
FSSG

Financial Sustainability
Strategy Group

The sustainability of learning and teaching in English higher education

A report prepared for the
Financial Sustainability Strategy Group
by J M Consulting

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1 EXECUTIVE SUMMARY

Overview

This report reviews a large volume of information and evidence about the sustainability of teaching and learning in the English university sector, and makes recommendations for action by the sector and by government.

The case is made that a modest increase in public investment in teaching and the student learning experience would do much to improve the sustainability of the sector. And if such an investment is not made, we risk lowering the world-class contribution that our higher education teaching makes to the economy and society

This report provides the evidence to show what the pressure points are in the sector; their significance to students and to the higher education system and economy; and what could be done to alleviate them and achieve a sustainable future.

The core arguments in the report can be summarised as follows:

- a. historically our higher education system led the world, but was small and elitist. In the last 20 years the sector has grown rapidly with student numbers nearly tripled. It has also hugely improved the quality, range, relevance, flexibility, responsiveness, and efficiency of delivery of the student learning experience;
- b. the UK has invested less in higher education than the OECD average, and much less than some key competitors (notably the USA and Australia). During the 1990s, public funding per student declined;
- c. some of the resulting resource pressures have been absorbed through improvements in efficiency and productivity (including new methods of teaching and learning), helped by an exceptional increase in numbers of international students paying full tuition fees. But there has also been significant deferral of necessary investment;
- d. the government recognised the resource issues and has invested significantly in higher education, both in teaching and research, and infrastructure. It also raised the cap on regulated student fees. The unit of funding per student is now improving from its low-point in the late 1990s;
- e. recovery towards a position of sustainability will take time, and meanwhile new costs and pressures are impacting on the sector. These include some desirable challenges, including a more diverse student population; raised employer expectations; new government social and economic agendas; but also some less desirable (including pensions deficits, and operating costs rising much faster than funding);
- f. the threats to sustainability are being felt particularly in three aspects of the student learning experience: accessibility of staff to students; physical infrastructure for teaching and learning; and student support services. These are all critical to recruiting and retaining students and to student achievement, and also to the quality and reputation of UK higher education;
- g. institutions have developed some “coping strategies” to manage these pressures, and to protect the quality of the student experience, but the present situation is unsustainable, i.e. there is a real risk to the system and its outputs.

Introduction

- 1.1 This report was prepared for the Financial Sustainability Strategy Group. The remit for the working group which did so was to go as far as is practical towards establishing the “sustainable cost of teaching” to inform future policy and funding.
- 1.2 Higher education is a sector where the UK has been acknowledged to be world-leading, with the experience of students at English universities and colleges is comparable with the best in the world. The critical distinctive feature of UK higher education is the personal interaction (what has been called the intimate relationship) between students and academic staff who are acknowledged experts in their field.
- 1.3 To lose this competitive position would be very damaging to the economy and reputation of the UK and the government is committed to maintaining and enhancing the leading role that HE plays in national life, and internationally.
“...Our ambition must be nothing less than to be world class in education and to move to the top of the global education league...”
(Gordon Brown’s, ‘Speech on Education’ 31 October 2007).

Changes since 1990

- 1.4 There have been very significant changes in teaching and learning over the past 15-20 years. Four stand out:
 - we now have a mass system of HE with a much more diverse student population with a wider range of needs, and universities provide a much enhanced range of support services to these students;
 - the sector now offers many more study options to students with flexible study modes and use of new learning technologies and assessment methods, leading to a range of new skills and qualifications, relevant to national and employer needs;
 - there is enhanced professionalism in the preparation of academic staff and the management of teaching quality, and more accountability including direct student feed-back on their learning experience;
 - universities exist in a more complex operating environment, with greater domestic and international competition; they generate more of their operating capital from non-public sources; they have to invest more; and they have a lower proportion of secure public funding, and more contract and commercial income which incurs higher risk and costs of marketing, tendering and negotiation.
- 1.5 The student learning experience has improved significantly over this period (the main improvements are listed in Figure 6). Student satisfaction, as measured by the National Student Survey, is high, and compares favourably with experience overseas. The UK remains one of the most attractive destinations for international students wishing to study abroad, and UK higher education is very efficient (low costs per student and high retention rates) and generates a very positive rate of return for the State and for individual graduates. Surveys show that it is the quality of the teaching, and the overall learning experience, that makes the UK so attractive to international students: other factors such as costs incurred by students are perceived to favour other destinations.

Cost pressures on teaching

- 1.6 This is a success story, but there are serious concerns about how sustainable it is on the current basis of resourcing. All the developments noted in paragraph 1.4 above have added to the costs of teaching, at a time when the UK has invested less of its GDP in higher education than the OECD average. Moreover, the sector is still coping with the legacy of rapid expansion in the 1990s, which led to institutions having to defer necessary investment in infrastructure, in staff and curriculum development, in innovation and scholarship, and in the support services required by a more diverse student population with a broader range of expectations and needs.
- 1.7 The government has acknowledged that the 1990s expansion of student numbers was allowed to happen “unsustainably, and without proper financial support to providers”¹, and has responded by investing significantly in higher education, in teaching, research and infrastructure. This has helped to deliver real benefits. The sector is now teaching many more students, with a much wider range of backgrounds and qualifications, and providing a more flexible curriculum, with a broader range of subjects and possible modes of study, use of new technology, and a much wider range of support services which students of today require and expect.
- 1.8 Higher education in England is now a more marketised sector, with students paying fees and providing feed-back on their satisfaction with their experience, and with greater external Quality Assurance and regulation, coupled with the pressures of league tables and competition for students, staff, and educational contracts. Institutions have to generate more of their own finance, and to market themselves more than in the past. They have also invested heavily in staff in recent years through the pay modernisation framework.
- 1.9 So, the sector sees its public funding is much improved, but its costs have also increased much faster than its core public funding. And it still has a legacy of backlogs of maintenance and renewal of estates, and pensions deficits. The core business of teaching and learning is now more challenging and costly, and institutions are being asked also to deliver new and more costly types of education (e.g. widening participation and employer engagement) with resources (chiefly academic staff) which are already significantly stretched.
- 1.10 This report analyses evidence on the impact of these factors on the fitness for purpose and sustainability of the student learning experience in five main areas, where there is evidence of particular cost pressures:
1. The relationship of staff to students
 2. The curriculum and assessment
 3. The student population and its needs and expectations
 4. Infrastructure for teaching and learning
 5. Student support services
- 1.11 These areas are all inter-related, but the first of them, the relationship between staff and students, has a particular significance because it is at the heart of the distinctive UK higher education experience. It is influenced by a number of relevant issues including staff-student ratios (SSRs); contact hours; group sizes and modes of learning; other activities of academic staff; the needs and expectations of students; and the learning environment and services available to support student learning.

¹ Secretary of State’s 2008 Grant Letter to Higher Education Funding Council – Ref 13

- 1.12 The evidence, from a range of sources, shows that cost pressures in all these areas have grown in the last few years as the task for higher education institutions (HEIs) has become larger and more complex. They have made remarkable gains in efficiency and productivity, and the cost pressures are being contained by a variety of means. Some of these “coping strategies” are effective ways of delivering higher education at lower unit cost in a more massified system, but some others are incompatible with maintaining a world-class experience and delivering on government agendas such as widening access and employer engagement (which impose additional costs).

Threats to sustainability

- 1.13 The Financial Sustainability Strategy Group endorsed the conclusion that these strains have now reached a point where they are a threat to the quality and sustainability of higher education, and hence to its outstanding contribution to the national economy and reputation of the UK. While this has not yet affected overall student satisfaction, the report shows that there are important issues about the quality and timeliness of feed-back to students; about the quality of some infrastructure and support services; and about the capacity of the sector to invest and to innovate and enhance the performance and reputation of UK teaching and learning. These are areas of serious risk which could damage the overall gains made, and the future potential of higher education.

- 1.14 The challenge is greater because, far from standing still or just surviving, the sector needs to invest to keep up with increasing competition from other countries, and to ensure our students are not disadvantaged in the global employment market. As the Secretary of State said recently:

“Excellence today is no guarantee of excellence tomorrow

“To be regarded as ... world-class is becoming much tougher

“Plenty of other countries will challenge our position”.

(John Denham speech at Wellcome Collection Conference Centre 29.02.2008)

- 1.15 Yet the financial headroom that institutions have is very small, with an average institutional surplus in England of only 1% (which is equivalent to a large deficit when calculated on a TRAC full economic cost basis²), and the prospect that margins will become even tighter as a result of further cost pressures in the system.
- 1.16 This means that historical levels of resourcing will not meet the needs and expectations of students, employers and society, or sustain the performance, competitive position and reputation of UK higher education internationally. In effect, the cost of future sustainable teaching is significantly higher than the resources institutions are currently allocating to it. The longer this situation continues the more higher education teaching will be weakened relative to its potential, and the performance of its international competitors. These are serious concerns given the importance of higher education to the national economy.

² TRAC is explained in Chapter 3 and the appendix.

Achieving sustainability

- 1.17 There is no easy solution to these challenges. Earlier in this decade, the government was able to reform the funding of research to achieve sustainability based on the concept of full economic costs. A similar logic applies to teaching (where the government has already invested significantly), but the financial circumstances are now much more difficult; and the policy options are also more complex in respect of teaching.
- 1.18 To address these challenges, the report proposes a three-point plan, which the Financial Sustainability Strategy Group offer for discussion by the higher education sector. This comprises: (i) work to achieve a shared policy commitment between the sector, its major funders and partners; (ii) actions by the HE sector; and (iii) actions by the government.
- 1.19 The sector has a history of effective action to help itself, and the group believe that a better-informed debate about these issues could move the understanding and the behaviour of institutions forwards, even if significant additional public funding cannot be envisaged in the short-term.
- 1.20 However, the sector cannot resolve these challenges on its own: the government also needs to provide support. Some of these challenges can be tackled without significant new resources, but it will also be necessary to find some way to improve the unit of resource closer to the sustainable cost of teaching as discussed in this report.

Summary of recommendations

- 1.21 Actions to be led by the sector could include:
- a. achieving a policy commitment to sustainable resourcing of teaching, including steps to acquire better evidence of costs, if the sector bodies feel this is important;
 - b. leadership to institutions as they seek to improve the sustainability of their teaching and learning enterprises in respect of:
 - the costs and management of scholarship, and the interactions of teaching and research;
 - curriculum reform and a more differentiated approach to assessment;
 - sharing of services and more efficient utilisation of infrastructure;
 - sharing of development and materials costs;
 - actions to promote the esteem of teaching.
- 1.22 Actions to be considered by the government could include:
- not imposing unfunded requirements on universities;
 - funding other HE activities at full economic cost;
 - minimising regulatory burdens;
 - changing the VAT rules to encourage universities to share services;
 - providing a longer stability of funding to permit more strategic investment by institutions;
 - actions to raise the level of public funding for teaching.

2 INTRODUCTION

This report

- 2.1 This report reviews the long-term sustainable cost of teaching and learning and the student experience at English universities. Its purpose is to inform policy and funding for teaching in higher education.
- 2.2 The report has been prepared by a working group chaired by Professor Geoffrey Crossick, Warden of Goldsmiths, University of London, and supported by a consultant, Jim Port of J M Consulting. The group was guided by, and reported to, the Financial Sustainability Strategy Group, chaired by Professor Steve Smith, Vice-Chancellor at the University of Exeter.
- 2.3 The remit for the working group was to examine the level of resources required to maintain an appropriate high quality student learning experience, on a sustainable basis, in the changing environment of higher education over the next five years.
- 2.4 The terms of reference, membership of the group, and brief details of the research and other work undertaken, including sources, references, and evidence which the group has reviewed are in the appendices.

Background, and scope of the study

- 2.5 In 2003-04, the government reformed the dual support system of research funding, and introduced the new full economic cost (fEC) basis for funding university research as part of the 10-year Science and Innovation Framework (Ref 1). This had the policy objective of protecting the internationally-recognised quality of UK university research, and ensuring its sustainability.
- 2.6 The same logic should apply to teaching, although this is more complex because there is a diversity of teaching missions across the sector; and there is no single widely-accepted measure of teaching output quality, equivalent to the RAE (Research Assessment Exercise) for research. This report is intended to inform this policy by reviewing the relationship between the costs of teaching and learning, and its quality, fitness for purpose, and sustainability.
- 2.7 As with research, information on the historic cost of teaching comes from TRAC – the Transparent Approach to Costing³. TRAC provides a view of the total cost of teaching at institutional level (split between publicly-funded and non publicly-funded), and the costs of teaching a HEFCE-fundable student in each of the main disciplines (the 41 HESA academic cost centres).
- 2.8 TRAC is based on historic expenditure, from audited accounts, and shows what institutions have spent, with some adjustments to show an economic rather than a cash basis. This would be a poor guide to future resource needs if the historic expenditure was not at a level to make the activity sustainable. The alternative approach to define a “standard specification” and to cost this directly in a zero-based approach is not practical because the diversity of

³ Further information on TRAC is in chapter 3 and the appendices.

student needs, and of learning experiences across the sector makes defining any kind of standard specification inappropriate for higher education.

- 2.9 This report therefore describes a more pragmatic approach to identifying future resource, which has three main elements:
- a. review of the context for teaching and learning and the main changes in the resourcing of teaching and learning, and in the environment in which institutions have to deliver this (chapter 3);
 - b. evaluation of the evidence of cost pressures on teaching, learning, assessment and academic input to students and on the student experience and the environment, facilities and services which support student recruitment, retention, and achievement (chapter 4);
 - c. assessment of the sustainability of teaching and learning as it will need to be provided to meet current student, government, and market requirements, and identification of changes required to secure the sustainability of teaching and learning (chapter 5).
- 2.10 This approach, and the conclusions of this report, were endorsed by the Financial Sustainability Strategy Group at their meeting on 7th October 2008.
- 2.11 Six universities agreed to act as case studies for this review: Brighton, Manchester, Oxford Brookes, Sheffield, Warwick and Wolverhampton. The working-group are especially grateful to them, and to the professional organisations and individuals who have provided evidence and information. The group wish to thank them all for their contribution to the study.
- 2.12 This report is focused on the issues relating to undergraduate teaching at English universities, because that was the remit of the working-group. Some of the evidence and conclusions of this report will be equally relevant to teaching in other parts of the UK, and it is hoped that the report can be useful in those contexts as well. The report is not primarily about post-graduate teaching, which has different characteristics. However, some of the high-level data in chapter 3 (e.g. student numbers) will include PG as well as UG students because that is the way the statistics are prepared.

3 CONTEXT: TEACHING AND LEARNING IN UK HIGHER EDUCATION

- 3.1 This chapter summarises the national and international context for teaching and learning, including the characteristics of UK higher education; the environment in which it operates; and the resources available for teaching and learning, and the way these have changed in recent years.
- 3.2 Teaching and learning and support to students are the core business of higher education institutions. Across the 130 HEIs in England, teaching accounts for approximately 50% of their total costs (TRAC 2006/07 results: Teaching 49%, Research 35%, Other 17%).
- 3.3 Teaching in higher education is different from most teaching in schools or professional training in that, while it has defined learning objectives (set out for example in subject benchmark statements) it has no standard curriculum or course materials. The job of academic staff, and the cost of teaching, therefore includes the design of the pedagogic approach and the creation and renewal of the materials as well as delivering the programme to students, and assessing and facilitating their learning progress.

The nature of UK higher education

- 3.4 Higher education has a number of purposes which include personal development and self-fulfilment of students; development of thoughtful and critical citizens; preparation for the world of work; and training of the next generation of academics and researchers. The range of courses, levels of qualification, and student experiences in higher education is correspondingly wide. Some disciplines lead very directly to a particular profession or vocational area while others provide a more general education, and preparation for work and social leadership.
- 3.5 Students study by a variety of modes, including full-time or part-time on-campus study, distance, work-based, and electronic learning. Within campus-based learning, there is a mix of approaches including lectures, small groups, tutorials, workshops, simulations, studio, performance and laboratory work, field-work, practice learning, placements and internships, and self-directed or student-led learning.
- 3.6 The social backgrounds, nationalities, ethnicity, qualifications, experience, abilities, and motivations of students in higher education are now more diverse than ever before.
- 3.7 This diversity is a great strength of UK higher education, and an explicit policy objective, but it poses challenges for this review as there is no standard UK student experience, there are many experiences.

Characteristics of UK higher education – what makes it distinctive?

3.8 The features which are widely associated with “graduateness”, and which give UK HE the distinctive value and international recognition it has, are generally recognised to include:

- the personal contact that students have with academic staff who are practising scholars and experts in their fields;
- the flexibility and responsiveness of universities’ curriculum and methods which includes the exposure of students to research and scholarship.

These features help UK university graduates to be creative, to challenge received wisdom, and to innovate unconstrained by rigid disciplinary or cultural frames of reference (Ref 2). They could be said to be inherent to the quality of UK higher education, and are particularly relevant to a knowledge-based economy where innovation and creativity are central to the future of the UK.

3.9 A major survey of international students (StudentPulse) shows that the quality of teaching is the single most important factor for international students when deciding which country to study in (Ref 3). Similarly, international research students are known to be influenced by departmental and institutional reputations, particularly for research and teaching quality (Ref 4).

3.10 The second main activity of universities, after teaching, is research, and it is a recognised strength of UK higher education (which is not the case in all other national systems) that research is normally undertaken alongside teaching, so that each activity benefits from the presence of the other. The exposure to research methods and thinking is important for many students, and for all of them the curriculum must be refreshed by an underpinning of scholarship and professional engagement by those who deliver it.

3.11 A key point to note is that higher education is not just about skills for work, and nor is it just about making education easy or attractive to students. It includes a deeper engagement by students with their disciplines and with those who practise those disciplines. Students are active creators of the learning and teaching experience, not just customers or consumers. This is directly relevant to the benefits that graduates bring to the UK economy.

Changing roles of higher education

3.12 In developed nations, there has been strong growth in higher education in recent years and universities are increasingly seen as essential drivers of national objectives such as economic growth, innovation and technology development, social, cultural and regional policy, inclusion and citizenship.

3.13 In the UK, as in many other OECD nations, universities have found themselves under a number of pressures which have the impact of increasing the complexity (and cost) of their activity and which lead to stress on resources for teaching and student learning. The main factors include:

- a decline in the proportion of university income from the core block grant (not necessarily undesirable, but increases risk);
- new regulatory and accountability requirements on universities (there has been successful work to reduce some aspects of the burden of accountability for UK institutions, but this remains an issue);

- an increase in the diversity and complexity of the student population, and of student expectations;
 - increased government expectation, for example on widening participation, employer engagement, and the skills and preparation for work agendas;
 - a more competitive market for attracting home and international students, and for attracting and retaining staff and research funding;
 - an increase in the range of academic qualifications offered;
 - an increase in the complexity and volume of teaching and assessment to cope with the demand for greater choice and responsiveness to student and employer needs in a more heterogeneous student population.
- 3.14 Many of these developments are desirable. However, they have largely happened in an uncoordinated manner, and often with no explicit funding, or with funding covering only part of the full economic cost of the activity. Their impact in English universities is discussed in the next chapter.

The government's vision of HE and the economy

- 3.15 The government's vision for UK higher education is set out in Gordon Brown's, speech on education in October 2007, and on the Department for Innovation, Universities and Skills (DIUS) website.

"...Our ambition must be nothing less than to be world class in education and to move to the top of the global education league..."

"...And this idea of excellence in education is not just a noble ideal, respecting the search for knowledge, the pursuit of wisdom and the fulfilment of human potential, it is also I think as everybody knows an economic imperative too..."
www.number-10.gov.uk/output/Page13675.asp.

"Britain can only succeed in a rapidly changing world if we develop the skills of our people to the fullest possible extent, carry out world class research and scholarship, and apply both knowledge and skills to create an innovative and competitive economy. The DIUS mission is to work with our partners to meet these challenges." (www.dius.gov.uk)

- 3.16 Employers are also clear about the value of UK HE. "Graduate Employability: What do employers think and want" published in 2008 by the Council for Industry and Higher Education (CIHE) includes (Ref 5):

"our economic future rests on innovation and delivering high value-added goods and services. Universities lie at the heart of our knowledge intensive future through their development of knowledge, graduates, senior management talent and through helping to develop the workforce. Graduates will play a vital role in creating wealth and underpinning the UK's international competitiveness."

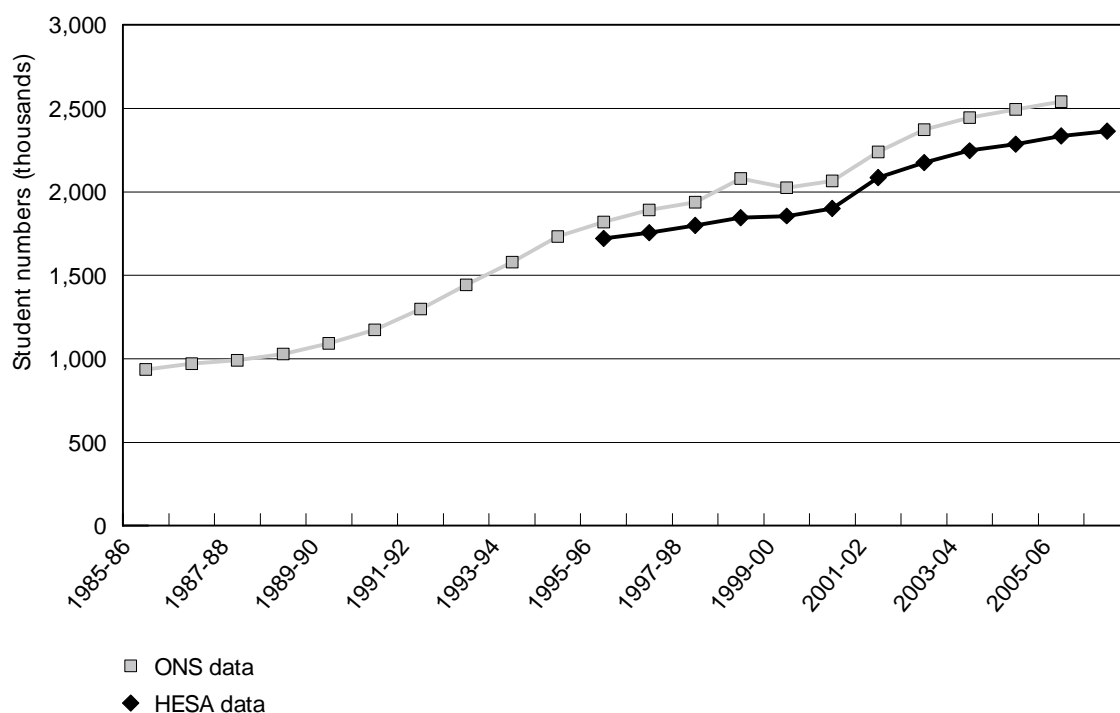
The student population

- 3.17 Student numbers have increased by more than 2.5 times in the last 20 years (i.e. nearly tripled).

3.18 Office for National Statistics (ONS) data on home and overseas student enrolments are shown (as the top line) in Figure 1. They show that total UK student numbers (home and overseas, undergraduate and post-graduate, full-time and part-time) rose from 937,000 in 1985-86 to 2.5m (head counts) in 2005/06, an increase of 170% in 20 years.

3.19 The more limited time series of HESA data, which is available to 2006-07, is also shown in Figure 1. HESA is the more widely known data source for higher education and is probably a more accurate reflection of HE students in HEIs (the ONS data includes some FE students). This shows a very similar trend in the total student population.

Figure 1. Growth of student numbers since 1985



3.20 As well as the growth in numbers, the diversity of the student population increased significantly during this period. As shown in chapter 4, a higher proportion of the additional students attracted into HE are mature; part-time; disabled; from ethnic minority groups; from socio-economic classes 4,5,6 or 7; from neighbourhoods with a lower participation in higher education; or from overseas.

The quality of UK higher education

International comparisons

3.21 UK higher education is acknowledged as a leading brand internationally. The StudentPulse surveys referred to above (Ref 3) show that the UK and the USA have the highest perceived attractiveness as study destinations for international students. The report suggests that “the UK has begun to challenge the US as the most popular study destination” and notes that this is despite international students’ perception that the UK is the most expensive country to study in, and that obtaining work in the UK on completion of studies is difficult.

- 3.22 These findings are very encouraging for the UK, but they emphasise the critical importance of maintaining teaching quality, especially when other factors such as cost, climate and work opportunities favour other countries.

QA arrangements and evidence of quality

- 3.23 All institutions are subject to external review of the quality of their provision by a number of different agencies. The most significant of these is the periodic institutional audit by the Quality Assurance Agency for HE (QAA). Institutional audit looks at the way institutions manage quality and standards, and provides confidence that they can be expected to do so in future. This in turn provides confidence to stakeholders, including students, parents, employers and the government about the quality of UK higher education awards.
- 3.24 A number of other bodies also inspect HE provision, including the Department of Health and OFSTED, and a large number of professional bodies (in fields including medicine, engineering, law, business, psychology etc). These reviews provide confidence in the quality of the sector's management of its teaching, but they do not, in general, provide any simple way of comparing teaching between institutions, since institutions have differing student populations and different priorities and objectives in their teaching and learning strategies.

Student satisfaction

- 3.25 For many years, institutions have had mechanisms to survey student opinions of their course, and to involve students in review of courses to inform future curriculum design. Since 2005, the National Student Survey (NSS) has provided one of the leading and most comprehensive exercises of this kind world-wide. There are limitations to the NSS – notably that most students have little ability to compare their experience with other institutions; nevertheless, a clear message emerges that in general students have a very high level of overall satisfaction with their courses. In all recent years, including the latest survey in 2008, more than 80% of full-time students said that, overall, they were satisfied with their course (see e.g. Ref 6).
- 3.26 A one-off survey of post-graduate taught students by the Higher Education Academy (who are now introducing regular post-graduate experience surveys) found that 84% thought their course would improve work prospects, 80% found it motivating, and 73% would recommend it (Ref 7).
- 3.27 There is further evidence that students “feel confident that they are making a sound financial investment in their future career by taking degrees” (Ref 8).
- 3.28 The economic return on higher education is very positive. Recent research by PricewaterhouseCoopers for Universities UK showed that the personal rate of return for a graduate is 13% and for the State is 11% (Ref 9).
- 3.29 The least positive satisfaction scores in the NSS survey are recorded for assessment and feedback, and the case study universities confirmed that this was a concern of their students. A recent HEA report (Ref 10) shows that this is a long-term phenomenon, but it has recently become much more visible as a result of the introduction of the NSS.

The resources for teaching

- 3.30 As noted above, 50% of all the resources of higher education are devoted to teaching and students. The direct teaching resources can be considered in three main parts:
- academic input:** the curriculum, the pedagogy (teaching and learning strategies and techniques), assessment and feed-back, delivery methods, and the input of staff who lead and support student learning;
 - the learning environment:** generic institutional infrastructure such as libraries, IT networks, teaching rooms, social learning spaces, and specific (discipline-related) infrastructure such as laboratories, studios, workshops, teaching equipment, facilities, learning materials;
 - the student support services** which create an environment which is supportive of effective and successful student learning and achievement.
- 3.31 These three elements are of course inter-connected, and we consider them in the next chapter. The full costs of teaching also include the relevant indirect costs, such as administration and management, marketing, financing and regulatory costs required to maintain the teaching and learning enterprise.
- 3.32 The main sources of finance which are specifically for teaching in universities and the approximate percentage they make up of total institutional income are shown in Figure 2 below, using HESA data for the UK. This shows that funding council recurrent grant for teaching provides 25% of total institutional income while the combination of home and overseas student fees provides 23%. The contribution by home/EU student fee income is increasing as this tuition fee income builds up over the three years 2006-07 to 2008-09.

Figure 2. The main sources of income for teaching 2006-07 (HESA: UK)

Source	£m	%
Funding council recurrent grants for teaching	5,359	25%
Student fee income (home and EU) including education grants and contracts	3,271	15%
Overseas student fees	1,713	8%
Other course and training fees	430	2%
Total income specifically for teaching	10,773	50%

- 3.33 This is not the total of funding for teaching as a part of other funds (endowments, trading income etc) also contribute to the funding of teaching. There are also capital grants for teaching – chiefly the Capital Investment Framework (previously Learning & Teaching Capital), and in England funding for Centres for Excellence in Teaching and Learning (CETLs).

Data on the costs of teaching

- 3.34 TRAC, the Transparent Approach to Costing, is the standard activity-based costing system used in all UK HEIs and provides the most consistent cost data available across UK HE⁴. Further details of TRAC are in the appendices.
- 3.35 The latest TRAC data show that the levels of income and expenditure institutions are allocating to publicly-funded teaching are broadly in balance across the sector with a small deficit of 2.7% in 2006-07, the first year of variable tuition fees in England (Ref 11). Non-publicly-funded teaching is significantly in surplus in most institutions, demonstrating the financial contribution of overseas and privately-funded student fees.
- 3.36 TRAC includes two cost adjustments which go some way (imperfectly) to recognise the fact that historic expenditure may understate the costs of past activity. The TRAC cost adjustments are government-approved adjustments to the expenditure in published university financial statements which are intended to make the costs in TRAC consistent across institutions which use different accounting policies for assets, and to include an adjustment for the cost of risk and financing (see the appendices for a more detailed explanation).
- 3.37 Even with these cost adjustments, TRAC understates the sustainable cost of assets used for teaching in two respects (a.) there is no infrastructure adjustment for equipment; and (b.) it assumes that current infrastructure and maintenance levels are appropriate to support the needs of the business.
- 3.38 It is important to recognise that no costing system, including TRAC, could indicate what institutions should be planning to spend in future for sustainable operations. That is a forecasting issue which is not the same as determining historic costs. The main focus of this report is therefore not on TRAC or historic costing of teaching.

Funding over the period 1990-2008

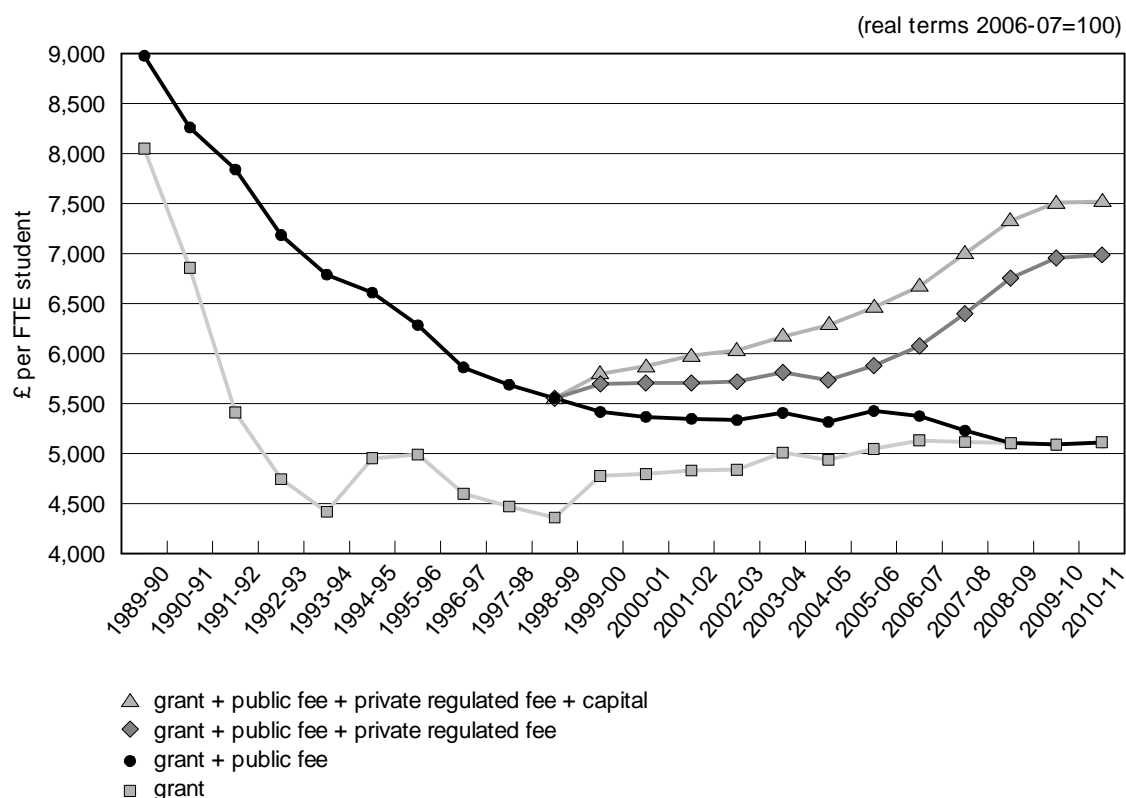
- 3.39 Figure 3 shows the unit of publicly-funded resource for teaching (£ per student) for England which fell by 40% in real terms, during the 1990s. It can be seen that the real value of the grant plus public fee reduced from £9,000 in 1989/90 to £5,500 in 1998/99 (expressed in constant 2006/07 prices). (Ref 12)
- 3.40 This trend has been reversed since 1999. As the graph shows, the grant plus public fee level has stabilised (it was broadly unchanged from 2000/01 through to 2006/07), and two new sources of income for teaching have been provided:
- the introduction in England of private regulated fees from 1998 which became much more significant from 2006/07 and have built up over 3 years to provide a significant additional funding stream in 2008/09⁵;
 - the growth in capital grants for teaching, and in particular the introduction of Learning & Teaching Capital from 2004 in England (now the Capital Investment Fund) as an enhanced and predictable stream of additional funding for institutions (replacing more ad hoc previous grant schemes).

⁴ HESA data on departmental costs only include some of the costs of teaching and also include some research costs.

⁵ HEFCE regard the regulated fee as part of public funding because both the level of fees and the student numbers are controlled by the government.

- 3.41 It can be seen in Figure 3 that by 2008/09, when the full 3-year impact of the raised student fees is available to institutions, the average unit of funding will have recovered to £7,500 in real terms.
- 3.42 In the 2008 Grant Letter to HEFCE, the government acknowledges that in the 1990s “student numbers were allowed to grow unsustainably and without proper financial support for providers”. It has committed to maintain the unit of planned public funding in real terms to 2010-11. (Ref 13)
- 3.43 The overall picture is therefore that institutions suffered a significant decline in their core resources and assets available for teaching over the 1990s. They can be expected to have absorbed some of this without detriment, through improved efficiency – helped by the growth in student numbers and resulting economies of scale, but a reduction in their financial strength to support teaching and learning would also be expected. The public funding is now recovering, but it will take some time to compensate for the period of a lower level of public funding plus regulated fees per student.

Figure 3. DIUS planned unit of funding for teaching (data from HEFCE)



- 3.44 The funding of teaching in England by the HEFCE is on a formulaic basis. The major part of the resource is allocated to institutions, on a fee per student basis, in one of four price bands reflecting the relative costs⁶ of different subjects. Clinical subjects have the highest price, laboratory based subjects, and studio-based subjects have intermediate price weightings and other (sometimes called classroom) subjects have the lowest price weighting. The relative weights of the four bands are 1, 1.3, 1.7, and 4. For 2008/09 the total

⁶ Based on a historic calculation using HESA data. This has recently been reviewed by HEFCE and compared with the emerging TRAC data. It will be unchanged in the short term.

resource for a Band D (e.g. humanities) student (often called the base price) is £3,964 and for a Band A (e.g. medical) student is £15,856.

The financial position of the sector

- 3.45 Every year, HEFCE produces a summary of the financial health of the sector, based on financial out-turn data and financial forecasts for English institutions. The latest report is in a HEFCE Board paper of April 2008, and this HEFCE analysis concludes that “Overall, the sector is likely to maintain a financially-sustainable position up to the end of the decade, though some institutions will need to generate better financial results in the longer term.” (Ref 14)
- 3.46 A parallel independent analysis was carried out by J M Consulting for the Joint Negotiating Committee for Higher Education Staff (JNCHES) 2008 review of pay and financial data. The report of this notes that: (Ref 15)

“The judgement in this report is that most institutions are financially stable in the short-term, but their levels of surplus and investment are too low to assure a sustainable future, and they are facing new financial challenges and risks which threaten their ability to innovate and advance as fast as some overseas competitors. This matters because of the importance of higher education to the economy, and to the influence and reputation of the UK in the world.

If nothing is done to improve the average financial performance of the sector, three adverse consequences will occur: some institutions will have problems of sustainability; the UK sector as a whole will struggle to meet rising societal expectations and to make its full contribution to the government objectives noted above; and UK higher education will fall behind the leading edge of development in other countries where a higher proportion of GDP is invested in higher education.”

Staffing, staff costs and pensions

- 3.47 Staff are the most important resource for teaching, and the most costly, accounting for approximately 60% of the costs of higher education. The sector’s ability to attract and retain high quality staff is central to its performance and there were some concerns about this a few years ago, expressed in the Bett report (Ref 16). A number of initiatives have addressed this including Rewarding and Developing Staff, the establishment of the Higher Education Academy and the recent Framework Agreement on pay.
- 3.48 The Framework Agreement provides a basis for modernising pay arrangements in the sector: *“to improve the recruitment and retention of staff, to ensure equal pay for work of equal value, to tackle problems of low pay, to recognise and reward the contribution which individuals make, and to underpin opportunities for career and organisational development.”*
- 3.49 This pay modernisation has been very costly for institutions. The HEFCE Board paper quoted above notes that total staff costs rose by 8% per annum over the six years to 2006-07, much faster than public funding for teaching. Institutions were helped in managing this by the fact that their income was increasing as a result of the partial deregulation of home student fees, and growth of other income (notably from overseas student fees – for some institutions). However, these exceptional sources of increased income did not

cover the full increase in staff costs, and they are not likely to be available in future. Institutions will need to continue to support and invest in their staff, and the cost of this will almost certainly grow faster than the public funding of teaching and research.

- 3.50 The accounting treatment of pensions, and the different pension schemes used by HEIs, add complexity to the task of assessing the cost implications for teaching. However, many universities are facing deficits on some of their pension schemes, and these will crystallise into extra costs when staff leave the university. This position has been made worse by the recent falls in stock markets. Moreover, the medium-term outlook is a serious concern. A recent report by the British Universities Finance Directors Group (BUFDG) points out, that “there are fewer people working to support a larger number of pensioners, who are living longer than the actuaries thought they would”. (Ref 17)

Physical infrastructure

- 3.51 Physical infrastructure is the second largest cost of teaching, making up approximately 15% of university costs. Investment in buildings and equipment and related services is critical to successful teaching and research, and is a key factor in institutional sustainability. This has come under scrutiny in recent years, due to a combination of factors including the high costs of estates; many 1970s buildings reaching the end of their design life; and the increased market and accountability pressures on institutions to manage their physical infrastructure strategically and sustainably.
- 3.52 A study of “Teaching and Learning infrastructure in higher education” published by HEFCE in 2002 concluded that (Ref 18):
- universities will continue to need physical campuses, and there is no likelihood that electronic learning or other technological developments will make such investment unnecessary in the foreseeable future;
 - there was a “backlog” remedial investment need of approximately £8bn for infrastructure across the whole (UK) sector, of which 60% or £4.6bn was specific to teaching and learning.
- 3.53 This report illustrated ways in which the backlogs of investment were affecting the quality of the student experience. Since that time, the government has introduced capital grants for learning & teaching provided on a predictable (formulaic) basis without the risks and uncertainty of bidding. Institutions are also much more aware of the need to plan strategically for their infrastructure and to invest at an appropriate level and on a consistent basis⁷.
- 3.54 A further review was published by HEFCE in 2006 (Ref 19), and concluded that there had been a significant improvement since 2001, which was most marked for research, but significant backlogs remained for teaching. However, the report noted that most institutions could not afford the recurrent level of investment needed to address those remaining backlogs which were critical to their mission and to maintain a sustainable infrastructure in future. Public capital grants for teaching would therefore be needed for some years to come, but should not be a permanent requirement. The government accepted this conclusion in the creation of the new Capital Investment Framework.

⁷ Subject to institutional circumstances, this should normally be in the region of 4.5% of their insured asset value annually.

Comparative international investment in higher education

- 3.55 It is well-known and frequently quoted that the UK invests a lower proportion of GDP in higher education than many of its main competitors. International comparisons are difficult, but the OECD 'Education at a Glance' statistics are one of the most comprehensive and widely used sources. The 2008 publication shows that UK public expenditure on tertiary education institutions in 2005 was, at 0.9% of GDP, below the OECD average of 1.1%, and the total expenditure (public and private) at 1.3% was also below the OECD average of 1.5%, and more significantly below the level of investment by some of the nations which are our main competitors in the international student market (for example, the USA, Australia, New Zealand, and Sweden). (Ref 20)

Efficiency and productivity in the sector

- 3.56 The squeeze on resources in the 1990s was a major driver for institutions to seek efficiency improvements. These have been of four main types:
- a. national initiatives such as JISC and UCAS to run services centrally on behalf of the whole sector;
 - b. mergers and other restructuring and rationalisation;
 - c. regional initiatives such as procurement consortia;
 - d. work by HEIs, or groups of HEIs, often facilitated and supported by good practice guidance and pump-priming funding by the funding councils.
- 3.57 The effectiveness of these measures is shown by the fact that staff and space (the two most expensive resources) have both increased less than student numbers indicating significant gains in productivity over this period. More specifically, in 2007/08, the higher education sector delivered efficiencies of at least £202m which exceeded the sector's share of the target set for DIUS in the government's efficiency review. (Ref 21)

Conclusions

- 3.58 Teaching is the main activity for most HEIs, accounting for 50% of all their costs. It is still strongly dependent on public funding in the form of funding council grant, education contracts, and regulated student fees (which together make up over 80% of teaching funding at sector level).
- 3.59 Since 1990, student numbers have grown very significantly, and in the period to 1998, the resource available per student declined significantly. This has now been reversed by new government investment in higher education, but it will take some time to recover, and in the meanwhile, other demands and pressures on institutions have increased.
- 3.60 Some of this pressure on resources has been absorbed satisfactorily by institutions through a variety of efficiency or productivity gains. These include benefits from growth (economies of scale); and improvements in utilisation of staff and space. However, less sustainably, a further part has been accommodated by institutions deferring necessary investment which could have led to further enhancements in the quality and efficiency of teaching.

4 FINDINGS: COST PRESSURES ON TEACHING AND LEARNING

- 4.1 This chapter reviews the evidence relevant to five major issues that are challenging for the sector in terms of the costs of maintaining the quality and performance of UK teaching and learning, and its sustainability. This is necessarily a detailed chapter, and the main findings are summarised again at the beginning of chapter 5.

Introduction

- 4.2 After extensive discussions of evidence and experience in the sector, the working-group agreed that it was appropriate for this report to focus on a small number of the most significant factors that are critical for institutions in delivering teaching and student learning in their market segments. These are as follows:

1. The relationship of staff to students
2. The curriculum and assessment
3. The student population and its needs and expectations
4. Infrastructure for teaching and learning
5. Student support services

- 4.3 The chapter draws on four types of evidence:

- customers', including students', views on the education provided;
- institutions' experiences and perceptions of issues and progress, including changes in the student experience since the 1990s;
- professional assessments by external agencies;
- international comparisons (where reliable data are available).

- 4.4 The institutional evidence is largely from a range of academic departments in the six case study universities visited in 2008 for this report, plus evidence from engineering departments in four further universities visited in 2007 for a J M Consulting study of the costs of engineering degrees (Ref 22).

Issue 1. The relationship of staff to students

- 4.5 The relationship between student learners and academic staff is at the heart of UK higher education, and the quality of this relationship, including the accessibility of staff to students, is a key factor in the satisfaction of students, and in the attractiveness of the UK as a study destination for international students.
- 4.6 Evidence from the case study universities confirms how much students value the contact with enthusiastic and knowledgeable staff who are experts in their fields, and are available to support students. Conversely, one of the most common subjects for adverse comment is reduced access to academic staff

and slow feed-back and assessment. The point is illustrated by the following quotes from departments in the case study universities.

Which aspects of their teaching do students value most?
Fieldtrips, practical experience and small group teaching Hands-on experience and small group working Staff contact – the enthusiasm, skills and knowledge of all academic staff Access to experts– e.g. at end of lectures or in laboratories Face to face contact with full-time academics Contact with inspiring staff
And on which do they comment adversely?
Slow feed-back, poor quality teaching of some staff, and the lack of facilities Assessment and feed-back Library resources (in some faculties) Outdated equipment Reduced contact hours Invisibility of staff, for whatever reason

- 4.7 The sustainability of the staff:student relationship is complex to measure. Factors which the group considered have a bearing on this relationship include:
- a. Staff:student ratios (SSRs)
 - b. Contact hours and group sizes
 - c. Coping strategies and the impact of raised SSRs
 - d. The “professionalisation” of teaching and new demands on staff

a. SSRs and staff availability to students

- 4.8 One of the issues most commonly raised by academic staff (and indirectly by students) is the perception that staff numbers have not kept pace with the growth in student numbers – i.e. student to staff ratios (SSRs) have worsened (got larger). This is an important issue for the study, although the evidence is quite complex to interpret.
- 4.9 It is important to recognise that SSRs are not, in themselves, an indicator of quality or student satisfaction. They will naturally vary between disciplines, between institutions, and also between subjects in different stages of their life cycle (see box).

Evidence that SSRs do not necessarily correlate with student satisfaction is provided by two departments at one case study university (c). In a social science department which is growing fast, student satisfaction is high – notwithstanding that this is leading to a squeeze on SSRs and resources. In an engineering department which has seen a long-term decline in demand, student satisfaction is low for a variety of reasons unconnected to staffing ratios which are currently very favourable.

- 4.10 However, SSRs do indicate the total amount of academic staff time available per student, and – subject to other factors, and depending on how this academic time is used – this will often help to determine, and may set limits to, the quality of the student experience.
- 4.11 At a national level it is difficult to analyse changes in SSRs robustly and over a reasonable period (say since 1990) due to changes in the structure of the sector, and a change in the way that staff numbers are recorded in HESA by institutions from 2003-04. However, the trend in SSRs from the start of HESA data in 1997 to 2002-03 (5 years) was of an increase in SSR from 18.76 to 19.36⁸ a small, but significant increase of 3% in five years. Other evidence would suggest that the increase was faster in the 1990s when student numbers grew very significantly, and these headline SSRs probably understated the increase in effective SSRs for teaching due to the growth in research activity over this period⁹.
- 4.12 The SSRs reported in one of the annual league tables (the Times Good University Guide) for the six case study universities, increased by an average of 5% between 2002 and 2008.
- 4.13 The University and College Union (UCU) provided evidence in 2006 to the government which showed that average SSRs in higher education had increased from 11.4:1 in 1990-91 to 18.8:1 in 2003-04. They contrasted this with the stable or improved pupil:teacher ratios in schools, and the lower SSRs in higher education in OECD countries, and notably in some overseas competitors. (Ref 23)
- 4.14 The case studies provide evidence “on the ground” of this general trend to increasing SSRs in different institutions and disciplines. Some illustrative figures from case study universities, which the group believe are not untypical, are summarised in the following table (it should be noted that there are also examples where SSRs have not changed).

Figure 4. Illustrative changes in SSRs over the past 20 years

		Early 1990s	Present
University c	Institution level	14	18
University e	Spanish	All in the region of 10-12	20
	History		25
	Chemistry		16
University a	Institution level	13.7	16.6
University d	Law	15.6	21.6
University b	Geography	16.3	22.6
	Chemistry	13	15
	Engineering example	16	20

Note: Institutions may calculate SSRs in different ways so the comparison between them is not necessarily valid. However, comparison between the two periods within each institution is likely to be robust.

⁸ Communication from HEFCE Analytical Services staff

⁹ External research grant and contract income grew by 150% from 1995-96 to 2005 (HESA)

b. Contact hours and group sizes

- 4.15 Significant attention has focused on the contact time students receive as a result of two reports by the Higher Education Policy Institute (HEPI), based on a survey of the scheduled teaching hours reported by students (Ref 24).
- 4.16 HEPI found that the students receive about 14 hours teaching time each week, but this varies widely across disciplines. It is significantly lower than the average in other European countries. HEPI note that, coupled with the shorter length of English degrees, this could be seen as poor value for students and a potential threat to the perceived quality of a UK higher education.
- 4.17 However, contact hours are not an automatic indicator of quality of learning. The place of formal teaching is very different between the sciences and humanities: HEPI found a range from 8 hours in historical and philosophical studies to 20 hours in clinical and veterinary subjects. Quality and intensity of contact are probably more important than the total volume of contact, and this may be related to group size which is therefore another important variable to consider. A tutorial for two students has a different quality of contact from a lecture for 100, although both have a value. Quality of contact may also be related to the perceived expertise of the academic.
- 4.18 There is some evidence that contact time has reduced. For example, one Engineering case study noted a reduction in 1st Year undergraduate contact hours from 524 in 1990-91 to 320 hours in 2007-08.
- 4.19 Group sizes are also relevant. They are determined by a number of factors including room sizes, timetabling, health and safety (e.g. in laboratory work) and are not just a factor of resources for teaching. There is a huge range of learning group sizes in higher education (from several hundred to one).
- 4.20 As staff availability has come under pressure, one of the ways institutions have managed this is by increasing sizes of the more formal groups (e.g. lectures and seminars), and by reducing contact hours in some cases. This is one of a number of “coping strategies” discussed below.

c. Coping strategies and impacts of raised SSRs

- 4.21 The working-group investigated the strategies universities have used to cope with the increase in SSRs, alongside the other pressures and developments noted in chapter 3, without detriment to the learning experience and to student satisfaction. They have done this partly by developing various “coping strategies”, which in the case study universities include:
- increased group sizes, or a changed mix of group sizes;
 - involving a wider range of staff in teaching in addition to permanent academic staff (PGR students, Graduate Teaching Assistants, part-time staff);
 - development of on-line learning materials (to replace some lectures).
- 4.22 Most case study universities regard these strategies as generally effective and do not believe they have led to any significant detriment to the teaching experience. However, there have been some impacts of increased SSRs which are less positive. Those mentioned include:
- effective breakdown of the system of pastoral tutoring in some cases (only partly compensated by the development of more effective central student support services);

- staff-intensive forms of learning such as laboratory sessions; essay tutorials in the humanities; field trips; have become a smaller part of the student experience in some disciplines and institutions (again only partly compensated by developments in on-line learning and simulations).
- 4.23 The most persistent concern, which is highlighted by the National Student Survey and noted by all the case study universities, is the strain on universities' performance in providing timely, tailored, and formative feed-back to students. Such feed-back is highly valued by students (as illustrated in the quotes at the beginning of this section) and is central to the distinctive quality of a UK higher education. Yet it is consistently scored by students in the NSS as one of the areas where they are least satisfied. (In the 2008 NSS, overall student satisfaction in England was 82%, while only 56% said that "feed-back on my course has been prompt".)
- 4.24 Feed-back can be provided to students by a variety of methods, but the most valuable is the face to face meeting where students can explore issues and be challenged and supported and guided by an academic who understands their progress. This is time consuming for academics and it is no surprise that feed-back has suffered as a result of the resource constraints (SSRs) and other pressures on academic priorities.
- 4.25 One case study university reviewed NSS scores on feed-back and SSRs across more than 35 academic departments and found a correlation between high SSRs and lower levels of student satisfaction with feed-back. This informal research enabled the university to identify an "optimum" (or minimum) level of SSR (which differs by discipline type) above which departments are unlikely to be able to ensure student satisfaction with feed-back. They found that the departments where there is greatest pressure are those teaching HEFCE Band D subjects (e.g. humanities), which in general have seen strong growth in student numbers; have a low unit of resource; and high SSRs.
- 4.26 Almost all the case study universities and engineering departments commented on these strains. Comments from university (c) are typical.

Staff not knowing all students by name
 Student feed-back is under great pressure
 Some potential may be lost – student experience is less enjoyable – when students are better supported they can perform better

- 4.27 The group concluded that some changes are an inevitable consequence of the move to a more mass system of higher education, and, with intelligent use of alternatives, teaching input has been protected for the average student. However, the loss of feed-back and tailored individual support to students is a serious concern and needs to be addressed as a high priority.
- 4.28 This is especially critical because many of the newer forms of learning that the government and universities wish to see require more individual attention by staff. There must be a concern therefore that some of the newer types of student and learning will suffer; that retention rates will be difficult to improve; that innovations and developments (e.g. of employer engagement) will proceed more slowly; and that some students will fail to be excited and stimulated by the opportunities of their discipline and will underachieve as a result.

d. The “professionalisation” of teaching and new demands on staff

- 4.29 As in other sectors, there have been significant advances in the development of a more “professional”, “research-informed”, “outcome-oriented” and “customer-aware” ethos in academic teaching. These developments were confirmed as key elements of an explicit post-Dearing agenda. They included:
- the development of the Academic Infrastructure by QAA (including more explicit learning outcomes for each academic discipline)
 - the systemisation of QA activity partly driven by external audits and inspections
 - development of a professional body for academic teachers (initially the ILT, now the HEA)
 - the widespread introduction of teaching qualifications for academics; and other developments intended to raise the status, performance and accountability of academic teachers.
- 4.30 The general view in the case study universities is that these changes have benefited staff and students, but have added to pressures on staff time.
- 4.31 Other pressures on staff activity have come from changes which have delivered added value in terms of new forms of delivery:
- more labour-intensive forms of education delivery, notably widening participation and outreach activity, educational partnerships, and managing work placements and internships; new modes of delivery and flexible learning;
 - modularisation and the increased assessment load (discussed below);
 - the need for more documents and materials for students;
 - time spent on student appeals, resits, plagiarism and academic integrity cases, which have all increased significantly;
 - research: more staff are now doing research and more time is being spent on research which has been a high government and academic priority;
 - knowledge transfer activity, and engagement with business.

The impact of research on teaching

- 4.32 Probably, the most significant of these pressures is research. Government policy of selective funding of research, and the successive Research Assessment Exercises (RAEs), have reinforced a culture which already exists in many universities in which research is seen as a very high priority, and as an essential route to career advancement for academics. Moreover, league tables give research output a very high influence in the ranking of universities – and this affects their ability to recruit good students.
- 4.33 Research and teaching are inter-related in quite a complex fashion. In many respects their synergy is positive for teaching and the student experience – and as already noted it is important for some disciplines and some parts of the sector that teaching will be directly research-informed. Research has been a very high priority of government, for good economic and public policy reasons, and the growth and enhancement of research activities in universities over the past decade is to be celebrated. However, the close connection between research and teaching in the UK means that if research is significantly in deficit

(as it has been), this implies some negative impact on the other core activity of teaching.

- 4.34 HEFCE commissioned a study on the interactions between research and teaching as part of their review of research in 2000 and some conclusions from this are noted in the box. (Ref 25)

The presence of research (in the same department) informs student learning through:

- developments in the curriculum;
- exposure of students to research culture and methods.

The presence of research is not necessary for all good teaching in any generic sense (although it clearly is for some types of teaching), but appropriate scholarship is essential for excellent teaching.

Teaching benefits research through developing the researchers of the future, and through cross-subsidy through the use of shared resources (notably academic staff costs). The benefits of research to teaching should off-set this subsidy, but it cannot be assumed that these will actually benefit students without institutional policies to ensure this happens.

- 4.35 It could be concluded that the presence of research is usually beneficial for teaching, but that it can lead to some reduction in staff availability for teaching – and students comment on this. This impact has been partly off-set by the increased involvement of non-academic staff in teaching and student support: notably library staff; technicians; teaching assistants; and a range of other staff providing services to students.
- 4.36 In terms of the sustainability of teaching, it is important that institutions integrate their teaching and research strategies to ensure that the impacts of research on the student learning experience are managed rather than incidental, and especially if their research is significantly in deficit, that they have strategies to off-set the potential negative resource impact on teaching.

Conclusions on Issue 1: the staff student relationship

- 4.37 The evidence reviewed above leads to a conclusion that:
- While SSRs are not a direct measure of quality or of student satisfaction, they can indicate the overall accessibility of staff to students. Average gross SSRs appear to have grown over the past 15 years by about 10-15%, and the effective SSR available for teaching has probably grown significantly more than this in most universities and in many (but not all) academic subjects;
 - It is complex to assess the significance of these changes in SSRs because of the multiple activities of academic staff, but there is evidence that students now have less individual contact with permanent academic staff. This reduction is regarded negatively by students; and may impact on the quality and achievements of their learning;
 - Institutions and staff have adopted a number of “coping strategies” to accommodate the high SSRs and to mitigate their impact on students. Some of these coping strategies – such as different blends of electronic and face-to-face learning, are appropriate and sustainable changes in the

way higher education is delivered (although they have a cost). Some like larger group sizes and reducing laboratory sessions may be less desirable. Others (like over-reliance on cross-subsidy from other activities or on staff working long hours) cannot be sustained in the medium term;

- Overall, the working-group believe that the current level of SSRs is not sustainable in the medium term (i.e. it is not compatible with maintaining the quality and reputation of UK HE and its contribution to national needs), without some other compensating investments by institutions. If this is not achieved, and the elevated level of SSRs continues, the quality and reputation of UK teaching will be at risk, and there will be a loss of resilience, adaptive capacity and ability to meet high priorities of institutions (such as innovation and leadership in teaching methods and technologies). Other agendas (such as employer and community engagement) will also suffer because of the pressure on academic staff.

Issue 2. Changes in the curriculum and assessment

4.38 A second big change in higher education during this period has been in the structure and shape of the curriculum and the associated QA and assessment processes.

Modularisation

4.39 Many institutions have unitised the curriculum and the assessment of student progress. This is often referred to as modularisation, and had several aims:

- to attract and retain a broader-based student population than was possible with a traditional three-year single-subject honours programme;
- to provide students a more tailored experience, in which they could “mix and match” modules within an overall learning framework;
- to facilitate a credit-based approach to HE which offers greater flexibility for students including (in theory) the possibility to transfer between institutions and courses;
- to respond to the needs and wishes of employers to have more generic employability skills specifically included in the curriculum.

4.40 The moves to modularise the curriculum were therefore about ensuring relevance to national, employer and professional needs; about retaining new types of students in HE, and about preserving some degree of individuality within a mass HE system. They coincided with the significant growth in external quality assurance activity and “professionalisation” discussed above. An important part of this agenda was the development of the QAA Academic Infrastructure, including subject benchmarks as a more systematic approach to defining and monitoring the curriculum and learning outcomes of each subject.

4.41 An unintended consequence of these developments was that the burden of assessment, review and QA became much heavier as the curriculum was split up into smaller modules, with assessment of explicit learning outcomes attached to each. The desirable addition of generic skills (presentation skills, team working etc) added further new areas for assessment that are tested in more than one module on a programme. (One university notes the additional burden of “large numbers of academic staff having to listen to presentations”.)

- 4.42 The move of health professions and initial teacher education to a contractual basis, and developments in professional regulation during the 1980s and 1990s increased the number of stakeholders, and led to a situation where it is not uncommon for a university to have several dozen external bodies all trying to influence its curriculum and resourcing priorities (Ref 26).
- 4.43 In this context, the desirable curriculum and QA developments probably went too far to be sustainable either in academic quality terms or financially, and some institutions which modularised their curriculum in the 1990s are partly reversing this process, to streamline and rationalise their modular frameworks and to reduce “over-teaching” and “over-assessment”. Some have been doing this as a means to control unsustainable costs and complexity. Others may see the drivers for change as more about enhancing quality and student achievement to maintain academic reputation.
- 4.44 It may need something of a culture change to make a big difference here. This can be led by a strategy that is specific about these issues. It can also be hindered by a perception that external review bodies expect a comprehensive level of summative assessment irrespective of its value in a particular programme.

At university (d), a major objective of the student learning experience strategy is to refocus the curriculum into a smaller number of choices and pathways where the university is more likely to be able to achieve critical mass, to invest and to provide an excellent experience. This implies some loss of student choice in return for a more coherent and progressive set of options where deeper (and better supported) learning can occur.

- 4.45 The working-group believe that reaching a better balance of assessment, without loss of value or quality of UK HE is one of the major challenges facing the sector in achieving a more sustainable teaching and learning experience.

Relevance and employer views

- 4.46 The changes in the curriculum are partly driven by consumer demand. The CIHE report on graduate employability quoted in chapter 3 (Ref 5) notes that
- “In this ‘race to the top’ our report on ‘Degrees of Skill’ notes how students of all disciplines can develop highly marketable, work related skills during their higher education, skills of tangible and immediate value to employers. Such skills are acquired through learning on degree courses as well as learning through work experience and extra curricular activities. Universities and their career services are working to help their students better understand and articulate the skills they have.”*
- 4.47 The report draws on the International Employer Barometer, a survey of 233 employers representing 750,000 employees conducted by the International Graduate Insight Group (I-grad). The report shows that although universities appear to be very successful at developing the skills needed in the economy, there will always be pressure to do more. For example, the report notes that “many employers are not satisfied with the skills graduates bring to the workplace”. In fact the numbers quoted suggest that more employers are satisfied than are not, but this indicates the challenges that continue to face the sector in this area (see box).

Research by the CBI shows that almost a third of employers (30%) have problems with graduates' generic employability skills such as team working, communication and problem solving. Employers are also disappointed with graduates' attitude to work (25%), self-management (33%), business awareness (44%) and foreign language skills (49%).

High levels of satisfaction were seen with IT skills and the degree classification, relevance and reputation of qualifications achieved by graduates. However, while communication skills were ranked the most important skill, they were only ranked 16th in terms of employer satisfaction. It appears that while many graduates hold satisfactory qualifications, they are lacking in the key "soft" skills and qualities that employers increasingly need in a more customer focused world.

The largest satisfaction gaps are on commercial awareness and relevant work experience.

- 4.48 Universities have had significant success in these areas, but there is pressure to do even more. For example, universities can play a role in raising aspirations in schools and in the workforce, even though it is not their primary function. However, there is a cost to this. Universities have been active in employer engagement for generations (through sandwich courses and work placements), but this is now a much higher government priority. However, it is a more resource-intensive and costly way of delivering higher education than a traditional on-campus approach (Ref 27).

Curriculum development

- 4.49 Academic staff are responsible for designing new courses, which go through a rigorous process of academic validation before they can be accepted as leading to academic award. Many commentators agree that the life-cycle has become much shorter, with courses being revised and new courses validated at a much faster rate than in the past.

A paper prepared for the Governing Body at university (c) illustrates the high rate of renewal of the curriculum. Comparing 2008 with 1998, the paper shows that:

- 60% of HND/degree courses had been closed or replaced (87);
- only 30% remained unchanged (43);
- 85 new degree courses had been introduced;
- 46 foundation degrees had been introduced.

There had also been significant reform of the way the curriculum was delivered.

- 4.50 This "speeding up" of the curriculum development process is in response to a number of factors including employer demands; rapid developments in science, technology and medicine; the development of many professions and some sectors of economic life (e.g. business and financial services); the broadening of the scope of higher education (with new disciplines added since the 1980s); competition between institutions; and the appropriate expectations of government, employers and students that a university degree will provide the most up-to-date knowledge and understanding in any particular discipline.

4.51 There has been an increase in costs associated with this high rate of turnover of courses, and this is an essential part of the sustainable cost of teaching.

Conclusions on Issue 2, changes in the curriculum and assessment

4.52 The evidence reviewed leads to a conclusion that:

- changes in the curriculum and in the assessment of student learning have been essential to respond to the much larger and more diverse student population, and to the government's and employers' concerns about the development of skills and preparation for work;
- modularisation and associated developments were a response to these developments, but they have added to the cost of teaching and to the pressures on academic staff. So too have the emphasis on skills and employer engagement, and the expectations that universities will help to raise aspirations and performance of students who do not enrol with the attitudes and skills that were formerly expected at entry to higher education;
- the cost of curriculum development has also become higher as a result of the increased pace of renewal of courses and materials, and the increased QA and validation processes now required.

Issue 3. Changes in the student population and student expectations

Increased diversity

4.53 The diversity of the student population has increased significantly over this period. For example:

- Part-time student numbers have increased from 612,000 (36% of the total population) in 1995-96 to 911,000 (39%) in 2006/07 (HESA data);
- Since 1998/99, the percentage of students in all the following groups has increased:
 - mature full-time undergraduates
 - students from ethnic minority groups (increased significantly but concentrated in a limited number of institutions)
 - young full-time first degree entrants from socio economic classes 4, 5, 6 and 7
 - young full-time first degree entrants from low participation neighbourhoods
 - disabled students
 - non-EU overseas students.

4.54 The latter trends (except disabled students) are all noted in "Patterns of Higher Education Institutions in the UK" (Ref 28) and draw on data from the UCAS system. They probably understate the increase in diversity of the student population since some of these student groups are disproportionately attracted by institutions which recruit directly rather than via UCAS.

- 4.55 The evidence on disabled students is more difficult to interpret as there are issues about definitions and disclosure. Nevertheless, there are strong indications both from students claiming a disability (recorded in HESA) and from students claiming Disabled Students Allowance to indicate that the proportion of disabled students in HE has increased significantly in recent years and is now well above 5% of the total student population.

Impact on costs

- 4.56 It is well understood in higher education, although difficult to quantify, that attracting, retaining and supporting the successful academic achievement of these newer groups of students is significantly more costly for institutions than educating traditional full-time school leavers with good A levels. Studies carried out for HEFCE in 2003 and 2004 confirmed that the costs of alternative modes of delivery are generally higher than conventional provision, and that the costs of widening participation are very variable, but are often approximately one third higher than the Band D funding. (Refs 27 and 29).
- 4.57 One of the strengths of UK HE is the high proportion of students who complete their studies rather than “dropping out” before gaining the award they enrolled to study for. The National Audit Office reports regularly on the sector’s performance in improving retention, which overall, is at about 78% (the proportion of full-time students expected to complete). This is a high rate of retention compared to many other countries, and has broadly been maintained over the period of growth in the student population.
- 4.58 It has become more challenging for universities to maintain such high retention rates as the diversity of the student population has grown and as other pressures on students have increased (including financial pressures, with a majority of students now in paid employment during their studies¹⁰). The NAO reports note that academic and pastoral support are important to the student experience; that students highly value personal contact with their tutors; and that levels of student satisfaction with assessment and feed-back are lower than for other areas of the student experience.
- 4.59 The increased diversity in the student population also brings new or enhanced requirements and costs in terms of physical infrastructure and support services required to enable such students to remain and progress in higher education. These are discussed in the relevant sections below.
- 4.60 There have also been changes in the ethos and expectations with which some students come to university. Students now expect higher standards of accommodation, of services, and of academic staff attention. This has partly been prompted by raised tuition fees, but is also a result of more general changes in society and in higher education.
- 4.61 Some commentators also note a more instrumentalist approach whereby some students go to university to “get a degree” and to “enjoy a lifestyle” rather than because of a passionate commitment to a particular subject or to their own intellectual development. More positively, universities also note the new skills and experience, particularly of IT and electronic communications that students

¹⁰ 75% have jobs, and spend an average of 14 hours a week in paid employment, according to a survey by the NUS quoted in the Times of November 25, 2008.

bring with them. These in turn require higher levels of investment in Information and Communications Technology (ICT) by universities.

Conclusions on Issue 3, the impact of the student population

4.62 The evidence reviewed leads to a conclusion that:

- The diversity and needs of the student population, and the expectations of students have increased significantly in recent years. These changes are partly a result of changes in society and schools, and partly a result of government policy to introduce competition, and to widen the participation in higher education to achieve broader economic and social goals as well as higher education objectives;
- The impact of these changes has added to the cost of teaching in a number of ways, most notably in additional costs of out-reach; costs of supporting non-traditional students on their programmes; costs of providing new and enhanced infrastructure and facilities for new types of student; and costs of dealing with a much larger range of issues around satisfactory student retention and progression;
- While there have been funding premiums provided for part-time students and for widening participation and retention, these were top-sliced so did not represent an addition to the total funding for teaching and learning. Overall, the evidence shows that there are significant additional costs for universities in terms of all the additional academic activity and facilities required to support the larger and much more diverse student population.

Issue 4. Infrastructure for teaching and learning

Overview

4.63 The infrastructure for teaching and learning includes estates (land, buildings, and associated plant and services); equipment; library and information services; and university IT services provided to support staff and students. This is the second largest cost after staff. Overall, estates make up approximately 15% of institutional costs, libraries 4%, and IT 2%.

4.64 The estates element falls into three main categories :

General teaching spaces: Lecture and seminar rooms and associated AV and IT equipment

Specialist teaching spaces: laboratories, workshops, studios etc in disciplines where these are relevant, and technical support

Generic institutional infrastructure needed to support teaching and learning – i.e. administration space, general social space, services and utilities to support these.

4.65 The full economic cost of this space includes the cost of servicing, utilities, security, maintenance, depreciation and cost of capital. Catering and student accommodation are excluded as they are intended to be self-financing.

4.66 The physical infrastructure in UK HEIs supporting teaching and research has an insured asset value in the region of £60bn (£51bn buildings in 2006-07

EMS data, plus an estimated £10bn for equipment and contents). The figure for England will be close to £50bn.

- 4.67 As noted in chapter 2, a number of factors have combined to create a situation where the physical assets of universities and colleges have generally been undervalued, and under-invested, relative to good long-term asset management practice in a commercial business, although recent government investment is helping the sector to address this.

The importance of infrastructure to the student learning experience

- 4.68 In recent years, the sector has needed to invest in new types of spaces to support student learning. This has been driven particularly by (a) the competitive market introduced by student fees and league tables, (b) the increased diversity of the student population – which has a number of direct implications for infrastructure, (c) the changes in the curriculum and in teaching and learning modes and strategies.
- 4.69 The pressures for investment are clearly visible at university open days, where students (and often their parents) are keenly interested in the quality of the teaching and learning accommodation, the library, the social facilities etc, and there is much less tolerance of poor facilities than in the past.
- 4.70 Many English universities have made investments which provide some of the “state of the art” flexible learning facilities (sometimes called learning hubs or information commons) which students increasingly require. Where they have done so, they typically speak of the learning experience being transformed, and of higher staff and student satisfaction. If the sector is to meet the ambitious aims set out by the Prime Minister, every institution needs to be able to offer students attractive, modern, efficient, teaching and learning facilities, including the associated social, sports and student leisure facilities. These are required to make a university education attractive to the current generation of students, and to maintain parity with the environment and experiences offered in higher education in our main overseas competitors.

Evaluation

- 4.71 The evidence is that much has been achieved in recent years, but there is still a serious challenge for the sector, particularly for those institutions which wish to compete in the international market and league tables, and also for those institutions which need to attract and retain new types of students for whom higher education is not necessarily the first or most obvious choice.
- 4.72 The 2006 national study of infrastructure investment needs (Ref 19) identified a backlog investment need in infrastructure for teaching and learning in the region of £2-4bn. This picture is improving, but it takes many years to make significant changes. In order to illustrate the issues specific to teaching and learning in 2008, we asked the case study universities to provide an assessment of the quality and fitness for purpose of their infrastructure and facilities, and this is shown in Figure 5 below.
- 4.73 The definitions of the four categories of maintenance condition (A, B, C, D) used in the self-assessment mean that infrastructure in category C has either maintenance or fitness for purpose issues which are serious enough to have a negative impact on the student learning experience – i.e. it affects class sizes or locations, or prevents certain types of learning from taking place. This is not

just about “superficial attractiveness” but is a real inhibition to world-class education.

Figure 5. Assessed quality and fitness for purpose of case study universities’ infrastructure and facilities

	Institution					
	a	b	c	d	e	f
Type of resource						
General social space and informal learning areas	C	C	C	C	A/B	C
Libraries and related information services	B	A/B	B	B	B/C	A/B
Lecture and seminar rooms, and equipment in them	B/C	B	C	B/C	B/C	B
IT facilities for T&L (infrastructure, hardware, software)	B/C	A/B	B	B	C	B
Laboratories, workshops etc in disciplines where relevant	B/C	B	B	B	B	B/C

4.74 This self-assessment by the universities cannot be a precise measure, but the approach is familiar as it is the basis of the data reported annually in the national Estates Management Statistics. The key conclusion of the report is that little of the infrastructure in these well-regarded and well-managed institutions is assessed as being in category A, and a significant proportion is below category B.

4.75 This quality of infrastructure is very visible to students, and has a direct effect on the attractiveness of English universities to international students, and on their perception of their learning experience (see box).

A group of Chevening scholars, meeting in Edinburgh in June 2008, commented to the effect that:

- they had excellent teaching in terms of the research-led nature of their post-graduate courses and access to high-profile researchers (compared to say the USA);
- they were very negatively surprised at the quality of the fabric of buildings, and had negative perceptions of IT provision;
- some of them had attended university at Post-Graduate level in other OECD countries (Australia and the USA were mentioned) and said that our buildings and infrastructure compared poorly.

(private communication from a UK senior university manager present at this event)

4.76 The reports from the case study universities at Figure 5 chime with the national evidence. The most direct source of this is the annual Estates Management Statistics evidence. The latest EMS Annual Report in 2008 (based on 2006-07 EMS data) shows that in England 30% of estates by Internal Area are in EMS maintenance condition C or D, and the cost of up-grading this space to

condition B is 7.5% of the total Insurance Replacement Value of the higher education estate. This is an improvement from earlier years, but it still represents a backlog investment for English universities in the region of £3.5bn of which perhaps £2bn could be expected to be relevant to the student experience (some of this backlog will be in research; and some in administration buildings where a certain level of poorer estate is tolerable, if inefficient). (Ref 30)

- 4.77 Across the six case study universities, the proportion of their infrastructure devoted to teaching and learning varied from approximately one-third to over two-thirds, and the proportion of this teaching and learning infrastructure which they assessed as in conditions C or D varied from 25% to 34%, in line with these national statistics.
- 4.78 They also identified their 10-year capital investments needs (i.e. an agreed plan which has been discussed by their governing body), and the sources of funding (chiefly public capital grants and own-generated funds such as from surpluses and asset disposals) which they can use to finance these plans.
- 4.79 The results from this small sample can only be indicative, but they show that all the case study universities have investment needs for teaching and learning infrastructure which cannot be funded solely from the levels of formulaic capital grant currently planned, plus institutional surpluses. This means that (a) the sustainable cost of teaching is higher than current resources, and (b) unless institutions can raise other sources of finance which they cannot at present envisage, then necessary enhancements to the infrastructure will be delayed or not made.
- 4.80 This result is not new or surprising, but it provides up-to-date corroboration of the overall conclusion that, notwithstanding the positive initiatives by the government in respect of formulaic capital grants, the sector is still some way away from having a sustainable physical infrastructure.

Libraries and associated learning resources

- 4.81 Libraries are a vital part of the learning environment, as custodians of books and journals, and in providing access to electronic resources, study areas and PC clusters, and training in information retrieval. For many students, the library service is at the heart of their learning experience, and this service has undergone a revolution in recent years due to a combination of information technology, and changes in student expectations and learning styles.
- 4.82 Many students now wish to learn in spaces where they can read books, work on-line, work in small groups, prepare presentations and eat and drink in an informal learning atmosphere. This change in learning styles has led to a revolution in the types of space available to students in many institutions. However, these spaces are expensive; they do not replace the need for a traditional library; and they often need to be open 24/7/365.
- 4.83 SCONUL¹¹ note that:
- libraries have become the preferred venue for group and project work by students (in particular because they offer relatively long opening hours with assistance available);

¹¹ Communication from the Society of College, National, and University Libraries (SCONUL)

- when universities provide remodelled or new library space to support such needs, they see large increases in the use of the building;
 - high demand continues for 'traditional' library space also – the need is less for inexorable new build, more for reconfiguration to provide more variety of suitable spaces.
- 4.84 Libraries and their on-line resources are especially important to part-time students for whom they may provide the only environment where they can study away from other pressures (2006 survey by Universities UK).
- 4.85 SCONUL note that many aspects of library services have improved in recent years, notably the increased availability of on-line journals, workstations, and inter-library loans, coupled with investment by some institutions in longer opening hours and new types of more flexible learning spaces.
- 4.86 However, they also note that the costs of books and journals have increased faster than general inflation, the costs of shelf space and storage is a problem, and the investment in library space has barely kept pace with growing student numbers. In fact, floor space per student has fallen as a ratio, and this reduction is exacerbated by the increased space requirements of equipment and group-work which have often been accommodated at the expense of browsable shelves, with some book-stock removed to store.
- 4.87 The evidence from students shows that, overall, students are dissatisfied with library space, and that the UK experience compares unfavourably with some international competitors (see box).

Perceptions of the library buildings have increased steadily over the past five years but they are still just scraping above users' minimum expectations.

Only Oxford and Cambridge have library systems anywhere near approaching the major research libraries in the USA in terms of the richness of resources.

From the students' perspective, US libraries better meet their perceived needs.

The conclusion from the above is that the UK is behind the major US libraries, possibly behind those in Germany, and that our opt-in national deals for electronic resources provide less uniform access to e-resources than in countries with more comprehensive nationwide deals.¹²

Equipment, including ICT, and technicians

- 4.88 Equipment makes up a significant part of the total asset base (and cost) in higher education. The availability, condition, and state of technological advance of equipment is often critical to the perceived quality of the student learning experience (and the absence of equipment to at least industry standard inhibits the relevance and value – and perceived quality – of many courses as preparation for work). This is especially critical in subjects including the sciences, engineering, digital media and arts where students expect and need “hands-on” experience of industry-standard facilities if they are to develop the skills needed for employment.

¹² SCONUL's LibQUAL+ cohorts survey

- 4.89 The cost of equipment is difficult to measure for a number of reasons¹³ and some is donated or acquired as part of research grants or is purchased locally in academic departments and so may be unknown to central finance departments. As a result of these factors it is more difficult (compared to buildings) to produce an authoritative statement of the extent of any investment backlogs, and of the required annual spend on equipment.
- 4.90 There is however, some evidence that institutions struggle to invest enough in equipment, and this is one of the most visible signs to staff, students, and industrial partners of a “falling-behind” of UK HE relative to the position in schools and further education colleges on the one hand, and to overseas competitors on the other.
- 4.91 A closely-related issue concerns the availability of technicians and other expert support to teaching and learning. As teaching has become more specialised, the contribution of technicians has become more critical to the student learning experience. Students comment on the invaluable support they receive from technicians and other professional non-academic staff. However, the age profile of technicians means that many are reaching retirement age and the cost of recruiting and training the next generation will be high.

Conclusions on Issue 4, infrastructure for teaching and learning

- 4.92 The evidence reviewed leads to a conclusion that:
- Buildings, facilities and equipment are very visible and important to students and make a significant difference to the ethos, quality and efficiency of their education, and to attracting and retaining students in higher education. The increased diversity of the student population has added significantly to these needs;
 - The sector is in a catching-up phase after a period of expansion without commensurate investment in infrastructure, and after a past where the responsibility for ensuring the sustainability of infrastructure was unclear. While much has been achieved in terms of new buildings in the sector, many of the existing buildings which are still essential for teaching and student support have not been modernised and enhanced to keep pace either with the requirements of good asset management practice, or to maintain the competitive position that English HEIs have to achieve in an era of students paying fees, and much greater external scrutiny and expectations. The position with libraries and IT resources is similar;
 - This is an area where the UK student experience compares unfavourably with that in some of the leading competitors overseas which typically have much newer infrastructure, and invest a higher proportion of GDP in higher education;
 - The introduction in 2004 of formulaic capital funding for teaching infrastructure was a big step forwards in helping the sector to plan towards sustainability, but it is in the nature of infrastructure investment that it will need more than a few years of consistent and well-targeted investments to reach a satisfactory new equilibrium;

¹³ Including different accounting practices in different institutions and the fact that much equipment (e.g. IT) has very short write-off periods

- On average, institutions are still not investing near the sustainable level which is now widely accepted to be in the region of 4.5% of asset value (Ref 19), and the reasons for this include the very low levels of surplus being achieved¹⁴, and this is forecast to continue. Therefore the sustainable cost of teaching is higher than their current expenditure on teaching, and significant additional investment is required.

Issue 5. Student support services

- 4.93 Student support covers a wide range of services, but the core services are careers, counselling, disability support, financial advice and support to international students. Student support is a central aspect of teaching and learning and makes a critical contribution to student satisfaction and retention. Those who provide support are significant partners, with academic and other teaching staff, in the student learning experience.
- 4.94 Over the past few years, student services have been developing significantly as a result of a number of factors. These include the increased needs of the more diverse student population and the enhanced obligations and expectations on universities in the more marketised environment.
- 4.95 The phases of development of student services could be described as a move from an **administrative deficit model** (i.e. as a last port of call for student problems) through an **integrated customer care model** (the one stop shop movement) towards a **professional support services model**. In the latter the academic/administrative divide should become much less important and student services are recognised as more interventionist and crucial to the broader student experience.
- 4.96 Most services have increased in size and service provision and report directly into a member of the university senior management. Student services is recognised as providing cost effective central expertise across a wide range of areas and takes a lead in a range of innovative developments including healthy universities, student well-being, interfaith dialogue and community cohesion, Students' Union liaison, new media communications, the National Student Survey, and Student Experience.¹⁵
- 4.97 Although definitions and organisation vary, the student support services in a university may involve over 100 staff, many of whom are professionals in areas where academics are not qualified, and their role is to provide centrally the services needed to enable students to engage successfully with learning, and to make the critical transitions in their university careers (induction, progression, qualification, employment).
- 4.98 The scale of investment in student support services has grown very significantly in recent years due to a combination of:
- external demand (see e.g. the comments from employers about careers and from the NAO about retention quoted above);
 - student needs (a broader based student population has a greater variety of mental and physical health, learner support, disability, personal, financial needs which can inhibit learning and achievement if not addressed);

¹⁴ The sector average level of surplus in 2006/07 in England was 1.0%

¹⁵ Communication to J M Consulting from the Chair of AMOSSHE, October 2008.

- increased expectations and legislation (e.g. in health and disability support);
 - professional development in these service areas;
 - pressures on academic staff (as SSRs have increased students are less likely to have learner support provided by academics in their department, and this has placed extra demand on central services).
- 4.99 Some data provided by the case study universities illustrates this significant growth (for example, an effective doubling of student support service staff FTEs at university (e) – not all a charge on higher education budgets; very significant increases in staff for disability support at university (b), and a doubling of international student support staff).
- 4.100 Two examples in the box below (careers and counselling) illustrate the issues.

Conclusions on Issue 5, student services

- 4.101 Student services are important to improving retention and achievement of students and are part of the core resource for the student learning experience.
- 4.102 There has been a big growth and improvement in the range, quality, and expertise of student services, prompted by the needs of a much more diverse population, by enhanced student (and societal) expectations, and by the desire to maximise student retention, satisfaction, and achievement, and to respond to a number of government agendas (inclusion, citizenship etc). This has been a necessary part of delivering a quality student experience more consistently, and it has also, to some degree, compensated for the reduced ability of academic staff to spend time with individual students.
- 4.103 This development has added significantly to the cost of these services which have grown very significantly in the last 15 years.
- 4.104 Indications are that the UK is ahead of many (European) competitors in student services, but anecdotal evidence compares us unfavourably with the USA.

Careers (Comments from AGCAS)

Careers advice and services are very close to the central concerns of government about employment and employability, and this is identified as a critical service by both students and employers (e.g. by student juries referred to in the HEA project on the student experience, and employer feed-back in the CIHE report discussed earlier).

There is no systematic data on the state of careers services across UK HE as each institution interprets the needs and resourcing of its careers service for itself. The main roles of careers services are one-to-one guidance and information for students (offered by most services); work on the curriculum (done by many); and credit-bearing courses (offered by some). They are also often involved in employer engagement, arranging placements, and job shops for students. The number of careers advisers in institutions varies widely.

AGCAS has a view that the needs are growing and that careers is “not adequately resourced”. They note in support of this that employers are more demanding; that many students now need more support than in the past; and that increasing numbers of overseas students need careers support.

Few overseas countries have careers services as developed as those in the UK. The only comparable examples would be in the USA and Australia, but these are organised on a different basis, so it is not easy to compare levels of service or resources.

Counselling (Comments from AUCC)

An increasing number of students are seeking support from counselling services for issues including depression, relationships, anxiety and academic difficulties. Hard evidence is difficult to find, but it seems clear that as the student population has broadened, an increasing proportion of students need some counselling and psychotherapy support if they are to remain in higher education and to progress in their studies. The numbers involved are significant – typically several hundred students in a large university will be clients of the counselling service. If these services were not provided in universities, there would be (a) a much higher burden on the NHS, and (b) greater loss of students dropping-out part-way through their courses.

5 ACHIEVING SUSTAINABILITY OF TEACHING AND LEARNING

- 5.1 This chapter considers the policy implications of the evidence in chapter 4, including what institutions need to do to return to a more sustainable position; and what help they need to achieve this.

Summary of evidence

- 5.2 The evidence reviewed in chapter 4 indicates that while the student learning experience remains a good one, and has improved in a number of respects, teaching and learning in English universities is under increasing pressure, and the cost of sustainable teaching in many parts of the sector (i.e. across many institutions and in a range of disciplines) is higher than the level of resources currently available in institutions.

Improvements in teaching and learning since 1990

- 5.3 The major improvements can be summarised as in Figure 6 below.

Figure 6. Major enhancements in UK higher education since 1990

1. A more broadly-based student population, with universities supporting a wider range of student needs and learning modes and styles, and with students' needs and interests much more firmly placed at the centre of higher education.
2. A much wider range of subjects and programmes is available to study at degree level.
3. The curriculum is more flexible, and offers a more tailored experience for many students. It is more explicitly relevant to the development of social and employability skills to support national needs.
4. There is much greater use of technology to enhance learning.
5. Institutions now have attractive modern learning spaces and facilities open much longer hours; with much easier access to electronic and printed learning materials; and integrated electronic systems and support services to support student learning.
6. Students are more involved in the way they learn, including providing feed-back on, and contributing to the design of their courses. They have more information, and through representation have a greater input to decisions relating to academic processes.
7. The processes of course approval, assessment and academic awards are all much more rigorous and professional and there is a more systematic infrastructure and framework for the assurance of quality of UK HE awards, and the teaching and assessment that support them.

- 5.4 It is important not to lose sight of these changes which have been very beneficial to students and to the performance and reputation of UK universities, and to their contribution to national policy objectives. The sector and the government are to be congratulated on the outcomes that have been achieved.

Strains in the system

- 5.5 As described in chapter 3, these improvements have been achieved at a time when public investment in higher education has been lower than that in many of our competitors overseas, and the level of public funding per student has been recovering after a period of decline. Some of these pressures on the resource available per student have been managed by institutions through a variety of efficiency and productivity improvements, which have been very significant over this period.
- 5.6 However, chapter 4 shows that the ability to secure the quality and fitness for purpose of higher education is coming under severe strain. It is increasingly being maintained by institutions using a number of “coping strategies” including some practices, which cannot be regarded as a sustainable basis for the future success (and enhancement) of UK higher education in a much more competitive and demanding market environment.
- 5.7 To summarise these pressures, the case study universities identified the areas that represent the most critical pressure points for them and these responses are summarised in Figure 7 below.

Figure 7. Critical pressure points at five case study universities

Feed-back Employer engagement Curriculum development
Improve personalised learning Smaller group sizes, more time for feed-back, implies a need for additional staff (calculation provided) Improve e-learning support More volunteering opportunities for students
Individual feed-back, hence SSRs Support: disability, counselling, financial advice
Informal learning space Reverse the SSR trend
Feed-back Student support Portfolio development

- 5.8 The working group agreed that taking all the evidence together supports a focus on three generic pressure point areas where teaching and learning practices are unsustainable, meaning that without some change, the quality of the student experience and the reputation and contribution of English higher education will suffer. (This is a judgement at sector level, not all of these occur in the same way in every institution, but they are significant across the sector):

5.9 The three priority areas that the group wished to highlight are as follows.

- a. **The quality of the staff-student interaction, and in particular the space for formative feed-back and tailored support to individual students.** This is at the heart of the distinctive and high-quality UK HE experience and, as already noted, it is the quality of teaching that most strongly attracts international students and maintains the reputation of UK HE. There is strong evidence that across the sector as a whole, the ability of institutions to maintain this quality is under strain, and that this is of concern to students.
- b. **The low levels of investment in physical infrastructure for teaching and learning.** While each institution's needs are distinct, and significant improvements have been made in recent years, the sector still has significant backlogs of investment in infrastructure that is important for teaching and learning, and this compares unfavourably with some overseas competitors. Looking forwards, most institutions are forecasting that they will be unable to invest at the level now recognised as necessary to maintain their productive capacity to deliver future world-class teaching and learning.
- c. **The levels of support services required to underpin student retention, progression, achievement, and subsequent employment.** The costs of these services have increased significantly in recent years as a result of changes in the student population and in the expectations and obligations on universities. These services are a key element in the university sector's ability to retain and support a more diverse student population and to meet government objectives in terms of retention, achievement, progression and employability.

What is the magnitude of the problem?

- 5.10 The working-group discussed the scale and intensity of these pressures in some detail. They agreed that this report needs to communicate that this is not just a marginal problem that can continue to be accommodated without serious impacts on teaching and learning. While none of the group wished to be alarmist or to undermine the reputation and quality of university teaching and learning, the group were clearly of the view that it would be dangerous to ignore the pressures in these three critical areas.
- 5.11 Some quantification of the scale of the pressures was obtained for internal consideration in the group by asking the case study universities to estimate the cost of addressing the first issue they had identified in Figure 7 and at (a) above. This of course varied between universities, and was not a precise figure, and is a small sample. Nevertheless, there was a significant degree of convergence in the estimates which tended to all include an element of recurrent income for reversing some of the recent decline in SSRs, plus some one-off investment to permit other enhancements to the student learning experience as noted in Figure 7.
- 5.12 In relation to issue (a) above, the recurrent income estimates made by case study universities were typically that they required in the region of a 15-20% uplift in the resource available for academic staff to devote to teaching. If reflected across the sector, this would translate broadly into a 5% increase in

the publicly-funded unit of resource to address the feed-back and tailored support issues at (a) above.¹⁶

- 5.13 There are of course other cost pressures, indirectly related to teaching and learning (such as pensions, pay costs, energy and utilities costs, costs of financing) which are not discussed in detail in this report but which will all put further pressure on institutional finances, at a time when these are already under severe pressure. These serve further to strengthen the case for addressing the pressure points identified above.
- 5.14 It is also relevant to remember that in recent years, overseas students have been willing to pay a premium for a UK education, and their numbers have increased rapidly (to a point where international student income is significant at sector level, and is critical for quite a large group of institutions). It is very unlikely that this rate of increase can be maintained, which will put further stress on institutions' finances at a time when staff, energy and other costs are rising much faster than the rate of indexation of public funding.
- 5.15 The working group believe that without action to address all three of these areas of cost pressure, it is inevitable that the quality and fitness for purpose of UK higher education, and its reputation and international competitive position will be adversely affected. This threat to sustainability is the fundamental challenge facing the sector.

What is needed to achieve sustainability?

- 5.16 While the diversity of student experiences means that any study such as this cannot put a precise single figure to the level of additional resource needed, it is clear that the pressures in these three critical areas could be relieved by a relatively modest (in percentage terms) uplift in public funding to provide a level of resource to institutions for teaching and learning closer to the full economic cost of future sustainable teaching. This would imply moving closer to the levels of resourcing that were available before the unsustainable expansion in the 1990s, or are seen in some competitor OECD nations.
- 5.17 Such a step-change is in effect what the government did for research in the middle of this decade with the reform of the public funding of research. The logic for similar action on teaching is equally compelling. It is also what the Scottish HE sector is seeking through the report of the Joint Future Thinking TaskForce on Universities (Ref 31).
- 5.18 In principle, the group believe that this is a reasonable ambition, and the sector should adopt it as a medium-term goal in its future discussions with the funders of teaching and learning. However, there are difficulties in achieving it in the short-term.
- 5.19 One practical difficulty is that it is difficult to make a business case without a much clearer view on precisely how much additional funding is required. The facts presented in chapter 2 of this report indicate that there is no widely acceptable methodology which can provide a figure for the sustainable cost of teaching
- 5.20 A second difficulty, is that teaching funding is allocated to all institutions on a non-competitive basis, with no direct relation to outputs (other than student

¹⁶ TRAC for Teaching shows that academic staff costs comprise 26% of the subject-related cost of teaching

completion), and there could be a concern that additional funding might simply be consumed in additional running costs without having a transformational effect on the sustainability of teaching.

- 5.21 Additionally, the general economic and financial situation makes any major increase in public funding for teaching difficult to achieve in the short-term.
- 5.22 The working-group considered what could be done, and concluded that there are three separate but inter-linked aspects to policy action to achieve a more sustainable basis for resourcing teaching and learning:
 - a. policy commitment
 - b. action by the sector
 - c. action by the government

a. Policy commitment

- 5.23 The first step in transforming the sustainability of teaching and learning (as it was for research), is to obtain a shared understanding by institutions and their major funders and partners (HEFCE, Department of Health, Teacher Development Agency (TDA), employers, professional bodies, parents and students) of the nature of the strains on teaching and learning, and the level of resource that is required for sustainability. Without such a shared understanding to influence the behaviour of all parties involved, it would be very difficult to make progress towards sustainability. This was effectively the case for research before the sector-wide acceptance of the evidence on full economic cost.
- 5.24 The government has already demonstrated its understanding of these issues, both through its reform of the funding of research, and through its statement about unsustainable resourcing in the 2008 Grant Letter to HEFCE.
- 5.25 The working group and the FSSG are convinced that the overall case made in this report is robust and undeniable. Nevertheless, it could be a useful step, as part of the next phase of securing policy commitment, for the sector representative bodies to consider whether any additional evidence is required.
- 5.26 If it is considered that further evidence is required, it will need careful consideration of what more can practically be done, beyond what has been done in preparing this report. Given the diversity of the sector, it is unlikely that a single statement on costs for teaching could be developed, even if the sector bodies wished to do so. However, there is clearly scope for individual universities, or groups of similar universities to do more work to understand their costs of sustainable teaching and to manage their portfolios in the light of this information. One suggested approach which institutions could use to examine their own position is in the box below, but it would be for them to decide how to use this.

Assembling better evidence of need. Possible action to improve understanding of the cost of teaching through some basic requirements or benchmarks

One of the weaknesses of the current position is that, notwithstanding the evidence in this report, the sector does not yet have a credible and agreed methodology to express the sustainable cost of teaching in a numerical way. However, the work by the case study universities for this report indicates a possible way forward.

Institutions, or groups of institutions, could work to define some simple indicators of what might be expected in universities which are providing sustainable teaching and learning in their part of the sector. For example (note this is **illustrative** of the type of criterion that could be discussed rather than a proposed specification):

- all teaching rooms that are occupied for more than x hours a week are fully equipped with modern ICT equipment;
- a modern open-access library and learning centre open 24/7 and with enough resources to meet peak demand;
- a given proportion of first year courses being taught by permanent academic staff;
- all students having a small group or individual feed-back session with an academic tutor on a regular basis;
- all academic staff engaged in teaching meet certain simple indicators of scholarly activity;
- all important teaching and learning infrastructure is in at least EMS maintenance and fitness for purpose category B.

The idea of this would not be to impose a standard specification on institutions, but to enable the sector to begin to discuss the costs of sustainable teaching, and to see any areas where additional resources are required.

b. Action by the sector

- 5.27 Secondly, the working-group considered what the sector could do to improve the allocation of existing resources to the most critical aspects of teaching and learning, and further to improve the efficiency of delivery (or to reduce the sustainable costs of teaching).
- 5.28 The sector has already done a great deal in this direction, which was discussed in chapter 3, and is most clearly demonstrated by the way the sector accommodated a large reduction in the unit of public funding for teaching over the 1990s, at the same time as it made major improvements to the student experience which were highlighted earlier in this chapter.
- 5.29 Nevertheless, there is scope to do more, and it is appropriate for the sector to demonstrate that it is doing all it can to address these challenges, before seeking additional funding. A number of possible strategies to do this could be considered. Those which might be considered most relevant for action by the sector include the following:

A. Better recognition and management of scholarly activity as an essential support to teaching and of the synergies between teaching and research to ensure that these enhance the student learning experience.

- 5.30 Research is important to the sustainability of a world-class higher education system, but many institutions are incurring losses on research which may be putting pressure on staff resources available to students without this necessarily providing any benefit to teaching.
- 5.31 Scholarship, which is not the same as research, is a fundamental support to teaching, but does not always receive the priority it deserves, and if it is under-recorded in TRAC, or is mis-recorded as research (there is some evidence for this), it is less likely to be managed as a significant and core institutional activity. There are of course staff development (and investment) issues here as well.
- 5.32 Each institution will have to decide how to manage these tensions in the light of its own strategies and circumstances, but it would clearly help if institutions' teaching and learning strategies were explicit about the costs of scholarship and about the means being used to ensure that the perceived incentives to engage in research do not have inappropriate consequences for the student learning experience.

B. A more streamlined and tailored approach to teaching, assessment, feed-back, and the student learning experience.

- 5.33 As already noted some of the case study universities are reviewing their curriculum structure. A more carefully managed approach to assessment to ensure that students were assessed appropriately but not excessively, or in which some modular and summative assessment was replaced by more formative and synoptic assessment would free up some resources for enhancement of the teaching experience. This would need to be well managed in order to ensure that external QA agencies or other stakeholders see that this constitutes a coherent strategy to enhance the student experience and is not simply seen as a reduction in assessment. The sector needs to move collectively in this direction in order to ensure that some institutions are not disadvantaged by being perceived to move too far out of line with accepted practice.

C. Further action on sharing services, and more efficient utilisation of infrastructure.

- 5.34 Affordability of infrastructure is a continuing challenge for the sector. Some institutions have gone a long way towards developing more cost-effective and affordable long-term capital asset strategies which include techniques such as leasing, developing multi-purpose buildings, sharing infrastructure and services with other institutions (although there is a VAT issue which makes this latter less attractive), and ensuring the full use of infrastructure throughout the working week. Effective use of TRAC data on the costs of different types of space and their allocation to activities can help institutions to reduce the demand for space, or to allocate costly space more appropriately.
- 5.35 Again, each institution will have to decide how to manage these issues, but when space is so expensive and finance so tight, it makes sense to explore imaginative strategies to make better use of space. Overall space utilisation

rates in the sector are low in relation to those in comparable large organisations.

D. Greater sharing of course development and materials.

- 5.36 Part of the strength of the UK higher education experience as defined in chapter 3 is the active involvement of academics in creating relevant and up-to-date modules and learning resources for students. However, there is also a risk of many institutions developing very similar materials, when there could be both quality and cost benefits from greater sharing of development costs. This is of course the model that has been used by the Open University for many years, and is used by some of the new private providers.
- 5.37 HEFCE are funding a major pilot project to develop open educational content which would build upon work done by the OU to develop a range of learning resources that could be drawn upon by academics and institutions when new modules and programmes are being considered. It will be important to learn the lessons from this initiative, led by the HE Academy and JISC.
- 5.38 Anything which could lead to greater effective sharing of development costs – without loss of quality or relevance for individual institutions, could reduce the cost of teaching. There may be a greater role here for sector-wide bodies such as the HEA subject centres to be supported to develop and promote these.

E. Continue with actions to promote the esteem of teaching and learning.

- 5.39 A number of initiatives have been undertaken (and some institutions have recently announced further actions) to encourage a more balanced parity of esteem between teaching and research. The National Teaching Fellowship Scheme is a good national start in this direction but the sector may wish to consider more concerted action at institutional level.

c. Action by the government

- 5.40 The working group and the FSSG also considered steps that government could take to assist, and these are suggested below. There is (deliberately) a mix of items here – some of these may be possible to envisage in the current circumstances, others may be for the medium term.

i. Not impose new unfunded requirements on universities

- 5.41 New requirements or obligations – such as universities being expected to support academies or to become involved in the delivery of 14-19 diplomas and broader pressures such as those deriving from the economic and social agendas of government – add costs to universities. However valuable they are, they act to reduce the resources available for teaching and student learning. While the cost pressures on teaching are so great, the government might be asked not to expect the sector to take on new requirements at the expense of the student learning experience.

ii. Fund other core higher education activity at full economic cost.

- 5.42 While Research Councils now fund research on a full economic basis (at 80%), there is still significant resistance by other funders, including some government departments, to doing so. Funding of teaching on a contractual basis by the

TDA and Department of Health is also sometimes at rates which do not take account of full economic costs. While it is acceptable for marginal or discretionary activity to be funded on a competitive or market basis, to treat core public teaching or research activity in this way puts additional pressure on other university activities including teaching.

- 5.43 The government could be firmer about requiring all public agencies to implement the fEC principles set out in the Science and Innovation Investment Framework.

iii. Minimise regulatory burdens

- 5.44 Good work has been done to reduce regulatory burdens on the sector (e.g. by the Higher Education Regulation Review Group, and through HEFCE's introduction of the "single conversation"). However, this is a continuing challenge, rather than a case of "mission accomplished". If the sector is entering a period of tight funding, it will be especially important to avoid imposing new regulatory burdens which will inevitably impact on the resources for teaching and learning.

iv. Change the VAT rules to encourage universities to share services.

- 5.45 The VAT regulations act to deter the sharing of services and cross-charging between institutions and thus reduce the chance that this avenue of cost reduction will be pursued. When there is an opportunity to do so, it would help the sector to exploit this possible avenue to greater cost-effectiveness, if the government changed the regulations which currently require institutions to apply VAT to inter-university service provision.

v. Provide longer-term stability of funding to encourage more strategic (and cost-effective) investment by institutions.

- 5.46 The government has already done a lot to provide a more stable planning horizon for universities with a combination of measures including the formulaic capital grants and the undertakings to protect the teaching unit of resource to 2010-11.
- 5.47 However, institutions are incurring additional costs because of uncertainty over future public funding (strategic estates projects, for example, often have a five-year planning and execution period). Some cost savings could be made if the government could give a longer period of indicative funding and it would obviously help institutions if the undertakings on the unit of resource could be extended beyond 2010-11.

vi. Increase public funding for teaching

- 5.48 When it is possible to do so, the government could help to ensure a more sustainable higher education teaching enterprise by action to improve the unit of resource. There are different ways this could be achieved: by a one-off increase in core grant; by indexing the core grant by the real rate of inflation; or by raising the cap on regulated student fees.

6 APPENDICES

Membership and terms of reference

The membership of the group was as follows:

Professor Geoffrey Crossick (Chair)	Warden, Goldsmiths, University of London
Professor Stuart Laing	PVC Learning & Teaching, University of Brighton
Professor Alistair Ulph	Vice-President and Dean of the Faculty of Humanities. University of Manchester
Professor Michael Whitby	PVC for Teaching & Learning and International Affairs, University of Warwick
Professor Paul White	PVC for Learning & Teaching, University of Sheffield
John Selby	Director of Learning & Teaching, HEFCE
Steve Egan	Deputy Chief Executive, HEFCE
Stephen Willis	Director of Finance, Leeds Metropolitan University
Jim Port	J M Consulting Ltd
Heather Williams	Finance Consultant, HEFCE

The remit for the group was agreed at its first meeting in October 2007 as follows:

- i. to review the issues around defining a sustainable cost of teaching, and the factors that should be included in such a cost analysis – effectively to define the framework within which this analysis could be done;
- ii. to make a “first-cut” at this cost analysis, accepting the probable limitations in the data, to provide initial advice on the likely range of the level of resources required for a sustainable higher education teaching sector under different scenarios; and
- iii. to advise on how more robust advice and better evidence could be assembled, drawing on TRAC and other relevant information.

The main focus of the group will therefore be on thinking about the resources needed for appropriate and sustainable teaching, and how, if at all, the cost of this will differ from the recent historic expenditure of institutions as recorded by TRAC.

The sub-group’s report would initially be to the TRAC Strategy Group, but be formulated bearing in mind the needs of the various users of this type of advice.

Methodology

The group had extensive discussions of the issues outlined in paragraphs 2 and 3 at its meetings, which are recorded in detailed minutes. The group met five times, in October 2007, January, March, June and October 2008. There were also discussions of the work of the group, and its emerging findings in the TRAC Strategy Group at three of their meetings in November 2007, February and July 2008.

This group was supported by a consultant, Jim Port of J M Consulting, who has been responsible for drafting the group's report.

This report is a consultancy study, not a piece of academic research. It draws upon a number of sources of information and advice which are briefly summarised in this appendix, but these have all been interpreted and informed by the discussions of the group, and the judgement of the author. The group's aim was to produce a report which could usefully inform policy, not a definitive review of previous work or literature in this area.

The group has drawn upon a wide range of published data and reports at a national (England or UK) level where possible. A further important part of the work has relied upon investigation of the quality and sustainability of teaching and the student learning experience at a sample of case study universities, and on seeking new evidence and information from a number of organisations with relevant experience and expertise in this field. This part of the work has produced new evidence which is analysed and summarised in the report.

The main work done in producing this report has included the following:

- a. **we reviewed sector financial, student, and estates data relevant** to the resourcing and performance of higher education and student learning. Much of this is published by the Higher Education Funding Council for England;
- b. **we drew upon a current study of the financial position of the higher education sector** which was carried out by the Joint National Committee for Higher Education Staff (JNCHES) during the period of this study. Jim Port was an adviser to the JNCHES study;
- c. **we conducted six university case studies** specifically for this report. These used a questionnaire followed by two visits for in-depth discussion with senior staff concerned with policy for teaching and learning in each university. The case study universities were: Brighton; Manchester; Oxford Brookes; Sheffield; Warwick; Wolverhampton. These six universities were chosen to illustrate current good practice and issues in a number of different types of institution. They were not intended to represent the sector in any statistical sense. Some of those involved in the case studies were members of the group.

The case studies also drew on experience of one or more sample disciplines (academic schools) in each university. These included engineering, chemistry, law, geography, history and languages.

- d. **we drew upon a study of "The cost of engineering degrees"** conducted by J M Consulting on behalf of the Engineering Training Board and Engineering Professors Council, and published by the EPC in 2007;
- e. **we had discussions with, or sought information from a number of professional organisations** with particularly relevant knowledge and experience for this study. These included: SCONUL; HEA; HEFCE; AGCAS; AMOSSHE; AUCC; CIHE;

- f. **we had discussions with a number of university senior** officers concerned with these issues, including via two the networks of Pro-Vice-Chancellors for Teaching and Learning (the Higher Education Academy network, and the Russell Group network).

Note on TRAC – the Transparent Approach to Costing

TRAC is the Transparent Approach to Costing – the standard activity-based costing system used in all UK HEIs which provides consistent cost data by activities across the sector.

Institutions use TRAC in at least three different ways:

- they make an annual accountability return to the funding councils on the costs of their main activities – Teaching and Research – split into publicly funded and non-publicly funded activity, and on the costs of the third activity – Other;
- they estimate the full economic cost (fEC) of research projects as the basis for public funding by the research councils;
- in England, Scotland and Northern Ireland they are calculating the costs of teaching different subjects (in the 41 HESA academic cost centres).

The TRAC cost adjustments

There are two TRAC cost adjustments, which were agreed as part of the TRAC methodology approved by the government in 1999. They have since been reviewed and (slightly) amended by HEFCE.

The Infrastructure Cost Adjustment is a technical accounting adjustment which ensures that depreciation of assets is charged on a “current value” (using an insurance valuation) and so more closely reflects the real economic cost of any assets which are held in institutions’ books at an historic cost. It is a self-regulating adjustment in the sense that it reduces to zero for institutions which are already accounting for depreciation at current costs.

This adjustment is about obtaining data on a consistent basis across all institutions. However, even after it has been applied the full economic cost of infrastructure may still be understated because it assumes that the value of estate, backlog maintenance levels, and annual maintenance spend are all appropriate to mission – which is not the case in some institutions. Moreover, there is no corresponding infrastructure adjustment for equipment (despite the fact that exactly the same reasoning should apply). The return for financing and investment (replacing the former “cost of capital employed”) is intended to ensure that institutions take account of the economic cost of capital. This covers the financing costs of institutions, including the existing costs of borrowing and the opportunity cost of institutional cash used for financing; it also provides funds for the rationalisation and development of institutions’ business capability and capacity.

This adjustment helps to build in resources that institutions should plan to make available for investment in future years. Because their current surpluses are so low, this leads to deficits (a need for more resources) in the TRAC accounts.

It has been accepted by funding bodies that this adjustment is a reasonable proxy for these resource needs, but it should also be acknowledged that if a position is reached where institutions are consistently making larger surpluses and investing in their future productive capacity, then justification for this second TRAC cost adjustment may need to be reviewed.

TRAC and the costs of Teaching

There is some uncertainty about how well institutions are reflecting the real division of academic staff time between teaching (with its associated support activities of

scholarship, preparation etc) and research (with its associated support) through the TRAC academic time allocation process. The TRAC Strategy Group has discussed this in some detail. If, as we suspect, there is a tendency to overstate time on research, then it follows that the cost of teaching is being understated (at least in some institutions). There has been a lot of advice to institutions on how to avoid (or correct for) such mis-statements, but some institutions are very reluctant to challenge (or verify) the data reported to them by academic departments.

The relative costs of teaching in different disciplines are being measured through TRAC for the first time in 2008 (based on data for academic year 2006/07). This data will be used by HEFCE when it has been benchmarked and quality assured. It will show that average costs vary across a wide range (from approximately £4,000 per student per year in “class-room” subjects in the humanities to approximately £14,000 per student for clinical disciplines). It does not show the full economic cost of teaching because it excludes non-subject-related costs, and the costs of non-HEFCE-fundable students.

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