership with higher education institutions to deliver this requirement;
- a significant change in the expectations of young women and their families that they would participate in higher education (partially fuelled by the developments in nurse education);
- the introduction of a public funding method for full-time undergraduates that provided a real incentive to institutions to recruit additional students, taken up mainly by the newly independent polytechnics and colleges.

54 Thereafter, as these changes worked through, demand levelled off again.

55 There were also significant concerns twenty years ago on two other areas of policy development:

- the possible reduction in demand from students from lower income families if a portion of student maintenance support were to be in the form of a loan rather than a grant;
- the dilution of research funding for traditional universities from the extension of the research assessment exercise to cover research activity in the polytechnics and higher education colleges.

56 In the event, both concerns proved unfounded.

57 The extension of a university title to a large number of institutions and the recent rapid growth in international student numbers were not foreseen.

58 While some of these changes have presented real opportunities for the sector they have not been without their difficulties: institutions have sought to operate at a substantially higher level of activity with declining levels of public funding per student for much of the period and modest levels of public investment in the higher education infrastructure.

59 Apart from the obvious point that the environment in which institutions operate can and sometimes does change very rapidly, the experience of the last twenty years suggests that the most important factor is how well placed they are to recognise the potential threats and opportunities posed by such changes and how they respond in order to grasp the opportunities and manage the threats.

60 It is for this reason that scenarios which identify a small number of relatively unlikely changes which, were they to happen, would have a high impact, are important. They provide a tool which the sector – and individual institutions – can use to assess how such changes would impinge on them and how they could better position themselves to be able to access the opportunities and manage potential threats from such changes as they develop.

61 The simple forecasting approach, which applies current trends, including demography, to the baseline position is not appropriate because it fails to take account over the longer term of major drivers of demand leading to unforeseen developments. Looking forward from the position of the sector in 1987 towards the present day provides ample evidence of this.

Latest projections

62 Demographic change, nevertheless, remains the bedrock. As our first report demonstrates, higher education faces significant demographic change over the next twenty years amongst the age groups from which it traditionally recruits full-time and part-time undergraduates. In particular the number of 18- to 20-year-olds who make up over 70 per cent of entrants to full-time undergraduate programmes is projected to fall sharply from 2009 to 2019 before rising again up to 2027. The older age groups from which part-time undergraduates are mainly drawn, will, on the other hand, experience modest growth over the same time period.

63 Table 3 below summarises the projections of full-time and part-time undergraduate numbers – those most sensitive to demographic change – presented in our first report for the UK as a whole and for the four constituent countries. These figures include international and home students.

64 These demographic projections show significant variations between the four countries of the UK: Scotland and Northern Ireland are projected to experience much sharper declines in the numbers of young people over the next twenty years than England or Wales. Furthermore in England, unlike Scotland, Wales or Northern Ireland, by the end of twenty years the numbers of young people aged from 18 to 20 are projected to have returned to current levels.

65 There are, however, two important factors that are directly relevant to the size and shape of the sector in twenty years time and which we have sought to factor into all three scenarios. These are:

- the projected level of undergraduate demand at the demographic minimum in the number of 18- to 20-year-olds in 2019/2020; and
- the uncertainty in the projected numbers of 18- to 20-year-olds arising from the uncertainty about future levels of net inward migration.

66 Table 4 shows the projected change in undergraduate numbers between 2005/06 and 2019/2020 arising from pure demographic change. As with Table 1, the figures include international students and home students. The table shows the marked difference between England and the other countries of the UK in the sharpness of the projected decline in full-time undergraduate numbers based solely on demographic change. It also shows that purely on the basis of demographic change there will, apart from in Scotland, be some compensating increase in part-time undergraduate numbers – although these figures are headcounts not full-time equivalents.

67 The figures in Table 4 reflect the sharpness of the demographic decline in the numbers of 18- to 20-year-olds between now and 2019 across all four countries of the UK, before the numbers start to build up again in the early 2020s.

Table 3

Demographic-based projections of full-time and part-time undergraduate student numbers (Home, EU and international), 2005/06 to 2026/27

	Full-time undergraduates (000s)			Part-time undergraduates (000s)		
	2005/06	2026/27	percentage change	2005/06	2026/27	percentage change
England	976.8	1,004.7	+2.9	473.6	504.4	+6.5
Wales	64.8	61.6	-4.9	52.7	52.8	+0.2
Scotland	125.5	115.0	-8.4	48.8	45.5	-6.8
Northern Ireland	31.7	27.5	-13.2	14.7	14.9	+1.4
UK	1,198.8	1,208.8	+0.8	589.8	617.8	+4.7

Source: Universities UK (2008) *The future size and shape of the higher education system in the United Kingdom: demographic projections*

Table 4

Demographic-based projections of full-time and part-time undergraduate student numbers, 2005/06 to 2019/20

	Full-time undergraduates (000s)			Part-time undergraduates (000s)		
	2005/06	2019/2020	percentage change	2005/06	2019/20	percentage change
England	976.8	930.1	-4.8	473.6	499.7	+5.5
Wales	64.8	59.3	-8.5	52.7	54.0	+2.5
Scotland	125.5	111.8	-10.9	48.8	47.0	-3.7
Northern Ireland	31.7	27.5	-13.2	14.7	15.3	+4.1
UK	1,198.8	1,128.7	-5.9	589.8	616	+4.4

Source: Brian Ramsden, Nigel Brown Associates, based on 2006 ONS/GAD population projections

68 While the loss of 70,000 full-time undergraduate enrolments may appear to be relatively modest and the differential loss in the numbers in the four countries of the UK may be significantly offset by increased cross-border flows out of England, the demographic projections on which these figures rest are subject to much greater uncertainty than is usually the case. The projections rest on much higher rates of net inward migration to the UK than hitherto and, for example, if the rate were at the 2004 projected level rather than the 2006 projected level, the projected fall in the number of full-time undergraduates by 2019 might well be twice the figure presented here.

69 In addition, nearly all higher education institutions have significant numbers of full-time undergraduates so that a significant decline in this market would be expected, other things being equal, to increase competition between them. This would have significantly different impacts on different institutions, depending on their ability to compete effectively and the share of total income generated by full-time undergraduate students.

70 Part-time undergraduates, on the other hand, are currently concentrated in a relatively small number of institutions – twenty institutions (some of them specialist part-time providers) account for over 50 per cent of part-time undergraduate numbers. As a result, increases in part-time undergraduate numbers may not occur in the same institutions that are subject to significant decline in their full-time undergraduate numbers. Furthermore, in England at least, the decision to end funding council support for most students studying for a qualification at a level equivalent to or lower than a qualification they already possess may have a significant impact on part-time undergraduate numbers.

71 However, there is also substantial variation in the population projections between the different English regions. The Office of National Statistics (ONS) has not yet published population projections by age for the 2006-based national projections. Data are available for the 2004-based projections broken down by English region, but the breakdown by age does not enable robust analysis by individual year of age, and therefore cannot match precisely that which we used in our first report to produce the projections of full-time and part-time undergraduate numbers for the four countries of the UK. In Table 5 below we present as the best proxy available the 2004-based projected population of 15-19 year olds and 25-49 year olds for 2020 against a 2006 baseline. These data are also presented graphically in Figure 1 below.

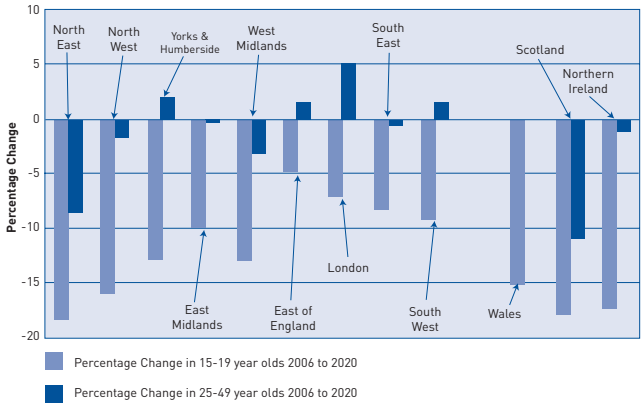
Table 5

Age-related population projections for the English regions for 2020[6]

	15-19 year olds (000s)			25-49 year olds (000s)		
	2006	2020	percentage change	2006	2020	percentage change
North East	172	140.7	-18.2	852.2	780.1	-8.5
North West	470.9	396.1	-15.9	2,340.8	2,303.8	-1.6
Yorkshire and Humberside	353.1	308.3	-12.7	1,743.5	1,780.8	+2.1
East Midlands	293.7	264.2	-10.0	1,485.9	1,483.4	-0.2
West Midlands	365.3	318.4	-12.8	1,814.1	1,760.4	-3.0
East of England	353.1	336.7	-4.7	1,939.5	1,968.8	+1.5
London	444.3	412.8	-7.1	3,228	3,392.5	+5.1
South East	537.4	493.7	-8.2	2,865.9	2,850.3	-0.6
South West	332.8	302.1	-9.2	1,668.9	1,693.9	+1.5
Wales	202	172	-14.9	960	961	+0
Scotland	329	271	-17.6	1,792	1,598	-10.8
Northern Ireland	132	127	-17.4	600	597	-0.5
Total	3,986.6	3543.0	-11.1	21,291	21,177.2	-0.5

Figure 1

Projected change in 15- to 19-year-old and 25- to 49-year-old populations, 2006 to 2020 by English regions and the countries of the UK



Source: *ONS/GAD 2004-based projections*

72 The observed variation in the demographic projections for these two age groups by English region is significant. It is consistent with the separate country projections which indicate that the further north and west the region the sharper the impact of the demographic decline is likely to be and that even for the age groups most relevant to demand for part-time undergraduate study numbers will decline rather than increase over the period to 2020. While the absolute level of the projected population decline will be lower on the 2006-based projections, one would expect a similar pattern of variation across the English regions. However if the projected increase in net inward migration is concentrated in the regions close to London, the observed differences between different regions could be even more marked.

73 These variations will be reflected in variations in the level of demand from students wishing to study full-time locally or within their home region, but will have much less impact on those institutions that are predominantly national recruiters. However, they will be of greater significance in the demand for part-time undergraduate study.

Sources of uncertainty

74 There are two major sources of uncertainty in the demographic-based student number projections:

- the uncertainty in the projected rate of net inward migration; and
- the social class mix of the relevant populations.

75 The student number projections also assume that migrants and their children will behave in the same way as UK-born citizens in relation to participation in higher education. There is no way of testing out this assumption in the short term and we have therefore assumed throughout that there will be no marked behavioural differences between new migrants and others.

Uncertainty in net inward migration

76 As we noted in our first report, we started this research using the 2004-based government projections, but were in the event able to use the latest 2006-based projections, published in October 2007, to complete the work. There are marked differences between the two sets of projections. In particular, the 2006-based set of projections posits a much greater level of net inward migration to the UK year-by-year over the period in question than the 2004-based projections. Broadly, the 2006-based projections assume a steady state net inward migration rate of 190,000 persons, compared with 145,000 in the 2004-based principal projection. (It should be noted in passing that the net inward migration rate also has an effect on the assumed fertility rate, so that any error in this projection is potentially multiplied.)

77 The Government Actuary's Department (GAD) also publishes variant projections including one that is based on a low migration assumption. That is based on a long-term assumption (2006-based) of net migration of only 130,000. We have thought it wise to consider a lower variant projection of inward migration rates since it is not clear that UK politicians will be able to resist public pressure for stronger immigration controls indefinitely. Furthermore, much of the recent increase in inward migration is from countries admitted to the EU since 2000 and that source of supply may decline. Because we had already developed student number projections using the 2004-based central population projections we have used those rather than the low migration variant issued in 2006. Table 6 shows the difference in projected home and EU student numbers across the four countries of the UK in 2026/27 for the two population projections.

Table 6

Comparison of projected student numbers (000s)[7] by student market in UK higher education institutions using the GAD 2006-based and 2004-based population projections

	2006-based projections	2004-based projection	Differences
Full-time undergraduate	1,208.8	1,130.3	-78.5
Part-time undergraduate (first degree)	214.3	204.9	-9.4
Part-time undergraduate (other qualifications)	403.5	387.1	-16.4
Part-time postgraduate	108.5	107.5	-1.0
Full-time postgraduate	218.9	215.3	-3.6
Total	2,154	2,045.1	-108.9

Source: GAD 2004 and 2006-based projections

78 The comparison in this table provides a very clear indication of the high level of uncertainty in current population projections and the consequent uncertainty in demand which institutions face over the next fifteen to twenty years, especially in respect of demand for full-time undergraduate places.

Changes in the social class balance within the UK population

79 One of the major factors affecting propensity to enter higher education is social class. It is known that individuals from higher socio-economic groups are more likely to achieve five GCSEs grades A-C at age 16 and have a higher propensity to stay on in secondary education and gain level 3 qualifications at 18 and hence progress to higher education.

80 The Higher Education Policy Institute, in its reports[8] on projections of changing student numbers in England, has drawn attention to the changing social class balance within the English population and its possible impact on full-time undergraduate demand. There is a shift in the balance between socio-economic groups as birth rates in **England** have been declining faster amongst those from the lowest socio-economic groups. The changing balance in the socio-economic make up of the young population is, therefore, one of the major uncertainties about future numbers gaining level 3 qualifications and entering higher education. The student number projections in our first report assumed **no change in participation rates** resulting from this changing balance in the socio-economic make-up of the population.

81 We have considered whether it is possible to assess the extent to which such changes in the social mix of the population (whether arising from relative birth rates or from social migration by virtue of changing occupations), **in the UK as a whole**, might affect achievement at level 3 and enrolment rates in higher education. It needs to be recognised here that a movement of families from one social group to another does not in itself necessarily imply that the behaviour of young people from those families in relation to participation in higher education would change.

82 We also have to recognise that there is not a substantial and comparable body of research evidence to enable us to project the effects of social change consistently among the four countries of the UK. There is evidence that, for example, the effects of social change in Scotland on higher education participation have been less significant than in England, for example, Lannelli[9] notes that *"Scotland has higher educational attainment rates, but also higher social inequalities than England. Moreover, while in England social class inequalities at upper secondary and tertiary level have declined over time; in Scotland no such trend has been found."*

83 In the absence of a more robust method for making such calculations, we have posited a four per cent increase in the young (aged under 21) enrolments at full-time undergraduate level, and a smaller increase among part-time undergraduates arising from changes in the social class structure of the UK. We have carried over these estimates into postgraduate projections. Our figures are not inconsistent with the HEPI projections for England. Table 7 summarises the levels of uncertainty within the demographic projections by mode and level of study arising from uncertainties in net inward migration and in the impact of the changing socio-economic mix of the UK population.

Table 7

Uncertainties in the demographic-based projections of student numbers by 2026/27 arising from migration and the changing socio-economic mix of the population

	Reduced net inwards migration to the UK	Changes to the socio-economic mix of the population	Net uncertainty
Full-time undergraduate	-78,500	+30,150	-48,350
Part-time undergraduate (first degree)	-9,400	+4,000	-5,400
Part-time undergraduate (other qualifications)	-16,400	0	-16,400
Full-time postgraduate	-1000	+2,500	+1,500
Part-time postgraduate	-3600	0	-3600

Institutions' responses to demographic decline

84 Before considering possible responses from the sector to anticipate the impact on demand of the projected demographic decline, especially for full-time undergraduate programmes, in the period up to 2019 it is important to bear in mind the impact on demand of the demographic increase since the late-1990s and the expected demographic increase after 2020 at least in England and Wales. The sector is part-way through a long-term roller coaster ride.

85 Table 8 demonstrates changes in full-time undergraduate enrolments over the last six years of the current 'up' phase which is due to end by 2010. The observed increase in full-time enrolments since 1999 has almost all been attributed to demography since there has been at most a two to three per cent increase in participation rates.

Table 8

Full-time undergraduate enrolments[10] by domicile: 1999/2000 to 2005/2006

	UK domiciled	EU domiciled	Non-UE domiciled	Total
1999/2000	814,546	49,158	42,779	906,483
2005/2006	952,536	45,454	75,873	1,073,773
Percentage change	+16.9	-7.5	+77.4	+18.5

Source: HESA: *Students in higher education institutions 1999/2000* and 2005/06

86 It is of interest that the increase in the number of UK-domiciled full-time undergraduates since 1999 is greater than the projected decline in full-time undergraduate numbers between 2010 and 2019 even on the more pessimistic projection of net inward migration presented above. The decline in the number of full-time undergraduates from other EU countries over the same period is also notable, given the enlargement of the EU in May 2004, as is the substantial increase in undergraduate enrolments from outside the EU. The last may reflect in part the increased number of partnerships with overseas universities to deliver the UK institution's undergraduate programme at the partner university.

87 Over the same period some institutions have gained a substantial increase in their market share while others have grown their full-time undergraduate numbers either significantly less quickly (or in some cases hardly at all) than the overall increase in full-time undergraduate numbers. This applies especially to many small specialist institutions where demand for places has been and continues to be very high.

88 Individual universities will undoubtedly seek to sustain and if possible increase their share of a declining market, but increased competition will be inevitable and some institutions will face a decline in full-time undergraduate recruitment. This is particularly likely for those institutions that are predominantly local recruiters and are located in regions where the decline in the number of young people is expected to be especially sharp.

89 There are a number of options for institutions facing this prospect to seek to ensure sustainability in the longer term, including the following.

90 **Seeking out new or expanded markets** – it is not clear from where new full-time undergraduate markets might emerge. Potential new markets for higher education study, such as older people qualified to enter higher education, who have never participated in work-related training, tend to go for part-time rather than full-time study. Furthermore, there is not a great deal that institutions on their own can do to secure a significant increase in full-time undergraduate participation from existing markets. For example, increased participation by boys might be seen as a major source of additional numbers. However, the low level of participation by boys relative to girls in higher education is not confined to the UK and is related to relative performance at age 16 and attitudes to school education. The widespread use of digital and communications technologies to deliver learning material might be more attractive to boys than the traditional approach, but their motivation would need to be sustained during their secondary education.

91 Possibilities for institutions to consider include:

- **concentrating on activities other than undergraduate teaching** – for some institutions it may be possible to compensate for a reduction in full-time home undergraduate student numbers by increasing income from research and enterprise activities and from recruiting more postgraduate and international students. This is a strategy, however, that is open only to relatively few institutions.
- **concentrating on niche markets** – this is the strategy already adopted by small specialist institutions and more institutions may decide to concentrate on those areas of provision where they have greatest market strength.
- **increased collaboration** – this includes increasing franchising operations with further education colleges or other local providers with the aim of accessing more local markets as well as working with other higher education institutions to offer more attractive programmes than could be provided on their own. An emerging example is the increased collaboration between institutions in marketing UK higher education to international students.

92 The assessments below are based on assumption of current policies continuing. Not all policies enjoy cross-party support. These policies may change as a result of a change of government in the UK or in the devolved administrations or in the face of evidence that they are not securing the desired ends. The uncertainties we present below therefore represent the maximum level of uncertainty from the trend or policy alone.

Proposed changes to post-16 education and training

93 In addition to established policies aimed at increasing participation amongst under-represented groups, there are two policy developments **in England** now in train that could have a significant impact on the proportion of young people obtaining level 3 qualifications and on higher education participation rates. These are:

- the introduction of the new diploma qualifications aimed at widening the scope of level 3 qualifications and offering a more attractive curriculum for many young people;
- the requirement that young people should remain in education or training up to the age of 18.

94 With achievement at GCSE level currently on a plateau, there is no guarantee that the introduction of diplomas will secure a substantial increase in the number of 18-year-olds with level 3 qualifications unless the availability of these programmes leads to a significant increase in participation in education up to the age of 18.

95 The second policy proposal is explicitly aimed at addressing the problem of low staying-on rates in education after the age of 16 by young people in England, particularly in comparison with those in most other European countries. While this change may be seen as necessary to improve qualification rates at the age of 18, it may well not be sufficient unless more young people can be motivated to seek these qualifications. Moreover, the policy will not come fully into effect before 2015 when the 18-year-old population will be approaching its minimum. At that point, employers may be competing more strongly with higher education for well qualified 18-year- olds and be willing to offer incentives such as financial support through part-time higher education.

96 Overall, we consider that the changes in secondary education might increase participation rates by about two to three percentage points or around 25,000 additional young entrants in England equivalent to some 70,000 additional students, predominantly full-time undergraduates.

Effect of the withdrawal of funding for equivalent or lower level qualifications (ELQs)

97 The Westminster government has announced that it is requiring HEFCE to withdraw funding for institutions that is supporting individuals studying for qualifications at an equivalent or lower level to one they already posses. We have considered whether this decision is likely to have an effect on the projected number of student enrolments in twenty years' time. While the policy is aimed at redirecting funds from students who already hold a qualification at a particular level to others who do not, it is clear from figures published by the HEFCE[11] that the major impact of the policy will be to reduce the numbers of students currently on part-time undergraduate and postgraduate courses, and on full-time postgraduate taught courses that are eligible for HEFCE funding. Table 9 shows HEFCE's estimate of the full-time equivalent student numbers affected by the withdrawal of funding.

Table 9

HEFCE estimates of numbers of full-time equivalent students affected by potential withdrawal of ELQ funding

Mode	Level	HEFCE funded full-time equivalents	Affected by the ELQ ruling	percentage change
Full-time	Postgraduate taught	46,799	-4,767	-10.2%
Part-time	Postgraduate taught	49,544	-10,241	-21.0%
Full-Time	Undergraduate (excluding Foundation degrees)	731,699	-10,598	-1.4%
Part-time	Undergraduate (excluding Foundation degrees)	121,537	-26,718	-22.0%

Source: *Modelling released with HEFCE consultation on implementation of withdrawal of funding for ELQs. HEFCE, September 2007/27*

98 As these are all market-driven programmes, it is not to be expected that lost numbers would be replaced within the full-time undergraduate area, within which the demand, as a result of demography, will be weak during the next twenty years, as is shown in our first report.

99 We have therefore posited that perhaps a third of the student numbers for which ELQ funding would be withdrawn might not be replaced. We have also assumed that the ELQ funding policy in England will be implemented and will continue during the next twenty years. However, the demographic decline may itself call into question the policy in due course as the re-training of individuals with existing (inappropriate) qualifications is recognised as a major source in meeting skill shortages as the number of young people graduating falls.

100 In calculating the potential effects on student numbers, the HEFCE's estimates of reductions among part-time students arising from ELQ funding withdrawal, which are expressed in full-time equivalents, have been adjusted by the following factors, to convert them to headcounts:

Postgraduate taught	34.9 per cent
First degree	47.4 per cent
Other undergraduate	31.8 per cent

101 The result of these broad-brush calculations on the impact of the withdrawal of funding for ELQs is that, potentially, the total number of students in higher education institutions might be reduced by 41,000 (entirely within England and Northern Ireland) by 2026/27 compared with the pure demographic projection.

Shift to part-time undergraduate study among young people

102 It has been noted in recent years that there has been an increase in the numbers and proportions of part-time undergraduate students coming from the younger age groups (from a very low base). We have projected that this will continue to increase from its present level of approximately six per cent to eight per cent by 2027. The effect of this scenario would be to increase part-time student numbers, but also to have a negative effect on young full-time enrolment: however, the two might balance out. We have projected an overall net increase of some 3,200 students as a result of this trend.

Effects of increased undergraduate loan debt on enrolments at postgraduate level

103 We have considered whether, potentially, the greater indebtedness of graduates as a result of the changes in undergraduate student funding in England, Wales and Northern Ireland during the last two years may deter them and subsequent graduates from study at postgraduate level.

104 It seems to be likely that, if this is the case, it will have an effect on those who typically enrol for postgraduate study (perhaps principally on taught courses) at an early age soon after graduation. We have, therefore, posited that roughly ten per cent of those home-domiciled students who might enrol on full-time taught postgraduate degree programmes within the age range of 21 to 25 might be discouraged from doing so, along with five per cent of those who might enrol on part time taught postgraduate programmes within the same age range. This may be an overestimate, and students might simply defer their enrolment into postgraduate courses; but we have made no assumption of either increase or decrease among those aged over 25.

105 Nor have we considered the possible impact of increased graduate indebtedness on demand for postgraduate research places. In terms of the overall student numbers any effect would be modest, but the impact of even a small percentage reduction in the numbers of home graduates undertaking research could further reduce the main source of supply for UK born academic staff and further increase the need to rely on foreign nationals.

106 The effect of this set of assumptions about the impact of increased loan debt would be a total reduction in postgraduate students of approximately 5,000 by the year 2026/27.

Summary

107 The overall potential effects of the factors described above are summarised in Table 10.[12]

Table 10

Estimated impact on student numbers from current trends and policies against the central demographic projection by 2026/27

Current trends/uncertainties	Full-time undergraduates	Part-time undergraduates (first degree)	Part-time undergraduates (other qualifications)	Full-time postgraduates	Part-time postgraduates	Total
Revised policies for post-16 education and training	+70,000					+70,000
Withdrawal of funding for ELQs	-3,800	-16,700	-8,400	-1,600	-10,100	-40,600
Response to short- to medium-term decline in young population	0	0	8,070	0	4,180	12,250
Shift from full-time to part-time undergraduate study	-3,200	6,430	0	0	0	3,220
Reduced demand for postgraduate study from loan debt	0	0	0	-3,600	-1,500	-5,100

108 This table shows that, of the factors considered here, the biggest question in relation to demand for full-time study arises from the uncertainty about the impact of changes proposed or in train for post-16 education and training policies. However, any increases from this source are likely to be offset to some extent by a reduction in demand for part-time study as a result of the withdrawal of funding support for ELQ students.

6
Scenario planning

Introduction

109 It is important to emphasise at the outset that scenarios are not forecasts of what will happen. Rather they are an approach to describing possible futures in the context of significant uncertainties so that institutions can recognise key developments and respond proactively in order to anticipate change.

110 As noted above, we used a two-stage process in developing the scenarios based on key uncertainties and drivers. However, we also considered briefly, as is customary in scenario planning work, the major international and national developments that could have an enormous impact on UK higher education.

Major global and national political developments

111 We have recognised that global issues such as climate change, energy and food costs and possible major escalation of terrorist activity worldwide could have huge impacts on demand for higher education, especially from international students. However, for the purposes of this study we have set those kinds of development on one side because the management of such changes lies beyond the powers of individual higher education institutions. The recognition and management of such global threats will require national and international political leadership of the highest order, but institutions will need to keep themselves abreast of these political developments and to assess how they might impact on their operations. Current events such as the sudden and very rapid rise in the price of food staples and the associated unrest in poorer countries are clearly harbingers of the kind of change which the human race might face. The next twenty years may be critical in producing an adequate global response to the challenges presented by global warming, energy and food supplies.

112 We have similarly set on one side possible local political developments such as the break up of the United Kingdom precipitated by Scotland achieving independence or the further enlargement of the EU to include Turkey, which has a population that is not only larger than any of the current member states, but also has a much younger age profile. For these issues also it is in the first instance for political leaders to provide the framework for managing change and for institutions to plan accordingly.

Policy seminars

113 The first stage in developing the scenarios was a series of seminars based around three sets of issues that had been identified from the outset as likely to be of especial relevance in developing the scenarios. The issues were:

- funding institutions and students within the context of the prospects for the UK economy;
- increased competition from outside the UK higher education sector in all student markets;
- employer engagement, including public sector employers, and the skills and innovation agenda.

114 Participants in the seminars included 'expert' representatives from the countries of the UK and members of the project steering group.

115 The aim of the seminars was to provide a firm basis derived from current trends and policy developments in these three areas to help to identify changes which:

- were relatively unlikely;
- would if they occurred have a major impact on student demand in the higher education sector; and
- could potentially be managed by institutions either individually or working in partnership within a helpful policy framework.

116 Although a range of views was expressed around the issues raised in the papers for the individual seminars a number of key points did emerge from each of them.

117 The main messages from the seminar on **finance and funding issues** were as follows:

- the UK economy was likely to be subject to at least one significant recession over the next twenty years (and the position was already tightening substantially in the light of recent developments in the banking sector). Such recessions put overall public expenditure under pressure. Moreover, public expenditure on higher education was likely to come under particular scrutiny in the light of the decline in the 18- to 20- year-old age group and the competition from other services. These included pensions, health and social care (with an ageing population) and schools in the light of increased migration of people with young families. The impact of pressures for reduction in public expenditure on higher education might bear most strongly on full-time undergraduates with some increase even in support for certain types of postgraduate study and perhaps part-time. While there might be pressure, outside the higher education budget, for investment in lifelong learning to reduce the impact of ageing on the health and care services, budgets for initial and continuing training of public sector employees might come under pressure with consequences for those institutions most engaged with that work;
- public expenditure pressures over the next twenty years will be similar across the UK and will tend to halt or even reverse the recently observed divergence in full-time undergraduate student funding policy between the four countries. Nevertheless, it will be important that each country, bearing in mind its own circumstances, seeks to learn the lessons from experience elsewhere in the UK;
- pressures on funding and the imperatives of sustainability will drive increased distinctiveness with institutions protecting and promoting their niche markets. This could lead to much more overt political recognition of different types of higher education institution;
- institutions will need to increase further the priority given to performance management – getting the optimum outcome educationally from the balance between income, resources and costs – to demonstrate value for public and private investment. This was a short-term issue for many institutions as a result of the additional costs of implementing the new pay framework for the sector;
- it remained very doubtful that employers would substantially increase their share of funding higher education, except for bespoke postgraduate programmes, over the next twenty years in the absence of tax incentives for training and their introduction would simply transfer public expenditure from one head to another;
- individuals, predominantly as graduates, would therefore be expected to meet an increased share of the total costs of higher education. This could come about in a number of ways – reduced subsidies on student loans through charging interest at the government's cost of borrowing, allowing institutions to charge higher fees but capping the government's contribution or means testing more sharply access to public support. For some institutions there would be opportunities to increase alumni giving;
- governments would, however, continue to be concerned about increasing participation amongst under-represented groups and would always seek to use its funding to that end. Any freedom to charge higher fees would almost certainly be accompanied by more stringent bursary requirements;
- there would be increasing pressure for at least some types of part-time undergraduates to receive *pro rata* financial support to full-time students, especially if a universal credit accumulation and transfer system were adopted in England. Wales already offered p*ro rata* financial support for some part-time students through Assembly Learning Grants.

118 The main conclusion was that it was likely that, over the twenty year period, the public subsidy to individuals towards the costs of their full-time undergraduate study would be reduced. In the absence of any significant increase in employer investment this would imply an increased contribution from graduates and perhaps also from undergraduates from better-off families. The latter could arise for example, if differential fees emerged for full-time undergraduates, but with a continuing cap on the public contribution to fee loans. Nevertheless, public support would still be available for widening participation initiatives and institutions would fund bursaries for less well-off students to meet the non-publicly funded element of the fee.

119 For institutions the impact of these changes would depend on their reliance on full-time undergraduate income and their ability to increase activity and associated income in other areas including research and knowledge transfer to ensure financial sustainability.

120 The main messages on the seminar on **assessing the potential impact of external factors on demand** were as follows:

- higher education institutions in the UK had been very successful in increasing overseas enrolments over the last twenty years, but some of the advantages they enjoyed such as relatively short courses with high retention rates, teaching through the medium of English, and the attractiveness of the UK as a safe and attractive place to study were being taken up by competitors or were under threat. In particular, the Bologna agreement, based on the recognition that European universities would not be recognised globally until their qualifications were reformed, with its common suite of Bachelors and Masters qualifications, common quality assurance procedures and credit transfer could increase the competition faced by UK institutions in the global market place from other European countries;
- competition for international students was likely to increase, especially as China and India moved to becoming net importers of students. Although the UK continued to have a large number of universities in the top 100 internationally, other countries were set to challenge this position;
- part of the recent substantial increase in full-time undergraduates from outside the EU almost certainly reflected collaborations with overseas universities to provide the UK institutions' qualifications overseas;
- the UK had been a particularly attractive destination for international postgraduate students. Much of this demand has been fuelled by research reputation or institutional reputation more generally; however, reputations for high quality built up over a number of years could be lost very quickly;
- the projected increase in the number of international students coming to study in the UK over the next twenty years in our first report – itself based on a projection for 2020 produced by the British Council – was not unrealistic, given the projected overall increase in the size of the international student market. However, institutions in the UK would need to ensure that they provided good value for the fees charged, especially when some countries were waiving fees to international students;
- in addition, the degree of competition between institutions in the UK was generally unhelpful to the recruitment of international students;
- there were some doubts about the emergence of large numbers of private providers within the qualifications market. Undoubtedly a few would gain degree-awarding powers from the Quality Assurance Agency (QAA) and would tend to cherry-pick. The possibility of some further education colleges obtaining their own Foundation degree-awarding powers was also a potential threat to some higher education institutions. However, as the Scottish experience demonstrates a division of labour in delivering different types of higher education between further education colleges and higher education institutions can work very well with effective articulation between them;
- the emergence of new, non-traditional providers may provide a fertile basis for constructive partnerships if traditional institutions recognise that the private sector partner can deliver provision more cost effectively;
- the full application of digital technology to the delivery of higher education through attractive, educationally sound and commercially viable systems, even on a twenty- year timescale, remained problematical. As the examples of entertainment and gaming demonstrated, take-off requires substantial investment driven by the expected returns. That kind of investment based around the particular needs of higher education for curriculum coverage and assessment had not been forthcoming in the UK where it was possible that the market was too small to justify the investment. Successful developments in this area could, however, increase the possible scale of delivery and the reach for particular programmes and, in particular, form part of a borderless offering. Some educational publishers are known to be keen to expand in this area ideally in partnership with traditional higher education institutions;

- on the other hand the current pace of change in the development of the underlying technologies, particularly the rapid spread of wireless connection to the internet and the changing uses of the internet for social communication, seem likely to drive significant changes in the expectations of young people about the use of these technologies for accessing learning materials and for communicating with their peers and teachers. This could in principle lead to a complete breakdown of the traditional three-year full-time degree. However, the rite of passage element of full-time higher education for young people has proved remarkably resilient.

121 The overall conclusion was that there were some downside risks to the UK's position in the international market and both institutional reputation and the actual quality of service provided were key factors in minimising those risks. There was likely to be some modest increase in private providers in particular fields over the twenty-year period, but a wholesale opening up appeared unlikely except through partnerships with existing publicly funded institutions. The impact of technological change was a key uncertainty, but past predictions of major change had so far proved to be exaggerated.

122 On the issues around **increased employer engagement with higher education** the following messages emerged:

- the higher education markets would by and large continue to be individually driven rather than employer driven;
- the Leitch scenario of a substantial increase in demand for highly skilled people **driven by employers seeking to be world class** was seen as at best a partial guide to the future and at worst positively misleading. All the evidence was that most UK employers were poor at investing in people and that demand for high level skills was driven mainly by innovation on which UK employers had a similarly poor record;
- if there was a decline in the supply of graduates fuelled by demographic changes, employers would seek to fulfil their needs for highly skilled manpower either by up-skilling their existing workforces or seeking to recruit from outside the UK. Another possibility was that employers might seek to compete for a share of 18-year-olds with level 3 qualifications, especially if an increased proportion of them had well regarded vocational qualifications;
- employers were looking for modules or small elements of programmes that provided the particular skills their employees needed rather than whole qualifications. In particular, if institutions wished to engage successfully in postgraduate level continuing professional development (CPD) they would need to be much more flexible in the way programmes were constructed and offered. A few institutions already operated in this way;
- the current approach being adopted by HEFCE of providing part-funded additional student numbers appeared highly risky, but a few institutions had decided to test the water and were building on existing strengths to develop partnerships with employers. There were potential overlaps and synergies with 'third stream' activities;
- strong relationships had been built up between some institutions and **public sector employers** such as the NHS and schools. However, these relationships had served to demonstrate the risks involved for the higher education partner as wider budgetary needs could lead to withdrawal of promised support.

123 The overall conclusion was that there was a small but real prospect of increased employer engagement by the end of the twenty-year period, but spread over a subset of institutions. This increased engagement would be driven by linking a significant part of public funding supporting this objective and to the wider availability of part-qualifications within a properly articulated credit accumulation and transfer system.

124 Many of the features of the three scenarios described below reflect the issues identified in the seminars and also the possible outcomes from the twenty-year demographically driven roller coaster of student demand described in our first report and reviewed above.

Scenario development

125 The final stage in the process was a facilitated scenario development exercise at Future Focus, part of the Department for Business, Enterprise and Regulatory Reform (BERR). The approach adopted has already been described in the methodology section above.

126 The starting point of the exercise was the identification of a set of key uncertainties (and associated drivers) leading to the identification of a series 'axes of uncertainty' as a basis for constructing the scenarios.

127 Twelve sets of issues were identified with which we have incorporated three others as being of particular relevance – the degree of government regulation; the maintenance of quality in the face of reduced demand; and increased cost pressures through the divergence of costs and income. We have also grouped the issues in a slightly different fashion to bring out the strong interconnections between them, which were incorporated in the scenarios. The full revised list of issues together with the associated axes of uncertainty, which provide a measure of the range of possible outcomes, is set out in Table 11.

Table 11

Key areas of uncertainty and axes of uncertainty

Driver	Axes of uncertainty
Level of economic growth	High levels of economic growth across the period enable high levels of public **and** private investment in higher education to be sustained. Overall historically low level of economic growth over the next twenty years with two significant periods of recessions lead to a reduced level of public **and** private investment in higher education.
Public funding of higher education	Maintenance of status quo with current degree of regulation of fees. Reducing public contribution with greater targeting of public funding on key groups, increased private contributions.
Government regulation of fees and quality	Government regulation is reduced. Government regulation is increased.
Cost pressures on institutions	Costs outstrip income, threatening sustainability. Costs are brought more into line with prospective income.
Quality of provision	Institutions reduce quality to sustain demand and/or reduce costs. Institutions sustain quality of provision.
Changes in pre-18 education and training	Increased propensity to enter higher education – higher proportion of age group achieve level 3 and choose to enter higher education. Lower propensity to enter traditional higher education because of development of a more prestigious vocational route through Foundation degrees offered in further education colleges – similarities with historic Scottish position.
Student and employer demand	UK higher education remains individually driven. UK higher education becomes more employer driven.
Changing aspirations	Three markets – 18+, people in work (or seeking to re-enter the workforce) and the retired; greater or lesser development of these markets.
Internationalisation	International demand dependent on reputation and quality. UK sustains its position in the international market. With the exception of a limited number of high prestige institutions UK higher education institutions lose substantial market share. An increasing proportion of UK students attend overseas higher education institutions. Incremental increases in transnational provision but remaining modest.
Impact of technology on learning	Revolutionary – global, online independent study with little or variable institutional affiliation. Evolutionary – increased use of information and communications technology in delivery and learning management but without threatening institutional pattern.
Levels of flexibility	The full-time three/four year undergraduate degree remains the norm. Learning becomes entirely personalised and flexible regarding time and place with more widespread recognition of part qualifications.
The nature of the higher education workforce and human resources management	Inflexible system of national pay bargaining with few links to business and performance. A flexible dynamic higher education labour market with rewards linked to performance and movement between academia and other sectors coupled with increased flexibility and casualisation.
The future of higher education institutions as we know them	Much more diverse (like the United States only more so). Less diverse – more homogeneous, merging missions.
Divergence of four UK systems	Increasing diversification and competition between the four nations (and perhaps increasingly between different English regions) with real impact on student behaviour. Systems become more similar under similar external pressures.

Common assumptions

128 All the scenarios start from the baseline demographic projections to 2026 set out in our first report. These are further elucidated above (see sections 4 and 5) in terms of the 2019 minimum in the projection of 18- to 20-year-olds in the population and the variations in the size of the decline across the English regions as well as the four countries of the UK. All also recognise the uncertainty in those projections arising from the forecast of net inward migration to the UK. This demographic pattern and how governments, employers and institutions might respond to it in the period from now until 2019 will be key determinants of the size and shape of the sector in 2027.

129 All the scenarios also incorporate the projected decline in the number of 18- to 20-year-olds in the other countries of the EU between now and 2027. They all also assume that the Bologna agreement will have a continuing effect through the development of a comparable range of qualifications across the EU. This coupled with the more widespread use of English as the medium of delivery in other European countries will lead to increased competition between EU countries in the international student market.

130 As with the demographic projections all the scenarios also assume that the British Council's projections of global student demand, issued in 2004, are a sound starting point. However, we are aware that the British Council is undertaking a further series of reviews on a country-by-country basis working with *the Economist Intelligence Unit*. The first of the reports from these studies on China has already been launched. Each of the scenarios assumes a variation around the British Council figure related to developments within the UK higher education system.

131 While each of the scenarios assumes a different itinerary for the UK economy over the next twenty years, none assumes any real increase in the level of **public funding support** for teaching and learning in higher education (see paragraph 117). This is principally because of the pressures for increased public expenditure in other areas arising mainly from the ageing population.

132 All the scenarios assume that, even with the possibility of successive changes of government, a broad commitment to high levels of participation will be maintained. However, the three scenarios are distinctive in the level of regulation of degree awarding powers and fees that are assumed. Furthermore as noted in section 5 some of the current policies that give rise to uncertainties over future numbers may be changed or abandoned with a change of government.

133 All three scenarios assume that the delivery of higher education will change significantly in response to developments in the digital and communications technologies and the changing expectations of young people in how they communicate and engage with learning. In particular, this will involve the exploitation of the potential of wireless connection through the internet for remote communication with individual students and groups of students. It will also involve the use of the internet for the managed delivery of learning materials. This all implies changes in the way academic staff engage with students and will, therefore, require significant re-skilling. It also implies significant re-thinking of how the university plant is used and developed.

134 However, it remains the case that for some students and some aspects of learning face-to-face teaching and learning assessment will continue to be the preferred approach. Furthermore, where virtual learning is the main mode, students will almost certainly need additional support in taking key decisions about their learning programmes.

135 Each of the three scenarios assumes a different trajectory for the development of technologically-based learning across the next twenty years with consequential different impacts in each of the scenarios.

136 Increased employer engagement, although in different forms and to different degrees in the three scenarios, is also a common theme (see paragraph 123).

137 All assume a different pace of development of increased competition from non-traditional providers of higher education, including overseas providers and for-profit providers.

138 The different combinations of these factors which form the basis of the three scenarios will lead to significant, but different in each case, change in the pattern of higher education institutions in the UK.

139 All the scenarios assume implicitly a common trajectory for the development of the differentiated higher education systems in the four countries of the UK, but short of the break-up of the United Kingdom the differences in the systems will be sustainable and not be material in the face of broader external developments. It seems likely that the biggest driver for further changes in the differentiation of the four systems will be the differential pattern of demographic change in the four countries over the next twenty years.

Scenario 1: slow adaptation to change

Assumptions

140 Student demand broadly follows the demographic projection with a reduction of around six per cent or 70,000 full-time undergraduate students across the UK by 2019, with substantially larger reductions (over ten per cent) in Scotland and Northern Ireland. As from 2002-2006, there will be no significant increase in the proportion of suitably qualified young people entering higher education. However, as young people are required to remain in education or training up to the age of 18, more enter employment with a level 3 qualification. With an upward trend in older age groups, there will be a small increase in the number of part-time undergraduate students (4.7 per cent) and postgraduate students (one to two per cent).

141 From 2019 to 2026, demography leads to a small increase (of some three per cent) in full-time students. Some additional development of academic programmes should then be possible.

142 There will be a small further increase (say two per cent) in part-time undergraduate students and a reduction in full-time students, reflecting the reluctance of some younger applicants to take on substantial loans and to enter paid employment instead to help them finance their studies – especially as tuition fees increase.

143 The number of international students studying in the UK will increase by between four and five per cent in line with global trends in the numbers entering higher education but with the increase skewed to fewer institutions.

144 Total funding (public and private) per student remains broadly constant overall, with a modest increase in the cap on tuition fees leading to higher private contributions. On average, total funding for institutions will fall as a result of the reduction in total numbers until at least 2020. Government regulation of fees and requirements on quality assurance arrangements will remain as they are now.

145 There will be some greater differentiation in the academic programmes offered by institutions aimed at securing a higher proportion of qualified applicants with increased niche marketing and through the use of blended learning, combining distance learning and traditional face-to-face approaches and the use of wireless technology to manage groups of learners. However, the traditional three or four-year degree will remain the main undergraduate qualification.

146 There will be some further increase in the concentration of research funds allocated by the higher education funding councils based on the revised approach to research assessment adopted from 2008.

Scenario 1 – slow adaptation to change

147 The combination of increased cost pressures, continued government regulation of fees and the sharp demographic decline between 2010 and 2019 limit the ability of many institutions to adapt rapidly enough to change. Universities will seek to develop new academic portfolios, some with e-learning elements (although in the absence of significant public investment these e-learning elements remain a modest proportion of the total academic provision), in order to attract more students as the total number of young people qualified for admission to full-time undergraduate programmes falls. Some increase in engagement with employers will form an element of this approach.

148 There will also be some further development of two year degrees. Some research-active universities, especially those receiving lower levels of funding for research, will seek to expand their student market share to ensure adequate total funding. There will be greater focus on recruiting part-time students and international students.

149 Increased competition amongst UK institutions to attract more international students will be followed by the development of more co-operation between individual universities in marketing and recruitment for these students.

150 More UK institutions will develop transnational higher education to benefit from increasing demand in other countries as well as from an increase in the number of international students at postgraduate level coming to the UK. The developments in e-learning although relatively modest will enable institutions to enter the mass borderless higher education market.

151 Some institutions that recruit predominantly local students (particularly in Scotland and Wales, but also in some English regions) not succeeding in securing either a higher proportion of available UK students or more international students will need to retrench (including possibly reducing quality and standards to reduce costs and fees) or amalgamate (including possibly with private institutions) to survive. In Northern Ireland, which currently exports substantial numbers of students to the rest of the UK and the Republic of Ireland, the government will negotiate a special agreement over tuition fees with the Republic to ensure that its institutions remain viable.

Assumptions

152 As young people are required to stay in education or training up to the age of 18 there is a significant increase in the proportion of 18- to 20-year-olds, especially boys, attracted to stay in learning by the innovative application of digital and communications technology, gaining level 3 qualifications. Much of this increase is in the form of diplomas rather than A-levels.

153 Employers, driven by the impact of demographic decline between 2010 and 2020, recruit a higher proportion of 18- to 20-year-olds with level 3 qualifications than now and fund part-time higher education for these individuals. This, together with the increase in the numbers of 25- to 50-year-olds and of people aged over 60, leads to a significant increase in the demand for part-time undergraduate higher education.

154 There is increased demand for postgraduate study (mainly part-time) to meet the increasing requirement in many jobs for the highest level of skills.

155 After a short-term recession, economic growth is largely sustained across the period at the level achieved in recent years. This is sufficient to sustain public funding for higher education at current levels **per student** in real terms against the pressures for increased funding for services for the ageing population and for increased numbers of migrants. Fees are largely deregulated but with a cap on the public contribution leading to a differentiated fee system for full-time undergraduates in line with fees for other students.

156 Government regulation is reduced and there is in place a more open and liberal quality assurance regime for taught provision. This together with emergence of market fees encourages more specialist private providers to enter the market. The UK brand of higher education is, however, diminished as a result and overall international demand falls except for the internationally recognised elite institutions.

157 A universal (UK-wide) credit accumulation and transfer system for undergraduate and postgraduate qualifications is in place.

Scenario 2: market-driven and competitive

158 There is a more generally agreed and well-understood complementary participation by the principal partners in higher education – the state, higher education institutions, individuals, and employers than there is now:

- state involvement being more strongly strategic with public funding for higher education targeted upon specific parts of the population (Foundation awards, under-represented groups, the unemployed, etc), particular subjects (especially those judged to be of strategic importance or linked to public sector employment) and changing needs of the national economy and with a cap on the level of public contribution to fees. Otherwise less intervention and regulation than now;
- highly innovative providers, including many more private providers than there are now, with a greater awareness and commitment to develop and exploit their particular strengths and bring new products combining new technological approaches to enhance the student learning experience to new better defined market;
- empowered individuals recognising their own self-interest, embracing the new technologies and accepting responsibility to achieve 'life worth' awards from credits acquired and funded from a variety of different sources;
- employers looking to satisfy their human resource requirements according to commercial priorities and with less regard to final awards, national boundaries and whether the provider is public, private or jointly funded. Increased assumptions that it is the responsibility of individuals to ensure their own 'employability' but with an increasing trend to pick people at the age of 18 and manage and support their higher education rather than wait until they graduate.

159 Despite an economic slowdown in the short term, continuing strong economic growth in the latter part of the period facilitates increased total (public plus private) investment in higher education. Public investment, which comes under strong pressure from expenditure on the health service and services for the elderly more generally, is maintained at current levels per student. However, it is more targeted on enabling under-represented groups to participate and on particular courses, especially those seen as of strategic national importance, those leading to jobs in public sector professions and continuing professional development for those professions and some postgraduate programmes.

160 Increased private contributions are required from full-time undergraduate students from more well-off families through a differential fee regime that requires them to finance the element of the fee above the public fee cap without subsidised public loan support. Increased contributions are required also from all graduates through charging a real rate of interest on publicly funded student loans. Nevertheless full-time undergraduate provision remains the major part of the publicly funded higher education sector's provision.

161 By 2026, the higher education landscape looks quite different than it is now. It is a much more differentiated system driven by institutions' search for financial sustainability and the need to compete effectively with new entrants to the market that are much fleeter of foot in responding to new opportunities than higher education institutions have traditionally been. Sharing some features with the current higher education systems in the United States and Australia but more diverse with UK publicly supported higher education institutions operating in partnership with overseas universities or major private providers. Some of these partnerships will be with publishing companies able to make a major investment into the development of e-learning. This enables the larger institutions in particular to continue to compete in the UK market and in the borderless education market.

162 This diversity will encompass the following:

- a smaller number of institutions with wide-ranging diverse missions which strive to increase their size by acquisitions and mergers. Their aim is both to support their overhead costs and to enter new markets so that this group of institutions may be, on average, 50 per cent larger than they are now;
- a much larger number of small and medium sized institutions that are specialist or operate in niche markets;
- a much larger number of private providers than now encouraged by a more liberal quality assurance regime and the opportunity to demonstrate the feasibility of reducing delivery costs without sacrificing quality for certain aspects of teaching delivery. Most of these will be small to medium niche providers, but some may be offshore operations of overseas universities or large borderless e-learning providers such as major publishing companies. Some of these private providers will be in partnership with publicly funded institutions and may gain access to public funding.

163 This differentiation within the sector leads to the development of two streams of academic staff: one undertaking research and teaching in the large broad mission institutions; the other in small niche providers mainly undertaking teaching, both in publicly funded higher education institutions and non-traditional providers.

164 However, this increase in the diversity of the sector leads to a loss of the clear brand identity of UK higher education with some fall in demand from international students especially at the lower end of the market where most opportunities for collaboration might arise. On the other hand, niche markets are exploited with the result that there is greater diversity of postgraduate provision related to employment needs and, in particular, more shorter programmes and more part-time and e-learning study within a universal credit accumulation and transfer system.

Assumptions

165 Demographic trends to 2019, with a near six per cent reduction in numbers of young people, coupled with an ageing population and financial pressure for those in employment to remain in work after the age of 65, lead to an increased need for high-level skills training and re-training. There is stronger political commitment to (and funding for) lifelong learning, and competition between employers to recruit, and particularly to retain, high quality staff, especially younger staff.

166 Competing pressures for public funds (especially in areas such as health, social care services and pensions) result in higher education receiving significantly less public investment than it does now. Tuition fees for full-time home/EU students on first degree programmes are deregulated, bringing them into line with part-time and postgraduate programmes for home/EU students and all international students.

167 Under these funding pressures, public funding is more heavily rationed and regulated than now being limited to the following:

- a 'train to gain' model is put in place in which public funding allocated by the higher education funding councils is dependent on explicit evidence of employer support for the programmes. This develops from bringing together the HEFCE pilot programme in which additional student numbers are partly funded by employers and the Learning and Skills Council's train to gain programme in a single UK-wide programme;
- tax incentives for employers are introduced to encourage investment in training/learning undertaken by their employees;
- supporting fees and providing other financial support for students on traditional undergraduate programmes are provided on a means-tested basis to students from low-income households or low-participation backgrounds, including access to publicly-subsidised loans. Otherwise publicly provided loans are not subsidised;
- a limited number of state scholarships are provided in order to sustain subjects deemed to be in the national interest but where student demand is insufficient to support sustainable provision;
- supporting capital investment in institutions through the funding councils.

168 Driven by the availability of this public funding route through employers and employers' expressed preferences, England joins the rest of the UK in introducing a full credit accumulation and transfer system (CATS), enabling the distinction between full-time and part-time study to be abandoned and empowering students to move in and out of higher education as their lives, careers and circumstances dictate. Full higher education awards can be constructed from a series of modular pathways, enabling "bite sized" learning (ten credit modules) to form the building blocks for first degree and other programmes.

169 The current distinction between student support systems for full-time and part-time students is abolished, with a *pro rata* entitlement to means tested student support dependent upon the intensity of study (in terms of the number of credits) completed in each academic/calendar year.

170 Significant upfront capital investment is provided (from public funds) to assist institutions either working alone or in partnership with private investors to adopt high quality virtual learning systems as a major method of delivering teaching and learning provision at higher education level. This enables learning to be tailored to individual student needs and to meet the increasing pressure for a 24/7 operating environment. This also facilitates the move to a full CATS system which allows part-time learning, work-based learning, and 'bite-sized' learning to become as mainstream as 'full-time' programmes.

Scenario 3: employer-driven flexible learning

171 Serious and continued investment in digital learning systems and wireless technology allows an increase in the scale and reach of higher education programmes and provides 24/7/365 opportunities for learning at this level. The scale of operation and the ability for students and teachers to communicate remotely significantly reduces unit delivery costs, making higher education more affordable to students who have to meet the cost of their own fees. This scenario implies a significant reduction in the size of the traditional higher education sector across the UK, compared with today, in terms of the number of institutions, total student numbers (in full-time equivalents although not in headcount terms) and total funding per student (both public and private).

172 Employer influence over a significant part of public funding coupled with the emergence of a full credit accumulation and transfer system leads to an expansion of ten and twenty credit modules. This, in turn, provides a basis for individuals to obtain a much closer integration of periods of employment and periods of study but probably over a more protracted period than now. Student progression is less certain than it is today (planned and costed on the basis of ten credit modules) so that the total funding received by an institution for each student a year becomes less easy to plan.

173 The system rests on a much more flexible academic workforce. As well as increased movement between academia and business or the professions, a significant number of specialist academic and technical staff would become self-employed. They would contract employment with a number of institutions according to their teaching and learning or research requirements rather than being fully and exclusively employed at one institution. (Analogous models for self-employed professionals might include doctors and barristers.)

174 Apart from a few elite institutions UK higher education is less well-placed to compete in traditional international student markets. However, the investment in technologically-based learning provides the basis for successful engagement in borderless higher education, but this generates lower surpluses than traditional provision for international students.

175 Changing demands and very limited availability of public funding leads to a much greater stratification of the sector with the following:

- a small group of elite institutions with high fees, strong research and significant numbers of international students. Although home undergraduate students in these institutions no longer receive public tuition funding support (except for those receiving scholarships for subjects deemed in the national interest), full-time study continues to be the norm here (unlike all other institutions);
- some institutions will act as major regional centres, serving the needs of their local communities including both business and public sector employers. Predominantly these will be those located in major conurbations;
- some institutions will be largely virtual but with very large numbers on a wide range of programmes;
- some access institutions will continue to provide a significant element of face-to-face teaching;
- much first degree provision will be offered in further education colleges (boosted by the success of the empowerment of colleges to award their own Foundation degrees) operating at lower unit costs and running programmes franchised from a regional centre. Typically this might be the pattern for traditional higher education delivery in rural areas (lower populations and/or geographically remote).

Comparing the scenarios

176 In seeking to assess these scenarios it is helpful to examine where they lie in relation to a series of key characteristics. Table 12 sets out this comparison.

Table 12

Comparison of the three scenarios on key characteristics

Key characteristic	Scenario 1 Slow adaptation to change	Scenario 2 Market-driven and competitive	Scenario 3 Employer-driven flexible learning
Economic growth	In line with the long-term growth rate, but with at least one major recession.	Sustained at recent high levels after short–term slowdown.	As with scenario 1.
Levels of public investment	Sustained at current levels per student.	As in scenario 1 but much more targeted than now.	Reduced level of public investment per student with much greater targeting than now and more co-funding with employers.
Government regulation	As now with regulation of full-time undergraduate fees and sustained quality assurance arrangements.	Reduced regulation of full-time undergraduate fees. More liberal quality assurance regime to encourage the emergence of new providers.	Increased regulation of public funding related to employer relevance and student need.
Individual contributions to tuition costs	Increased.	Increased.	Reduced/not increased.
Employer contributions to tuition costs	Little change.	Increased but not necessarily to publicly funded institutions.	Substantially increased.
Participation of young people	As now but with some switch from full-time to part-time study.	Reduced proportion of qualified young people in full-time undergraduate provision, but with an increased proportion achieving a level 3 qualification by age 19 increasing numbers in part-time undergraduate provision.	Removal of the distinction between full-time and part-time study leads to a substantial reduction in the full-time equivalent of initial undergraduate higher education, but on a headcount basis participation may match current levels.
Participation of older people	Modestly increased.	Substantially increased.	Substantially increased.
Employer engagement	Modest change from now, mainly through increased influence on the curriculum.	Increased but not necessarily primarily with publicly funded institutions.	Substantially increased so that employers are the primary drivers of significant proportion of public funding for higher education.
Competition (UK)	Increased competition amongst publicly funded providers with a modest increase in the number of private (mainly) niche providers.	Significant expansion of the range of private providers with fierce competition for UK students (including from overseas).	Highly stratified and polarised system with only limited competition.
Competition (international students)	UK institutions continue to compete effectively for international students despite increased competition from other countries. In part this is achieved through increased collaboration in the international student market between UK higher education institutions.	UK institutions compete less well than now in the changing international student markets.	With the exception of a small group of elite institutions UK higher education institutions compete less well than now in traditional international student markets. However, they do engage with the lower value technology-based mass borderless higher education market.

Key characteristic	Scenario 1 Slow adaptation to change	Scenario 2 Market-driven and competitive	Scenario 3 Employer-driven flexible learning
Technology-based learning	Some increase in e-learning, but face-to-face learning remains the predominant mode of learning for full-time students.	Substantial increase in the application of virtual learning, especially at postgraduate level for those in employment.	Virtual learning is the predominant mode of delivery supported by a strong academic support service. Nevertheless the scale of operation reduces the unit cost.
Academic staffing	Much as now with academic staff undertaking teaching and research.	Development of two streams: one undertaking research and teaching in the large broad mission institutions; the other mainly undertaking teaching in small niche providers, both publicly funded higher education institutions and non-traditional providers.	The system rests on a much more flexible academic workforce. As well as increased movement between academia and business or the professions, a significant number of specialist academic and technical staff would become self-employed, contracting employment with a number of institutions according to teaching and learning or research requirements rather than being fully and exclusively employed at one institution.
Response of the supply side	Increase range and flexibility of provision to secure increased share of reduced numbers. Increased structured collaboration. Some reconfiguration and merger to deliver sustainability. Reduce quality of provision to reduce costs. Modest increase in private providers.	Increase in flexibility of provision. Reducing costs without reducing quality through applying lessons learned from successful private providers. Major institutional rationalisation with mergers and de-mergers to secure sustainability, including mergers with private providers.	Move to offer teaching and learning on a 365/24/7 basis through major public and private investment in technology based learning systems. Much more rigid stratification of institutions. Local provision much more strongly based around collaborative provision with the further education sector.

Scenario 1: Perceived threats and opportunities

177 The perceived opportunities of scenario 1 are:

- the development of new programmes to capture new markets, influenced in particular by the articulated needs of employers;
- increased demand for part-time programmes;
- increased international student numbers through marketing collaboration and through the development of transnational provision.

178 The perceived threats of scenario 1 are:

- some higher education institutions may not be well-placed to react quickly enough to the changing pattern of student demand and could become unviable in the period up to 2019 leading to more proactive action on mergers by the funding councils;
- the number of vulnerable institutions is widened as demographic decline proves to be sharper than now projected because political action is taken to restrict inward migration to the UK and/or a significant proportion of the migrants from the EU do not seek to pursue higher education here;
- there would be more widespread vulnerability should the economy perform significantly less well than in recent years in the period up to 2019 with perhaps a major recession between now and 2012, leading to additional downward pressure on public funding in general;
- the priority to maximise student admissions could tempt some institutions to reduce entry qualifications below minimum levels with parallel reductions in standards;
- loss of reputation through institutional closures or reductions in quality and standards would be likely to inhibit international recruitment and the wider development of the sector;
- too much emphasis on employers' needs at the expense of broader academic requirements and opportunities offered by technological developments leads to further reductions in demand from individuals for higher education and limited innovation in the economy. This reinforces threats to investment in the development of the national higher education system from poor economic performance and despite specific public funding support for students studying low-demand but strategically important subjects such as physical sciences more such departments are forced to close.

Scenario 2: Perceived opportunities and threats

179 The perceived opportunities of scenario 2 are:

- increased opportunities to capitalise on strengths in niche markets;
- identification of lower cost approaches to delivering quality programes through increased competition;
- partnerships with non-traditional providers to increase market share;
- increased demand for postgraduate provision.

180 The perceived threats from scenario 2 are:

- potential damage to the reputation of the UK higher education sector, especially from the extension of quality assurance systems to private providers leading to reduced recruitment of international students;
- concentration on dealing with the increasingly competitive home market restricts the ability of many institutions to continue to compete effectively in the international student market as other countries develop their own higher education systems and adapt better to meeting the needs of the global learning environment;
- the publicly funded sector continues to find long-term sustainability elusive as it loses core business to private providers that are able to operate with fewer overheads and are fleeter of foot in recognising key changes in demand;
- faced with an increasingly competitive private sector offering more, students choose that over the public sector offering leading to unfilled publicly funded places;
- campus-based universities come under particular pressure as more students study part-time or from their home;
- on the other hand, students, faced with a much wider range of choice than now, are unable to judge what opportunity best meets their needs also leading to a significant over-supply of places with consequential loss of institutional viability;
- employers make increased use of external providers for higher level training but choose to use more accredited private providers than the publicly funded sector;
- some elite institutions seek to secede from the publicly funded sector;

- the private sector grows at the expense of the publicly funded sector not only by out-competing in traditional markets and capturing new ones but also through:
  - both national and international private takeover of some star niche players;
  - purchase and 'turnaround' of failing institutions;
  - existing higher education institutions 'hiving off' separate niche provision that appears unsustainable.

181 The perceived opportunities of scenario 3 are:

- the development by institutions of strategic alliances with groups of employers and their supply chains to include not only the provision of training, but also business support services and collaborative research;
- through strategic alliances or mergers with local further education colleges to become major regional providers;
- to lead the field in the development of effective and attractive digitally based learning delivery in partnership with major commercial players such as publishing houses or software firms both UK-based and international and to use these developments as a springboard into borderless higher education markets;
- through providing strongly focused and technologically-based learning opportunities to make higher education more attractive to boys;
- through the CATS system to open up higher education to a much wider group of people, including older people in particular.

182 The perceived threats of scenario 3 are as follows:

- private providers enter the market and cherry-pick vocational provision, driving out higher education institutions which are unable to find alternative home markets and which are forced to merge with local further education colleges to provide hybrid institutions akin to community colleges in the United States;
- institutions that are unable to change their culture to meet new demands are liable to 'take over' from the commercial sector, or merger with other publicly funded educational institutions (either successful local universities for 'asset stripping' or with further education colleges as above);

- extreme stratification of the higher education sector leads to the rigidity of a bipolar system. A small number of elite institutions continue much as now (full-time undergraduate and postgraduate programmes based on face-to-face teaching, research provision, charging high tuition fees) with the rest offering more flexible modular teaching and learning provision, linked to local further education colleges, and much less well funded. Because of the extremes of this bipolar system, it becomes impossible for institutions to move between the two regimes, leading to long-term academic stagnation (even threatening the elite institutions), and resulting in UK higher education losing its world class status except for a very few institutions (perhaps no more than ten);
- overall, the UK is no longer perceived as having a single higher education system. Those unable to fund a full-time residential education themselves (or to obtain employer/scholarship support) are forced to study part-time at local institutions which offer an inferior experience, leading to a significant loss of equality of opportunity for many/most young people;
- student demand for vocational qualifications, including level 3 diplomas does not materialise, and re-creation of the distinction between largely academic and largely vocational institutions runs counter to international developments, reinforcing the stratification of a higher education sector with a very few elite institutions and loss of reputation on the world stage. Institutions are forced to close or merge;
- the significant reduction in public funding support is not matched by an increase in employer support, impoverishing many institutions and encouraging mergers with further education colleges to produce more hybrid institutions such as the Thames Valley University or some of the larger current 'mixed economy' colleges. A large number of higher education institutions close. Campus-based universities are particularly vulnerable and subject choice within individual institutions is significantly reduced, restricting choice for locally based students without the resources to study away from home. Overall the UK higher education system becomes fragmented.

8
Future size of the sector: impact of the three scenarios on the principal student markets

183 This section seeks to integrate the demographic analysis (including the uncertainties), the impact of current trends and the impact for each of the three scenarios for each of the main student markets:

- home and EU full-time undergraduates;
- part-time undergraduates;
- home and EU full-time postgraduate students;
- home and EU part-time postgraduate students;
- international undergraduate and postgraduate students.

184 In each market we have used the central demographic-based projection in our first report as the benchmark.

Home and EU full-time undergraduates

185 Home and EU full-time undergraduates remain the single largest student market for UK higher education institutions[13] representing 45.3 per cent of all students on a headcount basis in 2006/07. Including students from outside the EU, full-time undergraduates accounted for over half the student enrolments recorded by the Higher Education Statistics Agency (HESA) in 2006/07.

186 The benchmark demographic projection of home and EU full-time undergraduates in 2026/27 for the UK as a whole was for enrolments to be 0.6 per cent above the 2005/06 figure, following a substantial fall between 2010 and 2019. This modest increase for the UK by 2026/27 was made up of significant reductions in Scotland, Wales and Northern Ireland offset by increases for England.

187 The analysis of the uncertainties in the demographic projections arising from migration and the changing social mix of the population in section 4 above suggested that the baseline projection might overestimate full-time home and EU undergraduate enrolments by about 50,000 or 4.5 per cent. The analysis in section 5 above of the potential impact of current and prospective policies suggested that the baseline projection might underestimate full-time undergraduate enrolments by around 65,000 or 5.8 per cent. Taken together these two sets of analysis suggest an inherent uncertainty in the baseline projection of plus or minus five per cent before taking account of any of the developments suggested in the three scenarios.

188 Scenario 1 assumes that home and EU full-time undergraduate numbers broadly follow the demographic projections, but with a modest switch from full-time to part-time study. The analysis of current trends indicates a very small switch of this kind. For the purposes of this scenario we assume some acceleration of this trend so that by 2026/27 around three per cent of home and EU undergraduates (some 30,000 students) who would currently have chosen to study full-time choose to study part-time.

189 Scenario 2 assumes that a modest proportion of home and EU full-time undergraduate students will choose to take up places in further education colleges or accredited private sector providers able to compete on price with universities in the publicly funded higher education sector. This loss of enrolments would be separate from the demographically-driven changes in demand.

190 In practice this is likely to be limited to disciplines which attract large numbers of applicants and which have low entry costs such as business studies, law and some aspects of information technology and computing. Technology-based provision may help private sector and other providers from outside the UK higher education to compete on price because of the potential economies of scale, but will increase the entry costs for private providers substantially. We estimate that the sector could lose up to ten per cent (or 100,000 home and EU full-time undergraduates) in this scenario.

191 Scenario 3 assumes that a significant reduction and increased targeting of the public subsidies for full-time undergraduate provision, together with much more widespread use of digital technology to deliver and support learning, will lead to a sharp decline in full-time home and EU undergraduates in addition to the demographic-based projection of changes in numbers in this category. It seems likely that a significant proportion of current higher education provision would be protected from such changes. In addition to subjects of strategic importance such as engineering and the physical sciences this would include undergraduate provision which prepares people for entry to professionally-based public employment and preparation for the professions more generally.

192 On balance, we consider that around 20 to 25 per cent of full-time undergraduate places might be vulnerable to loss of demand under Scenario 3 given the increased requirement on individuals to meet the cost and the availability of more well-funded part-time alternatives.

193 These assessments of the level of enrolments on full-time undergraduate programmes from home and EU students in 2026/27 under the different scenarios are summarised in Table 13 below.

Table 13

Summary of projected home and EU full-time undergraduate enrolments in the UK higher education sector under different scenarios in 2026/27

Scenario	Projected home and EU full-time undergraduate enrolments (000s)
Central demographic projection	1,132
Range incorporating key uncertainties (migration and changing social mix)	1,054 – 1,162
Range incorporating current trends and policies	1, 132 – 1,202
Scenario 1	1,024 – 1,172
Scenario 2	954 – 1,100
Scenario 3	769 – 915

194 These figures are presented as ranges to illustrate the most optimistic and pessimistic under each scenario combining the impact of the scenario with the projected demographic change.

195 Within the scenarios (and more generally during the period of demographic decline) there are certain to be differential impacts at individual subject level and this could pose serious difficulties for those subjects which have experienced difficulties in recruitment in recent years.

Part-time undergraduates

196 As noted in our first report, the part-time undergraduate market is in fact a series of markets – part-time first degrees, vocational qualifications other than first degrees and non-vocational sub-degree programmes. In the baseline demographic projections we estimated separately numbers of part-time first degree enrolments and part-time other undergraduates and we have therefore followed that practice in assessing the implications of the three scenarios for part-time undergraduate numbers.

197 The baseline demographic-based projection shows an increase in part-time first degree students of five per cent from 204,000 to 214,000 over the twenty-year period with a slightly lower increase in part-time undergraduates studying for qualifications other than first degrees from 385,400 to 403,500.

198 The part-time undergraduate projections are less sensitive than the full-time projections to uncertainties in migration rates and changing social class mix within the population. Part-time first degree numbers could be around 5,500 lower and part-time other undergraduates 16,400 lower under the changed assumptions considered in section 4 above. On the other hand, part-time undergraduate numbers are likely to be significantly affected by the government's decision to withdraw financial support from students studying for qualifications at equivalent or lower level than a qualification they already hold. However, this decline is likely to be offset to some extent by the trend for more young people choosing to study part-time rather than full-time and by the efforts of institutions to anticipate demographic change by entering new part-time undergraduate markets. The net effect of these factors is that the baseline projection overestimates part-time first degree numbers by 15,000 and part-time other undergraduate numbers by 16,000 before taking account of any impact of the scenarios. All assume growth in part-time undergraduate study.

199 **Scenario 1** assumes some acceleration in the shift of young entrants from full-time to part-time study. In line with the change in full-time undergraduate enrolments under this scenario discussed above, the increase in part-time undergraduate numbers would be 30,000 assumed to be all within undergraduate first degree numbers.

200 **Scenario 2** assumes a modest shift from full-time to part-time study driven by increased sponsorship of young people entering employment at the age of 18 and being sponsored by their employers to undertake higher education part-time. We assume that this produces an overall increase of 50,000 part-time undergraduates split between first degree and other undergraduate programmes compared to the baseline. It is also assumed that there is an increase of a further 25,000 part-time other undergraduate from people aged 60 and over seeking higher education. The overall impact is an increase of 25,000 part-time first degree students and 50,000 other undergraduate students compared to the baseline.

201 Scenario 3 assumes a very substantial growth in part-time undergraduate numbers at the expense of full-time undergraduate numbers driven by employer demands, the withdrawal of general financial support for full-time undergraduate study and the widespread availability of learning provided through digital and communications technology. Consistent with the projected reduction of 20-25 per cent in full-time undergraduate numbers we assume that part-time undergraduates might increase by up to 250,000 compared to the baseline predominantly on other undergraduate programmes with an increase of 50,000 in part-time first degrees and 200,000 in part-time other undergraduate programmes.

202 These assessments of the level of enrolments[14] on part-time first degree and part-time other undergraduate programmes in 2026/27 under the different scenarios are summarised in Table 14.

Table 14

Summary of projected part-time first degree and other undergraduate enrolments (000s) in the UK higher education sector under different scenarios in 2026/27

Scenario	Projected part-time first degree enrolments	Projected part-time other undergraduate enrolments	Projected total part-time undergraduate enrolments
Central demographic projection	214.3	403.5	617.8
Range incorporating key uncertainties and current trends and policies	199.3 – 214.3	387 – 403.5	586.3 – 617.8
Scenario 1	229.3 – 244.3	387 – 403.5	616.3 – 647.8
Scenario 2	224.3 – 239.3	437 – 453.5	661.3 – 692.8
Scenario 3	244.3 – 264.3	587 – 603.5	831.3 – 867.8

203 The increases projected here for part-time undergraduate enrolments will be significantly lower in full-time equivalent terms.

Postgraduates

204 Although there are at least three separate markets for postgraduate study – full-time postgraduate taught, part-time postgraduate taught and postgraduate research – we consider them together here. All the scenarios assume growth in the demand for postgraduate study driven by the increased demand in the economy for the highest level skills.

205 Demand for **postgraduate research places** has been assumed to be relatively insensitive to demography. Furthermore, the most able students are likely to be least affected by the changes assumed in the scenarios. Provided the UK higher education retains its research reputation, it is likely that any fall off in demand from UK students arising, for example, from the pressures of increasing debt on graduation will be made good by increased recruitment of international students – considered in more detail below.

206 On the baseline demographic projection **full-time home and EU postgraduate numbers** are projected to rise by around 2.5 per cent between 2005/06 and 2026/27, to 108,500. Taking account of the uncertainties in respect of migration and the impact of current trends, we consider that this might represent an overestimate of around 4,000 students.

207 **Scenario 1** assumes that full-time numbers will move in line with the baseline projection. Under **scenario 2** we assume some increase in home and EU full-time postgraduates as higher education institutions respond to increasing demand from individuals and employers for highly skilled manpower in a market where alternative providers, other than overseas universities, will be less well-placed to compete. We have assumed a ten per cent increase (11,000) in home and EU full-time postgraduates by 2026/27 compared to the baseline. One of the key features of **scenario 3** is the switch away from full-time study and we consider that this change would also apply to postgraduate study. We assume, therefore, a ten per cent reduction in home and EU full-time postgraduate numbers by 20026/27 compared to the baseline demographic projection.

208 **Home and EU part-time postgraduate numbers** are projected to rise by three per cent between 2005/06 and 20026/27 on the baseline demographic projection to 218,900. This figure is relatively insensitive to the uncertainties in the demographic projection on migration rates and social class mix. As with part-time undergraduate demand, the biggest uncertainty arises for the decision by the Westminster government no longer to support ELQ students in England (who currently represent a significant proportion of part-time postgraduate students). Taking into account the likely response by institutions in trying to make good this loss of public support, we consider that the central demographic-based projection may overestimate home and EU part-time postgraduate numbers by around 10,000 students.

209 **Scenario 1** assumes that home and EU part-time postgraduate numbers will increase in response to the increased demand in the economy for the highest level of skills coupled with provision being available on a more flexible basis through e-learning and blended learning. We consider that this increase in numbers will be around ten per cent above the central baseline demographic projection or an additional 22,000 students.

210 **Scenario 2** assumes a similar pattern of increased demand from the economy for the highest level of skills and correspondingly increased flexibility in the delivery of part-time postgraduate programmes as in scenario 1. However, with a more successful UK economy and the increased competition in undergraduate markets, we assume that the growth in home and EU postgraduate numbers will be higher than in scenario 1 at around 15 per cent or 32,000 additional students compared to the baseline projection.

211 **Scenario 3** assumes that all of the growth in home and EU postgraduate numbers, driven by the demands of the economy, will be for part-time flexible study that flows naturally from the changed pattern of undergraduate study towards substantially more part-time and e-learning study. We assume that under this scenario home and EU part-time postgraduate numbers would increase by 25 per cent (55,000) compared to the central demographically driven baseline projection.

212 These assessments of the impact on postgraduate numbers under the different scenarios are summarised in Table 15.

Table 15

Summary of projected home and EU postgraduate enrolments in the UK higher education sector under different scenarios in 2026/27

Scenario	Postgraduate research	Full-time postgraduate taught	Part-time postgraduate taught	Total postgraduate
Central demographic projection	63,800	108,500	218,900	391,200
Range incorporating key uncertainties and current trends and policies	63,800	104,500 -108,500	208,900 – 218,900	377,200 – 391,200
Scenario 1	63,800	104,500 -108,500	230,900 – 240,900	399,200 – 413,200
Scenario 2	63,800	115,500 -119,500	240,900 – 250,900	419,200 – 434,200
Scenario 3	63,800	94,000 -98,000	263,900 -273,900	421,700 – 435,700

213 As with part-time undergraduate numbers the increase in part-time postgraduate numbers will be significantly lower on a full-time equivalent basis.

International students (other than EU)

214 The central baseline projection of a four per cent increase in international students from outside the EU in UK higher education institutions by 20026/27 is based on an assessment prepared by the British Council in 2004[15] of the international student market and the UK's share of that market. The Council is currently working with *The Economist Intelligence Unit* to update those estimates on a country-by country basis. (The first report on China has recently been published.)

215 The distribution of international (non-EU) students by mode and level in the central baseline projection is shown in Table 16.

Table 16

Projected international (non-EU) students by 2026/27 by mode and level

Mode and level of study	Number of international (non-EU) students
Full-time undergraduate	86,500
Full-time postgraduate taught	69,900
Part-time postgraduate taught	16,400
Postgraduate research (full-time and part-time)	25,800
Total	198,600

Source: Table 17 Universities UK (2008) *The future size and shape of the higher education sector in the UK: demographic projections*

216 We have assumed for the purposes of this study that demographic changes outside the EU were factored into the British Council estimates, which underpin the projected numbers presented above. It is clear that the current country-by-country studies being undertaken by the Council will take demographic change into account as well as economic and social development. Nevertheless, we assume that these projections are not subject to the uncertainties arising from the future level of migration into the UK or to current trends and policies.

217 **Scenario 1** assumes that the UK sector, through a combination of increased collaboration in marketing and through increased transnational provision will succeed in recruiting more international students than assumed in the central projection in all modes. We assume that this might be equivalent to a ten per cent increase above the baseline for all international students. There remains a downside risk that the UK higher education brand could be seriously damaged if a few institutions seek to maintain home numbers by reducing quality.

218 **Scenario 2** assumes that the increased diversity of institutions, more liberal quality assurance regimes and the emergence of a significant private sector lead to the loss of currency for the UK brand of higher education in international markets, except for elite institutions. We assume that this might reduce the number of international undergraduate students by up to ten per cent compared to the baseline projection and the number of international postgraduate students by five per cent given their concentration in elite institutions.

219 **Scenario 3** assumes that within a much more stratified system of institutions and with much provision employer-driven and offered on a part-time flexible basis, many institutions will be less well-placed than they are now to engage with traditional international student markets. However, the investment in technology-based learning will offer opportunities to provide borderless higher education. This is dependent on achieving a sufficient scale of operation to make it financially viable. These two factors will tend to work in opposite directions at undergraduate level so we assume that the numbers of international undergraduate students will be maintained, but the income generated will be lower. At postgraduate level we assume a ten per cent decline in international numbers because of the reduction in the number of institutions retaining the reputation to be major players in the international postgraduate market.

220 These assessments of the impact of the different scenarios on international (non-EU) student numbers are summarised in Table 17.

Table 17

Summary of projected international (non-EU) student enrolments by level in the UK higher education sector under different scenarios in 2026/27

Scenario	Undergraduate	Postgraduate	Total
Central baseline demographic projection	86,500	112,100	198,600
Scenario 1	95,200	123,300	218,500
Scenario 2	77,900	106,500	184,400
Scenario 3	86,500	100,900	187,400

221 Table 18 summarises these student numbers in the main student markets for each of the scenarios.

Table 18

Student numbers (000s) in 2026/27 by level and mode under the various scenarios

	Central demographic projection	Scenario 1	Scenario 2	Scenario 3
Home and EU full-time undergraduate	1,054-1,202	1,024 -1,172	954-1,100	769-915
Part-time first degree	199.3-214.3	229.3-244.3	224.3-259.3	244.3-264.3
Part-time other undergraduate	387-403.5	387-403.5	437-453.5	587-603.5
Postgraduate research (home and EU)	63.5	63.5	63.5	63.5
Full-time postgraduate taught (home and EU)	104.5-108.5	104.5-108.5	115.5-119.5	94-98
Part-time postgraduate (home and EU)	208.9-218.9	230.9-240.9	240.9-250.9	263.9-273.9
International (non-EU) undergraduate	86.5	95.2	77.9	86.5
International (non-EU) postgraduate	112.1	123.2	106.5	100.9
Total	2,215.8-2,409	2,257.6 -2,451.1	2,219.6 -2,431.1	2,209.1-2,405.6

222 Overall this suggests that the total student demand under the three scenarios may be very similar, although there is a significant shift, on each of the scenarios, from full-time to part-time numbers but especially on scenario 3. Financially this is very significant because on a full-time equivalent basis numbers overall would be lower, and part-time students tend to be more costly on a full-time equivalent basis than full-time students. However, the reduction in the recruitment of international (non-EU) students on scenarios 2 and 3 would also have a significant impact on the sector's finances.

223 In developing the scenarios, the future pattern of higher education institutions was seen as a key uncertainty in its own right. The scenarios presented above incorporate a view of the pattern of institutions that might emerge given the assumptions underpinning each of the scenarios. The pattern of institutions within the higher education sector in twenty years' time for each of the three scenarios is presented below.

Scenario 1: Slow adaptation to change

224 The shape of the sector would be recognisably similar to now but with fewer institutions as some will have merged or been taken over in the light of increased competition and the inability to secure long-term financial sustainability. There will also be increased trans-national provision with overseas universities. Most institutions will have increased their engagement with students through digital and wireless technologies, but face-to-face contact will remain a major part of the learning programme.

Scenario 2: Market-driven and competitive

225 There will be a much wider variety of institutions than now with:

- fewer very large broad mission institutions than now;
- a much larger number of small and medium-sized institutions operating in niche markets;
- a range of non-traditional providers, including a much larger number of private providers than now, overseas universities operating in the UK, large borderless e-learning providers and major publishing houses. Some will be in partnership with publicly funded institutions and thereby gain access to public funding;
- a more widespread application than now of digital and communications technology to the delivery of courses and communication with students, especially by the larger providers able to secure the benefits of scale to compete with private sector providers.

Scenario 3: Employer-driven flexible learning

226 The sector will be much more stratified than now as institutions pursue the most financially sustainable strategy given the markets with which they wish to engage. This range of institutions will include the following.

- a small group of elite institutions with high fees, strong research and significant numbers of international students. Although home undergraduate students in these institutions will no longer receive publicly subsidised tuition funding support (except for those receiving scholarships for subjects deemed in the national interest), full-time study continues to be the norm here (unlike all other institutions);
- some institutions will act as major regional centres, serving the needs of their local communities including both business and public sector employers. Predominantly these will be those located in major conurbations;
- some institutions will be predominantly virtual but with very large numbers of students on a wide range of programmes;
- some institutions whose principal mission is widening access will continue to provide a significant element of face-to-face teaching and receive significant support from public funds to support the mission;
- much first degree provision will be offered in further education colleges (boosted by the success of the empowerment of colleges to award their own Foundation degrees) operating at lower unit costs and running programmes franchised from a regional centre. This might have some flavour of community college provision in the United States. Typically this might be the pattern for traditional higher education delivery in rural areas (lower populations and/or geographically remote).

10 Institutions' responses to the perceived threats and opportunities

227 Higher education institutions, as part of their strategic and financial planning, already have a high level of understanding of the student markets that they operate in and their competitive position in those markets. However, the projected demographic decline in the number of 18- to 20-year-olds nationally over the next ten years will require institutions to assess their degree of exposure to this potential decline in the home undergraduate market and the impact this could have on their long-term financial sustainability.

228 To an extent this is for individual institutions themselves to monitor and address the potential consequences for them. However, as this exercise has demonstrated, with much more volatile demographic trends, sector bodies such as Universities UK, working with DIUS in England and the devolved governments in Scotland, Wales and Northern Ireland, can provide higher education institutions with a considered perspective on the impact of demographic change on the higher education sector as a whole that can in turn provide individual institutions with a benchmark for their own work.

229 Individual institutions will in particular need to:

- assess the extent to which they are national or local/regional recruiters and the impact of the expected differential in the demographic decline on demand in their region;
- assess the extent to which increased competition within the sector is likely to impinge on their traditional markets;
- consider alternative markets which they have the capacity to enter that might offset any projected decline in their home undergraduate recruitment, including part-time and postgraduate markets;
- consider opportunities that lie outside their core teaching and research activities, reflecting their increasing involvement in a diverse range of business functions.

230 The scenarios demonstrate, however, that institutions will also need to develop their capability to identify less predictable and more uncertain developments if they are to be in a position to anticipate them. This requires not only the continual monitoring of developments in government funding and other policies but also the ability to recognise the emergence of new competitors in traditional markets and new sources of demand. Here too collective action by Universities UK to collect intelligence on relevant developments could provide institutions with a helpful starting point for their own assessments.

231 Increased competition for public funding from the need to cater for an ageing population and increased immigration will limit the public funding available to higher education. Institutions will need increasingly to consider funding for provision and funding for students together if they are to be able to recruit students of the requisite ability from across socio-economic groups in a 'needs-blind' way.

232 All institutions need to recognise where they may be particularly vulnerable to competition from sources other than the traditional UK higher education sector. The extension of UK degree-awarding powers to private providers and further education colleges is a particular example of a longer- term threat which institutions will need to monitor closely.

233 Higher education institutions have shown their ability in the past to identify and tap into new or emerging student markets. However, as competition increases and the number of potential new markets declines, the scope for this kind of entrepreneurial response to a decline in traditional markets may be limited. Increased demand for postgraduate updating and postgraduate programmes more generally as a result of the increased skills demand of some kinds of employment is one example; another is more general engagement at undergraduate level with employers, which some institutions are already exploring with public funding support in England.

234 The development of the international student market over the next twenty years, both within and outside the EU, is particularly uncertain. There are three distinct markets – international students coming to the UK to study; partnerships between UK universities and overseas universities to offer UK higher education qualifications overseas; and borderless delivery of higher education using wireless communication to deliver higher education programmes digitally. UK institutions face potentially significant threats by the development of expanded higher education systems in those countries that have traditionally been a major source of international students for this country.There is a good deal of existing national intelligence through the work of the British Council and others and it is important that Universities UK seeks to stay abreast of that work and acts as a source of advice for its members. It is essential that institutions should make use of this intelligence in the context of the international markets they operate in or wish to do. However, as noted in the discussion of the scenarios, the continued success of the UK in international student markets is heavily dependent on maintaining the reputation of the UK higher education system for high quality.

235 Developments in digital and communications technologies seem very likely in our view to have a significant impact on the pattern of delivery of higher education over the next twenty years driven to a significant extent by the expectation of students with their familiarity with using these technologies in their everyday lives and the need for many students to combine learning and earning in a flexible way. The precise impact of these technologies is uncertain and depends in part on the degree of investment, whether public or private, in their application in higher education. Institutions need to consider the extent to which they engage with the application of communications and digital technologies to the delivery and management of student learning if they are to continue to compete for students. However, these decisions will have major implications for the institution's estate and the way in which staff are deployed and managed to deliver teaching and these issues will need to be addressed together with decisions about application of the technologies to learning. It will also be important for institutions to ensure that they strengthen their academic support arrangements for students who are taught predominantly through virtual learning.

236 Academic partnerships, for example through franchising arrangements with further education colleges, have been the traditional way in which many higher education institutions have sought to expand or sustain student numbers. Collaborative academic partnerships, both with other existing higher education institutions and other potential competitors, will be essential if these institutions are to be able to manage the threats of increased competition from demographic decline and the emergence of new competitors. Such collaboration can provide a more cost-effective approach to new or developing markets through reducing unnecessary duplication of effort and provide for more cost-effective delivery in fragmented markets. It is worth noting in this context that HEFCE is currently funding a study of the nature of partnerships between higher education institutions and other providers with particular reference to the funding and legal framework. Partnerships with individual employers or groups of employers are one example of this approach which the Westminster government is keen for institutions in England to explore. If increased collaboration and partnership are to be fully effective in offsetting the impact of increased competition there needs to be a much greater degree of mutual recognition of qualifications. A national credit accumulation and transfer system of the kind operating already in Wales, Scotland and Northern Ireland would provide such mutual recognition.

237 Successful collaboration in limited areas could in practice be the fuse for considering much wider collaboration and even merger in order to sustain the institutions concerned in the longer term. It will be of particular interest in this context to see how the proposal from DIUS for establishing up to 20 new higher education centres in 'cold spots' across England works out in the face of demographic change and, in particular the nature of the relationship with the existing higher education institutions that are involved in the development of these new centres.

238 For the sector as a whole, future viability (or health) is likely to depend in particular on the scope for reducing costs, especially staff costs, without seriously compromising quality; on the degree of public funding support, not only for teaching but also for research; on the degree and nature of market liberalisation; and on the extent and profitability of international recruitment. The sustainability of individual institutions will depend upon existing reputation and status; the proportion of activities (teaching, research, knowledge transfer) which are in buoyant or potentially buoyant areas (mode, level, subject, region); diversity of funding sources; and underlying assets.

Notes

1 As a starting point for the purposes of this exercise, the higher education sector is defined as the set of institutions that currently returns student number data to the Higher Education Statistics Agency (HESA) and whose student numbers are included in the 2005/06 data used as a starting point for the demographic projection in our first report (see footnote 2). By and large this is the publicly funded system of higher education, but includes the University of Buckingham. However, it excludes directly funded higher education delivered by further education colleges, which is of particular importance in Scotland.

2 Universities UK (2008) *The future size and shape of the higher education system in the United Kingdom: demographic projections*

3 Available at www.hepi.ac.uk

4 Universities UK (2008) op cit

5 The population trends across the twenty two year period 2006 to 2027 have been mapped using the demographic projections generated by the Government Actuary's Department which are published and maintained now by the Office for National Statistics (ONS). The projections used were those published by ONS in October 2007.

6 Derived from the 2004-based population projections published by ONS.

7 These figures include international students as well as home and EU domiciled students. It is assumed that international student numbers are independent of the UK and EU demographic projections.

8 Available at www.hepi.ac.uk

9 Cristina Lannelli (April 2008) 'Expansion and social selection in education in England and Scotland', *Oxford Review of Education,* Volume 34, Issue 2, pages 179-202.

10 Excludes those institutions that have merged since 1999/2000.

11 http://www.hefce.ac.uk/pubs/hefce/2007/07_27/

12 Note: in the following table, part-time undergraduate students have in some instances been assigned arbitrarily between degree and other programmes.

13 See Chart 1 in HESA (2008) *Students in Higher Education Institutions 2006/07*

14 These figures include a small proportion of international students from outside the EU which are assumed to remain unchanged under the different scenarios.

15 http://www.britishcouncil.org/eumd-information-research-vision-2020.htm

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