Achieving our vision

Universities UK
2004 Spending Review Submission for England and Northern Ireland
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Foreword by Professor Ivor Crewe

Investment need summary for England and Northern Ireland over Spending Review period

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Universities UK’s submission to the Spending Review 2004 in England and Northern Ireland sets out the level of public investment that we believe is needed for the sector to achieve agreed national objectives. Our vision for the future is of a well-funded sector that can continue to maintain its position of international excellence both in teaching and research, expand and widen access and contribute to a knowledge-based economy at regional, national and international levels.

The achievement of this vision requires substantial additional public and private investment, as the Government recognised in last year’s Higher Education White Paper. While public funding will always provide the majority of funds for the sector as a whole, private funding from graduates, industry and endowments will make an increasingly important contribution. For this reason, Universities UK welcomes and supports the Government’s proposal to replace the current system of up-front fees for full-time undergraduates with a graduate contribution scheme and the introduction of flexibility in the level of fees that higher education institutions may charge for full-time undergraduates.

These proposals are fair and equitable and will provide additional income for universities, which, in the longer term, will work towards solving some of the sector’s funding problems. However, we believe that the large sums of money needed for core teaching costs cannot be met without increased and ongoing public investment. It is vital that additional public resources are allocated at the same time as new private fee income starts to make an impact.

In our 2002 Spending Review submission, we calculated the investment need for English higher education to be £8 billion. We warmly welcomed the additional £3.7 billion for England made available to higher education under the last Spending Review. This was indeed a significant sum and will go some way towards addressing the funding needs of the sector we identified. However, whilst the additional investment for research was substantial, there was little or no real terms increase in the core funding for teaching, and those funds that were made available for teaching were tied to specific initiatives. Additional investment in this area will enable the sector to meet the Government’s objectives for expansion, and to ensure that more individuals who can benefit from higher education have the opportunity to do so, particularly those from a family background with no participation in higher education. It will enable the sector to continue to produce high quality graduates for the economy and play a central role in promoting social justice. The need for additional core funding for teaching is therefore a key focus of our SR2004 submission.

In our submission, we also indicate the need for further substantial investment in research and knowledge transfer. This will ensure that the sector maintains its international standing for research excellence, second only to the United States. Continued investment in links between universities and business, and the communities in which they operate, will allow the sector to build upon the substantial work already being undertaken and to continue to play a central role in the development of a knowledge-based economy.

Our vision of a successful, well-funded sector of international standing and excellence is of vital importance to the future success of the country as a whole. Additional public investment in higher education is an investment in the nation’s long-term economic and social prosperity.

Professor Ivor Crewe
President, Universities UK
The structure of this Spending Review submission differs from our 2002 submission. For the first time we have included a submission for England and Northern Ireland, rather than the UK as a whole. This is presented in Part 1. This submission is, however, supported by a UK-wide statement about the role and contribution of UK higher education, the cost pressures facing the whole sector, and the common priorities for investment across the UK. This is presented in Part 2. The UK-wide statement in Part 2 will be common to those SR2004 submissions being made by colleagues in Wales and Scotland. For England and Northern Ireland we have identified a total investment need of £8.8 billion for this Spending Review period. Below is a summary of this investment need. Figure 1 shows where additional investment is needed and Figure 2 shows what will be achieved as a result.

**Maintaining core funding for teaching and learning**

Transparency Review data for 2001-02 shows an increasing gap between public funds provided for teaching and learning and the costs to institutions of providing them. It is therefore essential to restore the core funding that was top-sliced in 2002-03 to increase the widening participation premium. **Total cost £568m (recurrent).**

**Maintaining research capacity**

A recent report conducted for Universities UK by Evidence Ltd, *Funding Research Diversity*, demonstrated that investment in departments graded four or three in the 2001 RAE is important for ensuring that the nation’s research base remains competitive at international levels. Restoring QR funding to the level of the original 2001 RAE allocations is vital for our national research base. **Total cost £330m (recurrent).**

**Additional student numbers**

Taking account of demographic change and meeting the Government’s 50% participation target will require funding for an additional 30,000 full-time equivalent (FTE) students each year of the Spending Review period. **Total cost £820m (recurrent).**

**Access premium for new students**

Further expansion of the sector depends on the recruitment and retention of non-traditional students. Research by JM Consulting shows the cost to institutions of recruiting and retaining these students is 31 per cent higher than for conventional students. This premium is needed in addition to core funding. **Total cost £254m (recurrent).**

**Human resources**

Pay modernisation will enable more flexible reward structures to be introduced for all staff, resolving equal pay problems and providing opportunities to improve recruitment and retention rates. New independent research has shown this could be delivered for a five per cent uplift on the sector’s annual pay bill. **Total cost £602m (recurrent).**

**Teaching infrastructure**

Making the teaching infrastructure fit for purpose and providing for replacement and renewal requirements was costed by JM Consulting two years ago. Taking account of what was provided in SR2002, there remains a huge remedial investment need. We are therefore asking for the second tranche of the capital investment we deferred from our SR2002 submission. **Total cost in SR2004 £2.23b (capital funding) plus £848m total recurrent funding.**
Research infrastructure
Additional investment necessary to sustain world-class research and strengthen knowledge transfer capability was costed by JM Consulting two years ago. Taking account of what was provided in SR2002, there remains a substantial remedial investment need. We are therefore asking for the second tranche of the capital investment we deferred from our SR2002 submission. Total cost in SR2004 £1.52b (capital funding) plus £578m total recurrent funding.

Knowledge transfer and community links
Continued investment is needed for capacity building and supporting activities, as recommended by the Lambert Review, with a public benefit that will never be wholly self-sustaining. Total cost £140m (recurrent).

See Figure 1 over page.
### England and Northern Ireland additional higher education funding needs compared with 2004-05, £M

<table>
<thead>
<tr>
<th></th>
<th>Recurrent</th>
<th>Capital</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-07 and in 2007-08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2004-05 prices</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintaining core funding for teaching and learning</td>
<td>568</td>
<td>568</td>
<td>568</td>
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<tr>
<td>Maintaining research funding</td>
<td>330</td>
<td>330</td>
<td>330</td>
</tr>
<tr>
<td>Additional student numbers</td>
<td>820</td>
<td>820</td>
<td>820</td>
</tr>
<tr>
<td>Access premium for new students</td>
<td>254</td>
<td>254</td>
<td>254</td>
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<tr>
<td>Human resources(1)</td>
<td>602</td>
<td>602</td>
<td>602</td>
</tr>
<tr>
<td>Teaching infrastructure(2)</td>
<td>848</td>
<td>2230</td>
<td>3078</td>
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<tr>
<td>Research infrastructure(2)</td>
<td>578</td>
<td>1524</td>
<td>2102</td>
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<tr>
<td>Knowledge transfer and community links</td>
<td>140</td>
<td>140</td>
<td>140</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>4140</td>
<td>3754</td>
<td>7894</td>
</tr>
<tr>
<td><strong>Cash terms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uplift for inflation(3)</td>
<td>900</td>
<td>900</td>
<td>900</td>
</tr>
<tr>
<td><strong>Total cash needs</strong></td>
<td>5040</td>
<td>3754</td>
<td>8794</td>
</tr>
</tbody>
</table>

(1) excludes approx £40m already allocated under rewarding and developing staff initiative.

(2) capital needs based on estimates of remedial investment by JM Consulting Ltd (£5300m teaching and £3540m research, UK) of which half to be met in current Spending Review. Recurrent needs represent ongoing renewal and replacement costs of the HE sector asset base.

(3) Increase in £7.2 billion HE public funding at 2.5% pa.
<table>
<thead>
<tr>
<th>Investment need</th>
<th>Outcome</th>
<th>Performance measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restore core funding for teaching and learning</td>
<td>Maintained/improved quality of teaching and learning provision for all students.</td>
<td>Teaching Quality Information (TQI) data (to come on stream during 2004) accompanied by audit with published reports.</td>
</tr>
<tr>
<td>Restore QR funding to 2001-02 levels based on RAE outcomes</td>
<td>Sustain the sector’s international position, second only to the USA.</td>
<td>OECD and OST Science, Engineering and Technology statistics.</td>
</tr>
<tr>
<td></td>
<td>The link between teaching and research is maintained.</td>
<td>Evidence from a number of typical QAA Subject Overview Reports.</td>
</tr>
<tr>
<td>Additional student numbers at full unit of funding</td>
<td>Progress towards achieving the Government’s 50% participation rate by 2010.</td>
<td>DFES measure of 50% participation rate.</td>
</tr>
<tr>
<td></td>
<td>The quality of the student experience is maintained and retention rates improved.</td>
<td>QAA institutional reports; HEFCE National Student Survey; HEFCE performance indicators.</td>
</tr>
<tr>
<td>Increased access premium for non-traditional students</td>
<td>Proportionate increases in students from lower socio-economic groups, with improved retention rates for this group.</td>
<td>HEFCE performance indicators: participation and course completion rates of young FT entrants from social classes III, IV and V (FT only).</td>
</tr>
<tr>
<td>Human resources</td>
<td>The modernisation of pay structures, helping tackle recruitment and retention problems and allowing greater differentiation of rewards to reflect market pay levels and the contribution of staff.</td>
<td>UCEA recruitment and retention survey; reports to funding councils in Annual Monitoring Statements.</td>
</tr>
<tr>
<td>Teaching infrastructure</td>
<td>Up-to-date flexible learning environment that is fit for purpose and will provide a broad range of high quality learning opportunities for a diverse student body.</td>
<td>Estates Management Statistics (EMS) measures.</td>
</tr>
<tr>
<td></td>
<td>Improved property condition and space utilisation to meet NAO targets.</td>
<td>EMS measures.</td>
</tr>
<tr>
<td>Research infrastructure</td>
<td>Improved property condition so that infrastructure is fit for purpose and can maintain and enhance the UK’s reputation as a source of world class research.</td>
<td>EMS measures and OST SET statistics and research assessment.</td>
</tr>
<tr>
<td>Knowledge transfer</td>
<td>Increased volume of activity between universities and business and third stream activity, with a growth of commercial income from non-governmental sources.</td>
<td>Higher Education Business Interaction Survey; reports to funding councils in Annual Monitoring Statements.</td>
</tr>
<tr>
<td>Institutional finances</td>
<td>Achieve improved operating surplus of 3%.</td>
<td>Annual Financial Forecasts and returns to funding councils.</td>
</tr>
<tr>
<td>Adjusting recurrent funding for inflation</td>
<td>Maintain unit of funding in real terms, allowing the maintenance of infrastructure and staff pay and prevent a further deterioration of the unit of funding.</td>
<td>DFES Annual Report.</td>
</tr>
</tbody>
</table>
1.1 Introduction

1. In our 2002 Spending Review submission, we calculated that the investment need for higher education in England and Northern Ireland was £8 billion between 2003/04 and 2005/06. We are heartened that the Government accepted that this was a fair statement of what was required and we welcomed the very substantial additional resources, an additional £3.7 billion for England, which the sector received from the spending review settlement. As we said in our response to the DfES White Paper, “this is a necessary start to undoing the damage caused by past underfunding and will enable universities to work towards meeting the Government’s strategic objectives”.

2. Under this Spending Review, we have identified an additional investment need of £8.79 billion for England and Northern Ireland. At face value, this may appear to be an inconsistently large figure given that the sector received £3.7 billion investment under SR2002. However, we would like to make it clear from the outset that this is such a substantial sum because we are including in our calculations the capital investment need for teaching and research infrastructure that was deferred from our last Spending Review submission. The capital investment need identified by JM Consulting was so substantial that we split this investment need across two spending review periods.

3. Despite this, the SR2002 settlement was still under half of the total investment needed by the sector (see Figure 3). And almost all of the additional funding for teaching provided by the 2002 settlement is earmarked for specific initiatives and will not translate into core funding for institutions. Most importantly, there was little or no real terms increase in the funding for baseline teaching.

4. Significant damage has been done by many years of underfunded expansion, which since 1989 have seen resources per student fall by 37 per cent, following a decrease of 20 per cent between 1976 and 1989 (see Figure 4). In cash terms, nearly £8,000 (in today’s money) was spent per student in 1989–90 compared with just over £5,000 today (see figure 1). The average student:staff ratio for higher education in England and Northern Ireland continues to deteriorate; it is now around 23:1, exceeding that of further education of 14.9:1.

5. The most recent financial forecasts for English higher education institutions (HEIs) provided to the Higher Education Funding Council for England (HEFCE) also reveal a continued decline in the sector’s operating position over the last Spending Review period. We commented on the worrying decline in our 2002 submission, and the latest figures continue this trend. They take account of the additional recurrent funding and the earmarked funds announced in the last Spending Review. Table 1 and Annex C of the HEFCE report show that the operating surplus of the English education sector was close to zero in 2002/03 and is forecast to remain around this level from 2003/04 onwards. The higher forecast surplus for 2003–04 is only through one-off exceptional gains.

6. HEFCE has previously estimated that the sector in aggregate needs an operating surplus of at least three to four per cent of income per annum to provide a positive cash flow for reinvestment and to fund future developments. Set against a three per cent target, the sector shortfall is assessed at £290m in 2002/03, £195m in 2003/04, £331m in 2004/05, £325m in 2005/06 and £357m in 2006/07. Within these figures, 50 institutions forecast operating deficits in 2002/03, with around one quarter to a third of the sector expecting to be operating in deficit over the remainder of the forecast period. These tight operating margins reflect the impact of higher costs across the sector. They substantially reduce HEIs’ ability to provide the investment necessary to maintain the quality of provision for students.
### Figure 3

**Outcome of SR2002 for higher education institutions, England, £M**

<table>
<thead>
<tr>
<th></th>
<th>2003-04 to 2005-06</th>
<th>White Paper announcement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teaching (2)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of which Recurrent</td>
<td>5265</td>
<td>2228</td>
</tr>
<tr>
<td>Of which Capital (3)</td>
<td>3141</td>
<td>1667</td>
</tr>
<tr>
<td><strong>Research</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Of which Recurrent</td>
<td>2797</td>
<td>1476</td>
</tr>
<tr>
<td>Of which Capital (3)</td>
<td>1346</td>
<td>974</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>8062</td>
<td>3704</td>
</tr>
<tr>
<td>Of which Recurrent</td>
<td>4487</td>
<td>2641</td>
</tr>
<tr>
<td>Of which Capital (3)</td>
<td>3575</td>
<td>1063</td>
</tr>
</tbody>
</table>

(1) England component of £9.94 billion UK figure
(2) Human resources element of UUK submission included with teaching
(3) Capital needs based on estimates of remedial investment by JM Consulting Ltd. Half was deferred to next Spending Review.

### Figure 4

**PUBLICLY PLANNED HIGHER EDUCATION FUNDING (1) : FUNDING PER STUDENT 2001-02 PRICES, £, ENGLAND, 1989-90 TO 2002-03**

- **Including student fees contribution**
- **Excluding student fees contribution**

(1) HEFCE/TTA grant and tuition fees. Student private fee contribution included from 1998-99.

7. Other key findings are:

- Liquidity, including short-term investments, is forecast to decline from 51 days at 31 July 2002 to 45 days at 31 July 2007. These reductions will limit the financial flexibility available to some institutions to manage unforeseen events, representing an increased level of risk.

- The recent level of recurrent funding and net contributions from operating activities are currently insufficient to finance all capital expenditure while universities’ ability to take on extra borrowing is constrained by the capacity to repay from operating cash flow.
8. The financial position of the higher education sector continues to deteriorate. At the same time institutions face substantial and increasing cost pressures. These are detailed in the argument and evidence section that underpins this submission. Current resources are inadequate for the sector to maintain the range and quality of its current activities.

9. Universities UK welcomes and supports the Government’s proposal to replace the current system of up-front fees for full-time undergraduates with a graduate contribution scheme and the introduction of a measure of flexibility in the level of fees that higher education institutions may charge full-time undergraduates. While public funding will always provide the majority of funds for the sector as a whole, private funding from graduates, industry and business will make an increasingly important contribution. We also welcome the Government’s commitment to provide immediate income to HEIs, equivalent to the fee, following the removal of an up-front contribution from the student. These proposals will provide additional income for universities and, in the longer term, will go some way towards solving some of the sector’s funding problems.

10. However, over the life of this Spending Review, additional income from differential fees will be small. We are therefore excluding this from our calculations when assessing the funding needs of the sector for this period. This is for a number of reasons. Income from fees will not be available for the whole life of the Spending Review period, and the introduction of fees will be phased. The level at which individual institutions will set their fees is currently uncertain and it is also unclear at this stage how this will be differentiated across the sector (by institution or by course). Bursary schemes, to support disadvantaged students and ensure they do not face financial penalties, will absorb part of this additional income. There will also be significant start-up and administrative costs attached both to these bursary schemes and a differential fees system.

<table>
<thead>
<tr>
<th>Year</th>
<th>Income</th>
<th>3% target operating surplus</th>
<th>forecast operating surplus</th>
<th>Shortfall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£m</td>
<td>£m</td>
<td>Percentage</td>
<td>£m</td>
</tr>
<tr>
<td>2002/03</td>
<td>12547</td>
<td>376</td>
<td>0.69%</td>
<td>86</td>
</tr>
<tr>
<td>2003/04</td>
<td>13410</td>
<td>402</td>
<td>1.80%</td>
<td>207</td>
</tr>
<tr>
<td>2004/05</td>
<td>14002</td>
<td>420</td>
<td>0.63%</td>
<td>89</td>
</tr>
<tr>
<td>2005/06</td>
<td>14616</td>
<td>438</td>
<td>0.77%</td>
<td>113</td>
</tr>
<tr>
<td>2006/07</td>
<td>15153</td>
<td>455</td>
<td>0.65%</td>
<td>98</td>
</tr>
</tbody>
</table>

Source: HEFCE Outcomes of 2004 Financial Forecasts circular 04/04 table 1
1.2 Maintaining core funding for teaching

11. In *Investing for success*, our SR2002 submission, we stated that "Our case for additional funding rests on the assumption that the unit of funding per student will continue to be maintained in real terms". We argued that after a reduction of nearly 40 per cent in the unit of funding for all teaching and learning activities over the past 10 years, it was essential for unit funding to be stabilised and fully adjusted for inflation if quality were not to be adversely affected.

12. Unfortunately the SR2002 funding settlement for England and for institutions in Northern Ireland did not improve recurrent funding for teaching and learning. This situation was worsened by HEFCE’s recurrent funding allocations for 2003/04, when, in attempting to make provision for the additional costs to institutions of recruiting and retaining widening participation students, it chose to top-slice the mainstream teaching grant to increase widening participation funding provision.

13. Universities’ commitment to widening access is not in doubt; but it cannot be achieved without appropriate and sustained financial support both for institutions and students. Universities UK has consistently asked that the additional costs of provision for widening participation students should be identified, calculated and met by the funding council. We are therefore working with HEFCE and SCOP to achieve this through a major study to determine a robust system for costing the additional charges incurred by institutions in recruiting and retaining widening participation students, and enabling them to succeed in their studies. But we have also consistently argued that widening participation supplements should be just that, additional funding provided over and above the baseline funding for teaching and learning provision as calculated by the funding methodology. As we said in our response to the DIES White Paper "Mainstream teaching does not cost less because widening participation costs more".

14. The inadequate funding base for teaching and learning provided for English institutions by HEFCE’s funding methodology remains a major difficulty for the sector. The latest Transparency Review data demonstrates that the total overall cost to universities and colleges of delivering teaching and learning activities is significantly in excess of the price paid for them by Government.

15. The funding methodology for teaching and learning calculates allocations according to what has been paid in the past, adjusted (sometimes only in part) for inflation and individual circumstances. As noted above, this has delivered a 40 per cent reduction in the level of unit funding in the last 10 years alone.

16. The sector must abandon this historic methodology and move to a system where HEFCE funds the cost to institutions of delivering the teaching and learning provision the Government requires. We welcome HEFCE’s recent announcement that in principle we should move to a system for funding teaching that is informed by costs and we stand ready to work with them to determine an appropriate evidence base. This should form the basis for a wholly new funding methodology in line with full economic cost principles. Such a development would open the way for negotiations with all public funders of teaching and learning, including the Department for Education and Skills, the Department of Health and the Teacher Training Agency, to achieve an equitable funding formula in line with the principle of full economic costing required by HM Treasury and now a condition of grant specified in HEFCE’s new financial memorandum with institutions.
17. Universities UK is convinced that maintaining the unit of funding for teaching and learning provision is essential if the international reputation and high quality of the sector’s provision are to be maintained. This has been too often eroded in recent years. The top-slicing of the unit of funding for mainstream teaching and learning provision by HEFCE must be reversed if institutions are to be able to respond to the Government’s targets for the qualified workforce needed to ensure that the economy and public services prosper.

18. We therefore consider it essential to restore the level of funding per student to the baseline allocation level of HEFCE’s 2002-03 allocations. The figure of £568 million (recurrent funding) is thus restored to the funding baseline in Figure 1, which sets out our summary total of the additional funding needs of the sector from 2005-06 to 2007-08.

19. Equally important is the question of research funding and to what extent the funding council should continue to concentrate its allocation of research (QR) funding. The Government’s White Paper assumes that the concentration of research will enhance national research performance. This assumption is based on virtually no supporting evidence. The research we commissioned from Evidence Ltd has demonstrated convincingly that investment in departments scoring a four or a three in the 2001 Research Assessment Exercise (RAE) is important for developing the performance of the research base at regional, national and international levels.

20. The report’s three key findings specifically show that:

- there is no evidence that there is a current problem with the performance of the UK research base that needs to be addressed, either overall or at the level of the units most likely to see a funding loss;
- if there were an emerging problem, then there is no clear evidence that the UK’s research performance would benefit from further concentration of research funding and
- there is evidence that research concentration as proposed would seriously exacerbate existing regional differences in research capacity and performance.

14 Universities UK (October 2003) Funding research diversity: The impact of further concentration on university research performance and regional research capacity.
21. In addition, higher education institutions benefit from the vital interdependence of teaching and research. Removing or reducing funding from departments graded three and four would have a significant impact on individual subject areas. Removal of research funds is likely to damage the teaching mission, as staff will lack the necessary resource base to maintain their knowledge at the cutting edge of their discipline. Evidence of the link between research and teaching is demonstrated repeatedly in QAA reports. These consistently highlight the use of recent research findings to enrich the curriculum across all subject areas\(^{15}\).

22. In terms of the UK’s reputation for research and development\(^{14}\), it is also important to retain some parity of research funding between England, Scotland, Wales and Northern Ireland in terms of the specific outcome of the RAE. This was, after all, conducted as a UK-wide exercise.

23. The uncertainty about future funding for research also causes great difficulties for the good management of research investment and planning. It is essential that the level of funding for each grade is reasonably predictable so that HEIs can invest and plan within a stable financial framework.

24. It is essential that QR funding is restored to the level of the original 2001 RAE allocations. This restores the cuts made by HEFCE to research funding levels in 2002/03 and again in 2003/04 and once again puts research funding for HEIs in England and Northern Ireland on a par with institutions in the other countries of the UK. The total additional recurrent funding necessary for this would be some £330 million (recurrent) at 2004-05 prices.

\(^{15}\) See, for example para 18 and Annex F of Universities UK Background Paper ‘The interdependence of teaching and research’ [25 November 2003] which was circulated as Annex B of I-Note U03/116, ‘UUK response to DfES consultation on degree awarding powers and university title’.

\(^{16}\) As demonstrated in the UK-wide Argument and Evidence section of this paper, see section 2.2.4 below.
1.4 Additional investment needs

An outline of the investment needs of the sector included within this SR2004 submission is given below.

1.4.1 Additional student numbers

25. Universities UK shares with the Government the objective of giving all those who can benefit from higher education the opportunity to do so, regardless of their background. This is reflected in national education targets:

- expansion to 50 per cent of young people by age 30 benefiting from higher education (HE) in the UK by 2010 and
- widening participation so that more of the 18 plus age group in HE come from under-represented groups (for example those from lower socio-economic groups, students with disabilities and some ethnic groups).

26. The UK HE sector is fully committed to these targets and is working actively with education and other sectors to ensure that we progress towards them as quickly as possible. But it will not be possible to achieve the Government’s participation targets without attracting a substantial number of prospective students with no family background of (or current aspiration to) higher education to enrol on HE courses. In addition, there will need to be action across all age ranges, not just 18 to 30, and in relation to both full- and part-time higher education, continuing professional development and work based learning. Future expansion will also need to embrace those entering higher education through vocational routes and mature students entering through the accreditation of prior experiential learning.

27. For universities, this means that they will need to continue to collaborate with education and other sectors to:

- narrow the participation gap between the most and least affluent groups;
- improve participation, retention and progression of specific social groups in HE;
- ensure comparability between subjects and between universities, whilst recognising diversity of mission.

28. It is essential that all support for widening participation activities is based on the full unit of funding and uplifted for inflation. As argued above, this must be provided from genuinely additional funds and not by top-slicing core funding for teaching. Any expansion at a marginal rate, as in the past, would risk damaging the experience of students in higher education and is no longer appropriate for a sector with a diverse student body and limited capacity for expansion without corresponding infrastructure investment.

29. The cost of supporting programmes that will increase the proportions of students from social groups IV and V should be built into funding baselines. This is particularly important as it will enable universities to reduce class sizes. This is perhaps the most important single measure that will help to underpin higher retention rates. Further substantial investment is necessary if the 50 per cent target is to be achieved while maintaining or improving current retention rates.

30. Demographic projections show that the number of young people reaching the age of 18 during the next Spending Review period (that is before 31 July 2007) will increase significantly above present levels. This means that total student numbers will need to rise substantially if the same proportion of young people are to continue to enter higher education between 2005/06 and 2007/08 as happened in 2003/04.
31. Although there will be a steady increase in 18-21 year-olds over the next 10 years, the social composition of this group may change in favour of those who have traditionally participated least in higher education. This presents a genuine opportunity for us to increase substantially the proportion of those from social groups IV and V as student numbers increase in line with the Government’s target of a 50 per cent participation rate for young people (aged 30 and under) by 2010. But this can only be achieved with additional investment. Institutions in Northern Ireland are already near a 50 per cent participation rate; however, a key priority for them is to attract a larger proportion of those students from lower social economic backgrounds. Additional investment to help them recruit and retain these students is therefore crucial.

32. We calculate that to take account of the impact of demographic change and to meet the Government’s 50 per cent participation target will require an increase of 30,000 additional full-time equivalent places (FTEs) each year of the Spending Review period. This will cost a total of £820 million (recurrent expenditure).

33. As we argued in our last Spending Review submission, further expansion of the sector will depend specifically on the recruitment and retention of non-traditional students. The additional costs to institutions of the activities and services targeted at such students is now shown to be 31 per cent above the cost to institutions of recruiting and retaining traditional students. The 31 per cent widening participation premium should therefore be paid on all additional student places funded during this Spending Review period. This totals £254 million (recurrent expenditure).

1.4.2 Human resources

34. Intellectual capacity is of prime importance to the sector and is underpinned by universities’ key resource - its staff. Staff are the core element of teaching and research activities, accounting for 58 per cent of university expenditure. The UK’s future international reputation in university teaching and research depends on the successful recruitment, retention, motivation and contribution of high calibre staff.

35. We have outlined the extent of the long-term pay problems facing the sector in the UK overview attached to this submission. Universities are making remarkable progress in addressing issues that in the past have limited the ways in which institutions can deal with some of these long-standing pay problems, and respond effectively to the employment market. Underpinning this reform is the modernisation of pay structures. The new Framework Agreement for pay modernisation will help to tackle low pay and equal pay issues, deal with recruitment problems and provide better rewards for the contribution staff make. This directly addresses issues raised in the Dearing and Bett reports, which identified outdated pay structures as a major obstacle to achieving equal pay for work of equal value. In the long-term this will lead to greater flexibility and savings. However, significant up-front investment is needed to deliver change.

36. Whilst the Framework Agreement will help institutions to unlock the funds available for pay through both phases of HEFCE’s Rewarding and Developing Staff Initiative, work conducted by Nigel Brown Associates for Universities UK shows that a total of £602 million (recurrent funding) additional investment is needed for human resources in England and Northern Ireland over this Spending Review period to allow the sector to successfully modernise pay structures.
1.4.3 Physical resources

Teaching infrastructure

37. Significant investment in the teaching infrastructure in English higher education is urgently required to address historic maintenance backlogs and allow for the modernisation and upgrading of buildings and equipment. This investment is essential if the teaching infrastructure is to be fit for purpose and suitable for contemporary teaching and learning provision and a diverse student body. The full extent of the problem and the categories of investment need are outlined in the UK overview attached to this submission.

38. In our SR2002 submission we made a strong case for substantial capital investment based on the findings of an independent report by JM Consulting. For England this figure stood at £4.2 billion. As this requirement for a one-off injection of capital funding was so substantial, we proposed phasing the additional investment equally across two Spending Review periods. We are therefore requesting the remainder of the teaching infrastructure funding for England and Northern Ireland, a total of £2.230 billion (capital funding), as part of our submission for the 2005-06 to 2007-08 Spending Review period.

39. In addition to this one-off funding injection to address the backlog maintenance needs of the sector, there will in parallel be a need for continuing investment to prevent a recurrence of this problem by providing for infrastructure replacement and renewal requirements. This yields a total requirement for an additional £848 million (recurrent funding) over this Spending Review period for England and Northern Ireland.

Research infrastructure

41. Additional investment in the research infrastructure in English higher education is essential if we are to sustain world-class university research and strengthen knowledge transfer capability. The full extent of the problem and the categories of investment need are outlined in the UK overview attached to this submission. Our SR2002 submission made a strong case for additional capital investment based on independent evidence. For England this figure stood at £2.9 billion. Because this was such a substantial amount we proposed to phase this capital funding across two Spending Review periods. For England and Northern Ireland this figure is £1.524 billion (capital funding).
42. Recurrent research funding is also required to provide for ongoing replacement and renewal to avoid similar problems occurring in the future. It is also necessary to provide resources to attract and retain high quality research staff and to support the improved quality and quantity of UK universities’ RAE 2001 outcomes. We are therefore calling for a total rise in recurrent research funding for England and Northern Ireland of £578 million (recurrent funding) over this Spending Review period, noting that this will be a continuing need in subsequent years.

43. We warmly welcome the additional investment in research, with an uplift for SRIF funding, announced as part of the SR2002. We also welcome additional research infrastructure funds provided over previous Spending Reviews and by the Wellcome Trust. However, the problem has not yet been solved. We need sustained investment in research to ensure that investment backlogs are addressed and the infrastructure is adequately maintained to support an internationally competitive position. The sciences have done relatively well, but the investment needs of the arts and humanities, vital to the success of the rapidly growing creative industries sector, have not yet been addressed.

1.4.4 Knowledge transfer and community links

44. Universities welcome the role they play in the modern economy, not only as creators and transmitters of knowledge, but also as agents of economic growth, including the commercialisation of their research, acting as the hub of business networks and industrial clusters, and contributing to the development of entrepreneurialism. Ministers acknowledge that universities have risen to the challenge of the knowledge economy, and the Government review of business-university collaboration conducted by Richard Lambert has reinforced this. University research and knowledge transfer are national assets that generate public benefit, helping UK business and industry develop a competitive edge in world markets. Universities contribute to innovation in many ways, including:

• increasing the stock of useful knowledge that underlies new industries, applications, and improved quality of life;
• contributing to knowledge transfer to UK business and industry through the delivery of skilled graduates;
• spinning out companies, licensing the exploitation of intellectual property, etc;
• creating new scientific instrumentation and methods;
• providing independent expert advice, industrial consultancy, problem-solving for firms and
• forming networks and stimulating social interaction.
45. The Government announced in the strategy document *Investing in innovation: A strategy for science, engineering and technology* (DTI, DfES, HM Treasury, July 2002) that it would consolidate the HEIF fund as a permanent third stream of funding for universities, with an investment of £90 million per year by 2005/06 (£171 million over two years). The Government’s objectives in doing this are to improve the UK’s innovation performance, raise productivity, and deliver economic growth through investing in the interactions between HEIs, business and society. This investment in the second round of HEIF intends to:

- build on what has been achieved so far;
- release further the potential social and economic benefits of the HE sector;
- help HEIs to develop their mission in engagement with business and the community;
- ensure a lasting culture shift in HEIs by making third stream activity an integral part of institutions’ work; and
- develop the responsiveness of HEIs to the needs of business.

46. These all need long-term investment and the final report of the Lambert Review acknowledges that building effective collaborations takes time. The Lambert Review reports that universities need consistent and predictable funding - a stable funding model for third stream activities, rewarding performance and investing in potential, with the long-term security that will give universities incentives to invest their own resource in developing the activity. Lambert’s final report not only celebrates the success of university-business collaboration so far but states that “available evidence on the social and economic returns on research justify significant investment”. The Lambert Review supports the need for third stream funding (and supports similar calls from CBI and from Sir Gareth Roberts) and recommends that it is increased to around £150m per annum in order to increase the flow of knowledge and ideas from the science base into business and the wider community, supporting the funding need we highlighted in our SR2002 submission. **This amounts to an additional £140 million (recurrent funding) as part of this Spending Review.** With increased funding, universities can increase their capacity to engage with the government agenda further to increase this type of collaboration.
47. The final report of the Lambert Review recognises the importance of balancing technology-based transfer activity with broader work, again something that we highlighted in the SR2002 submission. Activity linked to the arts and humanities, the service industries and the cultural and social economy may have substantial local, regional or national importance. Funding for this area should therefore not be tied to specific activities or subject fields. The Lambert Review concludes that resources are increasingly concentrated on a small number of world-class research departments, and that this is likely to have a negative impact on the level of business-university collaboration in the UK. The Review suggests that the Government should take steps to fill this emerging funding gap and recommends they provide a significant new stream of business-relevant research funding, which would be available to support university departments that can demonstrate strong support from business. The Review advises that an appropriate figure would be in the region of £100m-£200m. At present it is not clear how this amount would be distributed, although Lambert makes several suggestions. We will not therefore include this as part of our calculations for this Spending Review. However if this fund is distributed through HEIF this should be additional to the £140m we have asked for.

48. We recognise that, like our SR2002 submission, this Spending Review submission lists a significant number of additional funding priorities. The combined total investment need identified with these priorities, detailed in Figure 1, is £8.79 billion. Of this, £3.75 billion is associated with the need for capital investment in the teaching and research infrastructure and some £5 billion for essential recurrent funding needs. Each funding priority has been costed on the basis of independent research and what will be achieved as a result of the additional investment shown in Figure 2. We believe that this level of investment over the Spending Review period is essential for our universities and colleges. This is an investment in the nation’s long-term economic and social prosperity, not just in the higher education sector. Based on current performance levels, the total economic impact for England and Northern Ireland of the investment in HE we have requested could be of the order of £22 billion.

1.5 Conclusion
Part 2 - Argument and evidence: Higher education in the UK

2.1 Introduction

1. Part two comprises the supporting argument and evidence on a UK-wide basis and updates our 2002 submission. It returns to the two major themes of the last submission: the investment needs of the teaching and the research infrastructure and the investment needs of recurrent funding for teaching, especially in the light of the need to modernise pay structures for all staff in the sector. These are the two central priorities of the separate 2004 Spending Review submissions Universities UK is presenting for England and Northern Ireland, for Scotland and for Wales. Although institutions are diversifying their funding sources and the proportion of their total income coming from public funds is reducing1, it is unrealistic to imagine that the large sums of money needed for core teaching costs can be provided for without substantial ongoing public investment.

2.2 Success of UK universities

2. UK universities have coped exceptionally well in an environment of increasing cost pressures and a decreasing unit of public funding. Figure A gives some indication of what universities have delivered despite these difficulties in comparison with the NHS, which has received substantial additional public investment over the last few years. The extent of the success and strength of HE across a diverse range of activity is outlined below.
Figure A

Higher education activity and public resources

- UK undergraduate numbers on 1998 base
- UK postgraduate numbers on 1998 base
- Overseas student numbers (UG & PG) on 1998 base
- Academic staff numbers on 1998 base
- % increase on 1996 average grade of RAE submissions
- Higher education public expenditure

Source: HESA website, DFES Departmental Annual Report, RAE 2001

NHS: Activity and resources

- Inpatient Cases
- Weighted Cases
- Day Cases
- Total Cases
- Total Resources

Source: CIPFA Statistical Research Bulletin Issue 1 May 2003 p.6 Article 'State of Health', Chris Green
2.2.1 Contributing to economic growth

3. There is no room for doubt about the direct economic importance of higher education for the national economy. Higher education has a crucial role to play in wealth creation and the continuing development of a knowledge-based economy. A highly skilled workforce contributes directly to the UK's international competitiveness and its capacity for innovation and product development. University research and exploitation of the knowledge it generates lie at the heart of a productive economy, through commercialisation of research, stimulating business networks and industrial clusters, and driving entrepreneurialism.

4. A recent UK-wide study on the economic impact of HEIs\(^2\) demonstrates that HEIs have a huge and positive impact on the local, regional and national economies within which they operate. The report shows that through increasing international student fee payments in 1999/2000 the HE sector generated £2.7 billion in export earnings for the UK. In 1999/2000 output dependent on HE amounted to £34.8 billion and £13.3 billion was paid in wages to UK households as a result of the HE sector’s activity. While HEIs produce service outputs that generate income and employment within HEIs, the provision of these services also generates additional demand for UK goods and services\(^3\). For every £1 million of HE output £1.56 million is generated across a wide range of other sectors.

5. During the same period UK HEIs generated over 562,000 full-time equivalent jobs, or around 2.7 per cent of total UK employment\(^4\). The report also shows that the skills profile in HEIs is higher than the UK average and that they are likely to encourage the development of skills and attainment of further qualifications among all categories of staff. The employment multiplier for HEIs is 1.80, indicating that for every 100 jobs created directly within a HEI another 80 are generated elsewhere in the economy, across all major industrial sectors. This report also shows that HEIs tended to make a larger proportion of purchases of UK goods and services than a number of comparator industries\(^5\).

6. Emerging findings from a report on the specific economic impact of HEIs in London shows that they contribute four per cent of London’s GDP, with an income of £3 billion and direct spending of £2.9 billion on UK goods and services\(^6\). Initial findings suggest that London HEIs alone generate a minimum of £8.67 billion in the UK economy.

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\(^2\) University of Strathclyde (May 2002) The impact of higher education institutions on the UK economy: a report prepared for Universities UK.

\(^3\) This is through both the wage expenditure of HEI employees and through HEI purchases of UK goods and services. HEIs also tend to make a larger proportion of purchases on UK goods and services than a number of comparator industries. The output multiplier for HEIs ranked 43rd out of the 132 input-output sectors in the UK model constructed for this study, which would suggest that the proportion of HEI expenditure on UK goods and services was relatively high.

\(^4\) This figure includes those directly employed by HEIs and the "knock on" employment generated outside HEIs.

\(^5\) These include air transport; office machinery; aircraft and space; banking/finance; R&D; computing services and legal activities.

\(^6\) Unpublished report to London Higher (previously the London Higher Education group) by Strathclyde University using its economic impact model approach.

\(^7\) The latest Organisation for Economic Co-operation and Development (OECD) education statistics show that the private rate of return on a tertiary qualification for UK males is the highest (at 17%) of all countries for which comparable data are available and that the educational advantage of a degree in obtaining employment is greater than the average for OECD countries (Education at a glance, 2003).

\(^8\) See section 2.3

\(^9\) See section 2.2.3

\(^10\) At 0.7% compared with the OECD mean of 1.0%; only two OECD countries invest a lower percentage. Education at a glance: OECD Indicators 2002, Organisation for Economic Co-operation and Development (OECD), 2003.
2.2.2 An efficient and well managed sector

7. UK higher education performs exceptionally well despite being under enormous financial pressures. It is a successful, low-risk sector offering very cost efficient provision with high graduation rates. At the same time, public expenditure on tertiary education institutions as a percentage of Gross Domestic Product (GDP) is one of the lowest in the OECD and is in decline relative to other OECD countries (see figure B). The exceptional performance of the UK cannot be maintained long-term without additional public investment.

8. Research commissioned by Universities UK on the internal economy of UK higher education institutions has shown strong financial stewardship in the higher education sector as well as imaginative and effective aspects of governance, leadership and strategic management. Universities’ ability to manage change has been remarkable, involving collaborating and restructuring, and innovation in course provision, whilst keeping up high quality and standards, both in terms of Quality Assurance Agency (QAA) reviews and customer satisfaction. This has all happened within the context of a decreasing unit of funding and year on year funding fluctuations.

9. As the interim report by the Lambert Review highlights, institutions have been working hard to strengthen their systems of management and governance. The report also correctly indicates that there is still work to do. To meet this challenge, considerable effort is being made to ensure that senior staff are both equipped and supported to manage effectively.

10. Universities are fully accountable for their use of public money. Financial probity is measured and accountability is maintained by a combination of layers of audit and a risk-based approach to scrutiny, providing significant and substantial public safeguards. In terms of their financial reporting, the higher education sector has robust accounting and auditing procedures in place. The funding councils also require institutions to submit detailed strategic plans every three years, and performance against these is monitored closely.


13 Current initiatives include the HEFCE Rewarding and Developing Staff Initiative; the HE Leadership Foundation; the HEFCE fund for good management practice; governance is supported and reinforced by the Committee of University Chairmen (CUC) which issues guidance and run a Governor Development Programme.

14 Higher education institutions are required by their respective funding council’s Audit Code of Practice to have an effective internal audit function, covering the whole of the internal control system of the institution. The National Audit Office also has inspection rights that allow it to investigate any financial or value for money matter at institutions funded by the funding councils.

15 Institutions’ accounts are prepared each year in accordance with the Statement of Recommended Practice: Accounting for Further and Higher Education (SORP). Higher education institutions are required to submit their accounts to the funding council together with an annual monitoring statement (AMS) and a corporate planning statement (CPS).
2.2.3 High graduation rates and employability
11. The sector achieves high graduation rates\textsuperscript{16} and there is strong demand for graduates in the UK economy. The returns for a degree are also buoyant, with average graduate starting salaries in 2003 up by four per cent to £20,300\textsuperscript{17}. Students and graduates are generally very satisfied with their courses\textsuperscript{18}. Indeed a survey of over 400,000 graduates across Europe showed that UK graduates rated their experience more highly than their European counterparts\textsuperscript{19}.

12. The personal benefits of higher education are clear, with graduates earning higher salaries than non-graduates and far more likely to be working in professional-level occupations than any other education group\textsuperscript{20-21}. UK universities are also producing graduates with the skills and knowledge base appropriate for employment. Almost all are employed or studying six months after graduation\textsuperscript{22} and graduate unemployment fell steadily from 1993 to 2000\textsuperscript{23}. All HEIs provide vocational HE, and the vast majority of students undertake some form of work-related learning as part of the curriculum and/or have direct employment experience. The Universities UK report \textit{Enhancing Employability, Recognising Diversity} shows that HEIs have developed imaginative initiatives designed to both meet the needs of a modern workplace and those of employers in a range of work settings\textsuperscript{24}.

\begin{table}[h]
\centering
\begin{tabular}{|l|c|}
\hline
Country & Graduation Rate \\
\hline
1. Finland & 1.7 \\
2. Canada & 1.6 \\
3. Denmark & 1.5 \\
4. Sweden & 1.5 \\
5. Austria & 1.2 \\
6. Belgium & 1.2 \\
7. Ireland & 1.2 \\
8. Norway & 1.2 \\
9. Switzerland & 1.2 \\
10. France & 1.0 \\
11. Germany & 1.0 \\
12. Netherlands & 1.0 \\
13. Portugal & 1.0 \\
14. Turkey & 1.0 \\
15. Greece & 0.9 \\
16. Hungary & 0.9 \\
17. New Zealand & 0.9 \\
18. Spain & 0.9 \\
19. USA & 0.9 \\
20. Australia & 0.8 \\
21. Czech Republic & 0.8 \\
22. Mexico & 0.8 \\
23. Poland & 0.8 \\
24. Italy & 0.7 \\
25. Slovakia & 0.7 \\
26. United Kingdom & 0.7 \\
27. Korea & 0.6 \\
28. Japan & 0.5 \\
\hline
OECD mean & 1.0 \\
\hline
\end{tabular}
\caption{Public expenditure on tertiary education institutions as a percentage of GDP, 2000}
\end{table}

\textit{Source: OECD Education at a Glance 2003}
2.2.4 Strong research performance

13. UK researchers have continued to deliver an outstanding performance, both in terms of quality and value for money. Across the great majority of disciplines, the UK’s research productivity and quality remains second only to the US, and its share in citations is still increasing. Of the research submitted at the last Research Assessment Exercise, 64 per cent were found to be of national or international excellence, a rise from 43 per cent at the previous assessment exercise\(^25\). As recently acknowledged by the Office of Science and Technology (OST), UK researchers produce 16 papers per $1 million of research funding, compared to 9.9 in the USA and 3.6 in Japan, and they are much more effective in getting more citations per paper produced\(^26\). UK higher education institutions have also been significantly more successful than any of their competitors in winning framework research contracts funded by the European Union\(^27\).

2.2.5 Contributing to the health service

14. The Universities UK publication, *Partners in Care*\(^28\), documents the full extent of the partnership between universities and the National Health Service (NHS). The HE sector, in partnership with the NHS, provides almost all pre-registration education for our doctors, dentists, nurses, midwives and allied health professionals. Universities also undertake most of the clinical and basic medical research on which the future of the NHS depends, and their clinical academic staff make a substantial contribution to patient care. This partnership is essential to securing a health system that meets the future needs and expectations of society. Universities educate more than 292,000 health professionals (2001/2002), who go on to work in the NHS, the voluntary sector and the independent sector.

15. In Wales the recent collaboration between the local NHS trust, the University of Wales Swansea, and the University of Wales College of Medicine to set up a clinical school in Swansea will deliver increased student capacity for medical students training in Wales. It will provide a means for increasing access to medical training, bringing more young people with a Welsh speaking background into medicine, who are likely to stay and practise in Wales.
2.2.6 Contributing to business and the regions

Universities are key players in business and industry. They are central to supporting competitiveness and innovation, and make a valuable contribution to their regional economies. The 2003 HE-Business Interaction Survey (HE-BI) demonstrates a marked and widespread improvement in the interaction between the higher education sector and business. Some of the key findings show that compared with 1999/2000:

- institutions are prioritising local partnerships and meeting regional skills needs with an increased strategic planning for business support, and greater reference to Regional Development Agency (RDA) priorities;
- the creation of 20 per cent more spin-out companies, with an increase of over 30 per cent in spin-out companies which have survived over three years;
- there is continuing growth in intellectual property (IP) activity. HEIs have also broadened their IP base, with increased attention given to industrial design and trademark activity;
- there is a rise in all aspects of consultancy activity with over 80 per cent providing inquiry services for SMEs, and an increase of 25 per cent in consultancy income; and
- the number of full-time equivalent (FTE) staff employed in HEIs’ commercialisation and other third stream offices has risen from 1,268 to 1,529.

17. The Lambert Review of business-university collaboration has celebrated the success of the sector and has encouraged business to further engage with HE. The review has also stated that:

- research output from UK universities compares well internationally;
- universities are playing a much more active role in the regional and national economy;
- compared with HEIs in other European countries, UK universities have made real progress in their efforts to work with business and also perform well in terms of high-quality research;
- there is a correlation between business success and university collaboration: companies which use universities and other HEIs as a source of information or as a partner tend to be significantly more successful than those that do not;
- universities are working much harder than they did in the past to open their doors to outside partners; and
- the review also highlights the numerous examples of research contracts, licence deals and spin-out companies that had been established by universities as a direct result of government investment.

18. Universities also engage at a regional level through a wider range of activities, which impact on quality of life, social inclusion, societal infrastructure and cultural enrichment. Many of these contributions are outlined in the Universities UK publication The Regional Mission and the associated regional reports. Below is a snapshot that highlights just a few examples out of the thousands of activities throughout the UK.

Social well being and health

HEIs are involved in local and sub-regional health partnerships where they provide research and consultancy directly for their local community. For example the University of York manages the North Yorkshire health promotion service. Through this, the university is involved directly in projects to improve nutrition, and the mental health of young farmers in North Yorkshire.
Lifelong learning and employability
HEIs in the South West are leading the development of a regional drive to encourage the utilisation of graduates, particularly in regional priority economic sectors, to improve the productivity of South West businesses. This includes the joint provision of an on-line employment service for students, graduates and employers in the South West enabling them to target appropriate students and graduates for their vacancies. Similarly in Wales, many HEIs are involved in community initiatives. For example the Community University of the Valleys; the Community University of North Wales; and community courses offered by Cardiff University or the University of Glamorgan.

Societal infrastructure
The Chapel Street Regeneration Strategy in Salford is a major undertaking focused on the economic, physical and social renewal of the Blackfriars Ward, one of Salford’s most deprived areas, which has significant social, economic and environmental problems. The implementation plan\(^{33}\) is managed by Salford City Council, Manchester TEC, the North West Development Agency and Salford University. The partnership board is chaired by the Vice-Chancellor of Salford University.

Cultural participation
In the North East, The Stage Gateshead Project, funded by HEFCE’s Restructuring and Collaboration fund, promotes development of music activities in and across the region’s universities in collaboration with The Stage Gateshead. In Leicester, De Montfort University and Leicester City Council jointly fund the Phoenix Theatre and arts centre. Similarly the University of Luton works closely with the Luton Music Service to build up close links with schools and the local community.

2.2.7 Wider benefits
19. The wider non-economic benefits of HE play a vital role in supporting the physical, social and cultural health of the nation. The UK tops the tables for the social rates of return for HE\(^{34}\) and as a study conducted by the Institute of Education\(^{35}\) on behalf of HEFCE shows, in the UK many of the direct non-economic benefits to graduates are significant and have a knock-on impact throughout the community.

20. In relation to employment, the report demonstrated that HE provides a direct protection against the risk of adult unemployment and improves social mobility, especially amongst those from lower social economic backgrounds. Graduates also have an increased likelihood of being multi-skilled, making them more in tune with the modern economy. The report highlights a striking reduction amongst graduates of depression and reduced levels of obesity\(^{36}\). Within a broader context, these benefits mean that graduates are less likely to rely on social security and will be less burdensome to the National Health Service.

21. In terms of citizenship and values, the report shows that HE increases racial tolerance and graduates are more likely to be politically engaged and involved in charitable and voluntary organisations. HE educated parents have a higher rate of involvement in Parent Teacher Association activities, create a stronger family environment in the home and are likely to do more reading with their children.

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\(^{33}\) The Implementation Plan (1998-2003) covers four main themes: the living environment, economic development, social inclusion, and arts and cultural development.

\(^{34}\) OECD Education at a glance, OECD Indicators Table A14.4, Organisation for Economic Cooperation and Development.


\(^{36}\) The report also finds that participation in HE also plays a part in diminishing the tendency to smoke.
22. Higher education institutions have demonstrated a continually strengthening commitment to widening participation and ensuring fair access. This is being achieved through a variety of different ways, reflecting the diversity of the sector. Universities are identifying particular groups of under-represented students, for example those from lower socio-economic backgrounds and disabled students, and those facing multiple barriers relating to age, gender and ethnic origin, so as to anticipate and meet their various needs. Universities have recognised that the 14-19 age group is key to achieving equity of access. To this end, considerable effort has been made by institutions to raise the aspiration and achievement of pupils from non-traditional backgrounds and/or where studying at university is not part of the family or community tradition, through successful collaboration with schools and the further education sectors.

23. Our social class and participation research shows that good practice in widening participation by young people from lower socio-economic groups spans the spectrum of higher education institutions across the UK and covers a range of subject areas, including high demand subjects such as law, medicine and the creative arts. Recent research by JM Consulting\(^7\) provides further examples of widening participation activities including outreach programmes and initiatives designed to improve retention and achievement, including those that are embedded as part of an institution’s provision. The work required to increase the number of currently under-represented groups is long-term, as cultural attitudes need to change across the education system.

24. HE contributes significantly to the Government’s agenda of social inclusion. Ensuring equality and diversity is a priority for the HE sector. Many universities are undertaking a wide range of actions to improve equality of opportunity for all students and HE staff, including the mainstreaming of equality and diversity within all institutional policies, functions, processes and procedures. In addition, universities are working hard to achieve a cultural change in perception in order to ensure that all students are guaranteed educational and career opportunities based on the ability to make real choices.

25. Students are studying at a range of levels in more diverse modes than ever before. There has been great success in tackling inequalities in participation from women, mature students and certain ethnic minority groups on full-time and part-time courses. Tackling under-representation from lower socio-economic groups is still a major challenge for the whole education sector, particularly for schools. Genuine equality of opportunity in education brings benefits to be shared by all; higher education will play its full part in ensuring that all those who are able to benefit from university education are able to do so.

Universities and cultural enhancement

26. Universities make an enormous contribution to the nation in cultural terms, providing a whole range of cultural resources such as libraries, museums and galleries, cinemas, theatres and concert halls, as well as hosting major cultural events of national and international importance.

27. University libraries hold important collections such as the Fawcett Library at London Metropolitan University, the Churchill Archives at Churchill College, Cambridge and the British Library of Political and Economic Science at LSE. University museums and galleries such as the Whitworth Gallery in Manchester, the Sainsbury Centre for Visual Art in Norwich, the Hunterian in Glasgow and the Fitzwilliam in Cambridge are amongst the foremost in the country.
28. University theatres and concert halls provide year round programmes such as the Taliesin Arts Centre at the University of Wales, Swansea, the Nuffield Theatre at the University of Southampton and the Arena Theatre at the University of Wolverhampton. The University of Huddersfield is a key partner in the Huddersfield Contemporary Music Festival, one of the leading festivals of its kind in Europe.

Sport
29. HEIs make a significant contribution to society through sport. They provide a wide range of sporting opportunities for their students, their staff and their communities38. Sports provision in higher education institutions can also provide access routes into higher education for under-represented groups. The sports facilities and programmes provided by HEIs clearly links to government agendas on increasing participation in sport and improving the health of the UK’s population.

30. Community access to sports facilities is encouraged by all institutions with few restrictions and many institutions have specific programmes in place to encourage children, older people, those with disabilities and people from ethnic minorities to participate in sport and fitness activities39. HEIs have developed partnerships with a wide range of organisations including local authorities, sports governing bodies, local sports clubs, area institutes of sport, schools and other higher or further education institutions. These partnerships facilitated the use of equipment, facilities, sports science advice, teaching and provision of awards and grants. Another key role is the support provided by institutions for the UK’s elite sports performers through access to facilities, coaching, sports science support and scholarships or bursaries.

2.2.8 Attracting international students
31. UK universities have major advantages in the global market for higher education. UK higher education offers international students an extensive choice of courses at a wide range of institutions. The UK’s reputation for high quality teaching and research combined with the emergence of English as a universal language puts the UK higher education sector in a strong position to attract students from around the world40.

32. International students help to broaden and internationalise the curriculum and higher education experience for all students. International students form 28 per cent of full-time research postgraduates, make a vital contribution to the UK’s research base and maintain the viability of a number of key research areas. Fee income from international students is important for HEIs but is also a significant contributor to the UK economy41. Many international students eventually occupy important positions in their home countries within government, business, industry, education and other spheres, as successful representatives of UK higher education.

33. The Prime Minister’s Initiative (PMI) has recently provided an important focus for the promotion of UK higher education overseas, building on the successful international activities developed by higher education institutions for many years. Launched in June 1999, it has aimed at promoting UK education internationally and increase the number of international students who study in the UK. Funding was provided by the DfEE (now the DfES), a number of other government departments and the British Council42. The PMI has had an impact as awareness of the UK higher education system has increased overseas and international student numbers have risen43.
34. The PMI funding is due to end in 2005 and Universities UK supports the British Council bid for £5m per annum from 2005/06 to 2007/08 to sustain and develop further the international marketing and promotion activities for UK education it supports. Funding is needed to sustain and update the marketing strategy for UK education and to support the increasing diversity of activities in an increasing range of countries.

35. Universities UK would wish to see long-term sustainable investment in the infrastructure of international education promotion and a continuation of the valuable partnership between higher education institutions, the British Council and government departments developed as part of the PMI. This will ensure that the advantages that the UK has gained in this area of activity are not lost. The demand for international education is buoyant but competitors are also investing in their international education promotion and the UK needs to ensure that it does not miss out on this growing market.

36. On the European scene, the UK HE sector is leading efforts to shape the European Higher Education Area (EHEA) by 2010. In 1999, when the Bologna Declaration was signed, the UK HE sector met most of the key objectives. Now that the Bologna Process has moved on considerably to encompass new policy areas, the UK is still leading on many of the new issues, for example the necessary components of national quality assurance systems and key aspects of qualification frameworks.

37. The Bologna Process also seeks to increase the attractiveness of the European Higher Education Area and a recent survey of European HEIs, revealed that 80 per cent of UK institutions are engaged in targeted marketing for recruitment compared with a continental average of 30 per cent. The UK is still ahead of the rest of the EU in attracting both European and international students but cannot be complacent. Competition from other EU member states offering three year degree courses, often in English, is increasing.

38. To continue to attract both international and EU students the UK needs to maintain its competitive edge in terms of infrastructure and teaching provision in order to maintain an important and increasing source of funding for UK higher education.
2.3 UK cost pressures

39. In our 2002 Spending Review submission, we expressed our concerns about the deteriorating financial position of the sector and drew attention to the findings of our Funding Options Review Group, particularly its powerful assessment of the impact of years of underfunding on higher education teaching and learning. In its recent report, *The future of higher education*, the Education and Skills Select Committee for England commented that “In recent years, government investment in higher education has lagged well behind the resources devoted to early years, schools and further education.” Despite the substantial additional funding provided for the sector by this Spending Review, much of which will not arrive until 2004-05, the financial security of the sector and of institutions of all types within it, continues to decline.

40. Our response to the DfES discussion paper on higher education argued that for universities to maintain their world-class status and deliver Government’s own objectives for the sector, they must obtain substantial additional resources immediately. This is true for HEIs across the whole of the UK and not just in England. We recognise that public funds alone will not meet the very substantial funding gap in UK higher education.

41. Since the early 1980s, universities and colleges have been raising income from non-public sources, and public grants now account for less than half of higher education income. Institutions are working to diversify their funding base and reduce their dependence on public funding for teaching and research activities provided by the funding councils. For example, there has been a marked increase in the income received from UK industry and commerce. And the growth in international student numbers has significantly outstripped the growth in home students in recent years. However, there is a limit to potential expansion as an over-reliance on international recruitment carries associated credit risks. These include more volatile student demand and exposure to economic downturns that could restrict student supply.

42. As noted in our response to the DfES White Paper *The future of higher education*, Universities UK stands ready to work with Government to promote a “giving culture” amongst individuals and business across the UK. However, we should be realistic about how much growth is achievable, even in the medium to long term. There is no tradition of such giving in the UK and we are starting from a very low base. Income from this source currently stands at less than two per cent of total sector wide income and varies considerably between institutions. Overall endowment and investment income across the UK currently stands at £258m. This has not grown since 1999/2000 and the value of endowment assets is decreasing (down by £304m or 11.3 per cent from 2001 to 2002), partly because of fluctuations in the stock market. Most endowment income is tied to specific purposes and cannot be used to pay core operating costs. For example, at King’s College, of a total endowment of £82m all but £1m is tied to specific purposes and cannot be used to pay core operating costs.
43. Against this background it is clear that private investment and individual contributions towards tuition costs (in whatever form these are provided across the various nations of the UK) will be inadequate to provide the additional resources HEIs require to address the very substantial historic underfunding needs of the whole sector and place it on a sound financial footing for the future. This can only be achieved with enhanced and sustained public investment in our universities.

44. A recent study of UK higher education by HSBC based on HESA data for 2000/01 shows that the overall financial position of HEIs continues to deteriorate: “Since 1997/98, total income has grown by about 16 per cent while total spending has risen by almost a fifth. In 2000/01, the sector recorded its first deficit, with expenditure exceeding income by some £50 million”. Staff costs and estates costs have been rising steeply as government support has declined, and in some cases the increases have been greater than the rate of inflation.

45. Staff costs are by far the most substantial item of expenditure. With over 140,000 academic staff in 2000/01 and around 200,000 non-academic staff in 1999/2000 they account for almost 60 per cent of total spending during 1997-2001. Staff costs have been increasing at 5% per year and this has been a major factor in the decline of university net surpluses. Just over one-third of sector spending, £4.8 billion, is on operating costs with a further five per cent (£614 million) spent on maintaining the estate and equipment base. In both these areas, institutions have sought to find efficiency gains and fund academic and infrastructure development, such as by outsourcing non-core activities, academic restructuring and estate rationalisation “in an attempt to protect a break-even financial position while maintaining the attractiveness of academic and campus offerings to students.”

46. Operating margins have been put under pressure by this combination of decreasing income and rising costs. Although HEIs are regulated so as to break even or generate small surpluses on a net basis, the advice of Standard and Poor’s is that “a small operating margin leaves little room for servicing external sources of funds, such as bank or capital market debt.” Their analysis demonstrates clearly that the current trend “towards a weaker financial profile is not sustainable for the sector in the long term without an adverse impact on both academic and credit quality.”

47. The HSBC study echoes the findings of the Standard and Poor’s analysis of the sector noting that “a steady decline in the median value of most financial ratios suggests that, despite a more stable approach to government funding, there has been a further build-up in short term financial pressures.” This study concludes: “The sector’s financial strength is concentrated among a small number of institutions, while for the remainder the general picture is one of a tough operating environment. Moreover, the financial gap between institutions that are doing well and those that are less successful is gradually widening.”

48. Rising insurance premiums, pension fund contributions, increased National Insurance contributions and compliance costs arising from new legislation are by no means unique to UK higher education. But coupled with the deteriorating financial position of the sector, they will push increasing numbers of institutions into operating in deficit in 2003/04 and beyond.

49. In terms of what the total impact of these increased operating costs mean for universities and colleges, the overall cost for meeting the increased employers’ National Insurance contribution alone added an additional £60 million per annum to HE costs from April 2000. A survey of all HEIs by the British Universities Finance Directors Group (BUFDFG) revealed an overall average increase in insurance premiums between 2003/04 and 2002/03 of 14 per cent.
50. Employer contributions to pension schemes are also rising. BUFDG recently conducted a UK-wide pension scheme survey of all universities and colleges. This demonstrated that average employer contribution rates across local government pension schemes and other local schemes had risen by 12.5 per cent between 2001/02 and 2002/03. These findings update a survey of all UK HEIs by the Universities and Colleges Employers Association (UCEA), which showed that most institutions anticipated an increase in their contribution rates to support staff superannuation schemes from 2003/04, and that these increases averaged 3.5 per cent.

51. New legislation with which universities and colleges must comply within this Spending Review period will also impose a substantial financial burden in terms of the capital investment needed to remove asbestos from buildings and to comply with environmental directives. A recent survey of all HEIs in the UK conducted by the Association of University Directors of Estates (AUDE) has calculated that institutions have already spent £58 million on asbestos removal with a further £103 million committed to this work. In addition, increasing cost pressures resulting from the following areas are expected during this Spending Review period:

- Sites over 20 megawatts are required to register under the Carbon Trading Scheme, and will be subject to carbon dioxide (CO2) emission controls from 2005. This will affect a significant number of HEIs.
- Several trade effluent consents will have an impact on universities and colleges. This area is subject to increasing control.
- UK building performance standards are likely to be increased by EU legislation.
- Changes to fire regulations are expected to place greater demands on building owners for self-regulation. These will have a significant resource implication for all HE institutions.
- Requirements for institutions to make Section 106 payments as a condition of planning approvals is becoming increasingly onerous and the scale of payments is increasing.

- Special waste provision is an issue. Ongoing work from the Landfill Regulations 2002 and the requirements of the Waste Electronic and Electrical Directive 2004, which demands a different treatment for the disposal of white goods, will be especially onerous. The decommissioning of radioactive sources is also an increasingly significant issue.
- Landfill tax has been rising. Any further increases will far outstrip the rate of inflation.
- Measures to abate noise pollution, for example from ventilation plants, are increasing.
- The Transport Agenda is increasing requirements on universities for the provision of improved services and facilities, for example cycle parks.
- Other changes required by building regulations, for example, for improved energy performance, will have a significant capital cost that is unlikely to be met by subsequent energy efficiency savings.

52. It is quite proper that universities and colleges should discharge their legal obligations in all these areas. Nonetheless it is extremely difficult for institutions to make provision for the additional expenses legislative compliance requires when their financial position continues to deteriorate.

53. The HE sector has suffered relatively high inflation compared with the economy as a whole. By July 2003 the retail price index (RPI) had risen by 81.3 per cent compared with its base date of 1 January 1987 whereas the higher education pay and prices index had risen by 103.5 per cent over the same period. Some important elements of HE expenditure have been rising at a faster rate. For example in the last five years alone the ‘Libraries’ component of the index has risen by over 31 per cent. University staff pay remains relatively low but annual settlements have not even been matched by comparable percentage increases in public funding.

54. The 2003 HEPI survey showed significant increases for several other categories of HE expenditure. In particular, energy, water and sewerage charges had risen over the year as a whole, much higher than increases in the HEPI and the RPI indices.
55. A recent study commissioned by London Higher has evaluated the current location cost multipliers applied by HEFCE against those related to labour costs that are applied by the Learning and Skills Council (LSC) and the Office of the Deputy Prime Minister (ODPM). The study concludes that multipliers applied to teaching funding in HE are substantially out of line with the comparators in both the local government and the learning and skills sectors. If HEFCE were to replace its current multipliers with those used by the LSC the additional cost is estimated to be £100 million. Should the ODPM multipliers be applied, the additional cost is estimated to be £163 million.

56. Further evidence of the severe financial constraints affecting the universities was demonstrated by the 2001-02 Transparency Review data on costs for research, teaching and other activities reported to institutions in May 2003. These revealed that the gap between the funds provided for publicly funded research and teaching and the costs attributable to these activities had grown year on year from the first results from the Transparency Review data produced for 1999-2000 and reported in our last Spending Review submission.

57. This is particularly worrying since under the terms of the new financial memorandum with institutions issued or announced by each of the HE funding councils, universities and colleges will be required to operate on the basis of Transparency principles. This means that at the aggregate level each institution’s activity in teaching, in research and in other external activities should cost in total no more to deliver than the income provided from all sources to deliver it. Given that Government is the primary funder of teaching and learning and research activities in HEIs, without substantial additional public investment it will be impossible for institutions to continue to deliver their current range of teaching and learning and research activities. The total capacity of the system will be unsustainable in the medium and long-term unless new funding models are devised based upon the costs to institutions of delivering appropriate, high quality provision rather than the price historically paid for them. We therefore welcome and support HEFCE’s recent announcements that in principle we should move towards a system in England for funding teaching that is informed by costs. We stand ready to work with HEFCE to determine an appropriate evidence base.

58. The most recent financial forecasts for English HEIs provided to HEFCE also reveal a continued decline in the sector’s operating position over the last Spending Review period. In our 2002 submission we commented on the worrying decline, and the latest figures continue this trend. These figures take account of the additional recurrent funding and the earmarked funds announced in the last Spending Review. Forecasts for Scotland and for Wales show similar trends.
2.4 UK-wide investment needs

2.4.1 Human resources

59. Intellectual capacity is of prime importance to the sector and is underpinned by universities' key resource its staff. Staff are the core element of teaching and research activities, accounting for 58 per cent of university expenditure. The UK's future international reputation in university teaching and research depends on the successful recruitment, retention, motivation and contribution of high calibre staff. There are, however, a number of long-standing problems relating to pay and human resources in universities.

Recruitment and retention

60. Recruitment and retention continues to be a problem in the sector. The attractiveness of university employment is in decline and it continues to be difficult to attract and retain academics of the first rank in competition with private sector and from elsewhere within the public sector. This includes IT and electronics, the creative industries, professional subjects like law and accountancy, together with teacher education and training for the health professions where Government has increased the rewards offered in schools and the NHS. This competition not only limits the pool of applicants open to institutions when recruiting staff. It is also leading to staff moving away from higher education into the private sector and other areas of the public sector. Unless action is taken soon to remedy this problem the creation and maintenance of a sustainable staff base, needed both to train professionals for the future and to continue widening access to universities, is likely to prove extremely difficult.

61. Continued competition from the private sector and from elsewhere within the public sector compounds both recruitment and retention problems. This includes IT and electronics, the creative industries, professional subjects like law and accountancy, together with teacher education and training for the health professions where Government has increased the rewards offered in schools and the NHS. This competition not only limits the pool of applicants open to institutions when recruiting staff. It is also leading to staff moving away from higher education into the private sector and other areas of the public sector. Unless action is taken soon to remedy this problem the creation and maintenance of a sustainable staff base, needed both to train professionals for the future and to continue widening access to universities, is likely to prove extremely difficult.

62. Recent research shows that this situation is exacerbated by an ageing academic population, which is mirrored in other English-speaking countries. The study, undertaken by Professor Brian Ramsden on behalf of Universities UK, shows that the age profile of academic staff will lead to very large numbers of retirements causing potentially serious problems for the future recruitment of high quality academic staff. The study also shows that those countries with a worse situation than the UK, particularly Canada and the USA, are already taking pre-emptive action to deal with the problem. As this action will reduce the available pool of high quality academic staff, the UK risks being left behind in a fiercely competitive international market for the best talent if immediate investment is not made available. Another major issue emerging from this report is the propensity of highly qualified graduates, including PhD qualifiers, to seek work outside the university sector, creating an "internal brain-drain".

76 Professor Brian Ramsden (September 2003) Some issues concerning the employment of academic staff within HE institutions, Universities UK, London.

77 Australia, Canada, the United Kingdom and the USA.

78 Professor Brian Ramsden (August 2003) An ageing population: a comparative study of university academic staff in the United Kingdom, Australia, Canada and the USA, Universities UK, London.

79 The findings of the Ramsden work are also reflected in Trends in Higher Education, Association of Universities and Colleges of Canada (AUCC), 2002.

80 This report proposes that the "internal brain drain" may be increasingly significant. Highly qualified graduates, including PhD qualifiers, will seek work outside the university sector with the PhD being no longer simply a training ground for university academic staff.
Pay modernisation

63. Universities are making remarkable progress in addressing issues that in the past have limited the ways in which institutions can deal with some of the long-standing pay problems, and respond effectively to the employment market. Underpinning this reform is the modernisation of pay structures. In the long term this will lead to greater flexibility and cost-effectiveness; however, significant up-front investment is needed to deliver change.

64. Two years of negotiations between union and employer representatives nationally have culminated in a new Framework Agreement for pay modernisation that will tackle low pay and equal pay issues, help deal with recruitment problems and provide better rewards for the contribution staff make. This directly addresses issues raised in the Dearing and Bett reports, which identified outdated pay structures as a major obstacle to achieving equal pay for work of equal value. Subject to final ratification by the unions, pay modernisation in HE (linked to a two-year pay deal from August 2003) will:

• remove obstacles that get in the way of achieving equal pay for work of equal value; that create barriers between pre- and post-92 HE institutions and between academic and support staff; and that foster outmoded occupational silos;

• retain a national framework for HE pay, but with flexibility for universities and colleges to adopt a model pay structure or variations to that, in the light of their particular needs and circumstances;

• provide a sound basis for HEIs to differentiate the pay levels offered to staff to reward their varying levels of contribution (on the basis of new or extended performance management arrangements) and to recruit and retain staff in fields where market pay levels are higher;

• address widespread problems in recruiting and retaining manual and other low paid staff;

• ensure delivery of equal pay for work of equal value through adoption of pay structures rooted in institution-wide job evaluation and with common grading across staff groups;

• facilitate emergence of new roles and career pathways, recognising new ways of delivering and supporting teaching and learning;

• secure union cooperation with the introduction of new pay structures, at manageable cost; and

• provide a stable and financially predictable basis for planning the introduction of new pay arrangements over a two-year period.

65. The Framework Agreement provides a sound platform on which to build for future years and UCEA, Universities UK and SCOP are committed to making this a positive and successful change. This will require additional funding so that universities can make effective use of the new flexibilities which the Framework offers. Significant improvements in pay levels for some staff will be needed to reflect market pressures, tackle the continuing recruitment and retention difficulties and reward those who contribute most. Work conducted by Nigel Brown Associates\(^8\) for Universities UK shows that there are significant costs attached to delivering this change across the UK. This investment is essential if pay modernisation is to be a success and the sector is to gain from the long-term benefits it promises. The level of investment needs for pay modernisation for England, Northern Ireland, Scotland and Wales are outlined in each of the individual country submissions.

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\(^8\) Universities UK (2003), The costs of pay modernisation, Nigel Brown Associates (unpublished report)
2.4.2 Physical resources  
**Teaching infrastructure**

66. Teaching infrastructure is vital to the success of the UK HE sector, enhancing the quality, experience and employability of graduates as well as contributing significantly to the infrastructure of the regions in which universities are situated. In our SR2002 submission we made a clear case, based on the findings of an independent report by JM Consulting\(^82\), for substantial capital investment in the UK teaching infrastructure of £5.3 billion.

67. Under the last Spending Review infrastructure funds were made available to support the proposals in the Roberts Review\(^83\) to tackle the backlog in equipment and refurbishment of university teaching laboratories. However, whilst this investment is warmly welcomed, it is only targeted at science and engineering. Significant investment is still needed to support the broader teaching infrastructure including the arts, humanities and social sciences. The level of capital and recurrent investment need for England and Northern Ireland, Scotland and Wales is outlined in the individual submissions attached to this overview. Below is a summary of the categories of investment needs across the UK.

**Investment need**

68. Investment is required to address historic maintenance backlogs and allow for the modernisation and upgrading of the buildings and equipment across UK HE. It is essential if the teaching infrastructure is to be fit for purpose and suitable for contemporary teaching and learning provision. There is also a need to cater for a more diverse student body, and to accommodate the increased numbers of HE students the Government is targeting. Without significantly addressing these remedial investment needs we cannot hope to safeguard standards, maintain the quality of students’ learning experience or meet the targets for education, economic performance and social inclusiveness.

69. The JM Consulting report highlights three key areas where additional remedial investment is required in the teaching infrastructure.

**Buildings and space**

70. We need to repair, upgrade and, in many cases, replace buildings that have exceeded their life expectancy, or are no longer suitable for contemporary teaching and learning provision. Many, especially those that formed the post-war expansion, are at the end of their design life\(^84\). In addition older buildings that were designed for a different era now need to be re-adapted to allow for contemporary teaching and learning, and a more flexible and effective use of the HE estate. This includes meeting the requirements of health and safety and disability legislation.

71. The impact of rapid expansion in student numbers in the late 1980s and early 1990s, still continuing today, has not been matched by an equivalent expansion in the size of the estate. These problems have been compounded by a serious problem of maintenance backlogs caused by historic under-investment. The 37 per cent\(^85\) decrease in the unit of funding for teaching since 1989 has necessitated major efficiency savings. With multiple objectives and priorities and limited resources, deferring investment in the HE estate has become a short-term source for cash saving.

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82 HEFCE, SCOP, UUK (2002) Teaching and learning infrastructure in higher education.
83 SET for success: The supply of people with science, technology, engineering and mathematics skills, report of Sir Gareth Roberts’ Review (April 2002).
84 Estates Management Statistics (EMS) data for 2000/01 suggests that approx. 33% of buildings in England are operational but need major repair or replacement within 3 years. 2001-02 Estates Management Statistics, HEFCE (2002), 2002/53.
85 See section 2.3 on UK cost pressures.
Learning resources
72. Information and learning resources, with adequate space and access, are vital to student learning. Increasing student numbers are placing greater strains on existing library provision, both in terms of buildings and learning resources material. With an increasing focus on resource based learning and changes in methods of teaching and learning, the role of libraries is changing. There is a significant need to upgrade buildings and facilities to support a much broader range of student learning experiences. The traditional library is now heavily dependent on electronic means of access to information and for archive and general storage, which adds to these pressures.

Information and communication technology (ICT)
73. ICT is now a mainstream part of the HE infrastructure and there are significant challenges involved in keeping this up-to-date. ICT infrastructure (both software and hardware) is a short-term asset requiring renewal or upgrading on a regular basis86. The speed of development means that comprehensive and ongoing IT replacement schemes are needed every three years if we are to offer our students the opportunity to learn on up-to-date hardware and software which are the current industry norms. Distance and e-learning require facilities that are able to meet the needs of industry and learners, and the academic staff that support them. As inter-sector collaboration increases there is also a demand for high-speed, reliable access to the JANET network for FE colleges. There is a general perception that this is cost saving technology, however, many of the cost are ongoing and those cost savings that can be made have already been achieved.

A well-found teaching environment
74. To ensure that institutions are able to meet the requirements of a well-found laboratory, or advanced teaching87, the JM Consulting report indicates additional areas of investment. These include teaching classroom equipment and teaching laboratory equipment. The report estimates that the investment gap stands at £600 million for the UK88. Increased expectations from students, parents and employers, as well as greater accountability and quality assurance processes, add to the investment pressures in this area.

The benefits of additional investment
75. The additional investment that we are seeking will allow institutions to:

- maintain, repair, replace and upgrade their capital infrastructure. This will ensure modernised, safe and accessible buildings with facilities and equipment that are fit for purpose and meet the needs of a larger and more heterogeneous student body;
- facilitate increased efficiency and flexibility of the HE estate. The JM Consulting report recommends that increased strategic focus on estates management needs to be combined with a more supportive funding climate to allow the sector to develop effective strategies that can maximise resources and maintain quality and standards;
- exploit new communications and information technologies, ensure adequate facilities and equipment, and achieve “state of the art” provision where possible. This would mean well-resourced libraries that ensure the quality of students’ learning experience, enabling UK HE to be at the leading edge of information systems and exploit new educational technologies to the full;
• provide increased capacity in HEIs to expand the numbers of students participating in HE. This will enable institutions to maintain the high quality of teaching and learning support while expanding student numbers and improving retention. This includes attracting and engaging a wider range of students from groups without a tradition of participating in HE and allowing UK HE to compete successfully with HE in other countries;
• comply with new legislation, particularly on health and safety and disabled access, allowing institutions to improve physical and remote access for disabled students and staff and comply with new legislation;
• enhance the employability of graduates and meet the needs of employers. Additional investment will improve and extend professional education and lifelong learning, in particular for the public services, to help meet the Government’s aim to improve these services; and
• benefit UK research. As the Robert’s review\(^9\) has indicated, undergraduate education is the springboard from which science and engineering graduates enter employment or continue their studies through postgraduate courses. A properly funded up-to-date teaching infrastructure will attract more PhD students, and provide the qualified researchers needed in business and public services.

Research infrastructure

76. Additional investment in research infrastructure is essential if we are to sustain world-class university research and strengthen knowledge transfer capability. In our SR2002 submission, we made a strong case for additional capital investment of £3.54 billion in the research infrastructure for the UK, based on independent evidence\(^{90}\).

77. We welcome the additional investment in research, with an uplift for the Science Research Infrastructure Fund, announced as part of the SR2002. We also welcome additional research infrastructure funds provided over previous Spending Reviews and by the Wellcome Trust. However, the problem has not yet been solved. We need sustained investment in research to ensure that investment backlogs are addressed and the infrastructure is adequately maintained to support the UK’s internationally competitive position. The sciences have done relatively well, but the investment needs of the arts and humanities, vital to the success of the rapidly growing creative industries sector, have not yet been addressed.

78. In our SR2002 submission we also made the case for recurrent research funding to provide for ongoing replacement and renewal to avoid similar problems occurring in the future. It is also necessary to provide resources to attract and retain high quality research staff and to support the improved quality and quantity of UK universities’ RAE 2001 outcomes\(^91\).

79. The level of capital and recurrent investment needed for infrastructure in England, Northern Ireland, Scotland and Wales is presented in the individual submissions attached to this overview. Below is an outline of the categories of investment need across the UK.

89. Set for Success: the supply of people with science, technology, engineering and mathematics skill, the report of Sir Gareth Roberts’ Review, April 2002.

90. OST (2002) Study of science research infrastructure, Study by JM Consulting for OST.

91. Higher Education and Research Opportunities in the UK (HERO), RAE, 4/01 (September 2001).
Investment need

80. Public expenditure on research and development in the UK declined in real terms by 21 per cent between 1986-87 and 1998-99. Increases since then still leave funding seven per cent lower in 2001-02 than in 1986-87. In 2000, in the United Kingdom, expenditure on R&D was 1.8 per cent of GDP, considerably lower than the G7 average of 2.1 per cent. In terms of the relative funding of research and development by public and private sectors the UK government makes a smaller contribution (29 per cent in 1999) than any of the other G7 countries except Japan and the US.92

81. UK universities continue to deliver high quality research and excellent value for money, despite their publicly and non-publicly funded research activity operating at a deficit, as revealed by the Transparency Review. This situation is not sustainable even in the short term. The Transparency Review has provided robust data that demonstrates and documents the existence and extent of the underfunding of research93.

82. Most recently the outcomes of the JM Consulting study have evidenced the continuing need for substantial capital investment in research infrastructure. This is specifically to address remedial investment backlogs caused by past under-investment and what is required to maintain a well-defined and existing level of research across whole science base94. In addition JM Consulting have proposed that £0.5 billion is required for remedial investment in the research infrastructure for the arts and humanities95.

83. The JM Consulting report categorises investment need in the following key areas.

Buildings and space

84. Many of the buildings used for research are reaching the end of their design life and face considerable pressures from a rapid growth in research volume and advances in science and technological development. Investment in this area is essential if institutions are to provide professional facilities that can compete and attract the best researchers/academics and students. There are significant maintenance backlogs across the whole sector. Past investment in the research infrastructure has been enough to stand still, though not to address backlogs or meet new demands such as legislative requirements relating to health and safety and disabled access.

85. Regardless of the quality of the researchers, substandard accommodation is a disincentive to private investment in UK universities. Furthermore, poor quality research facilities tend to be disproportionately expensive to operate in estates/facilities management terms. They are, in effect, non-sustainable. A well run, well equipped, modern, energy efficient research facility will be cheaper to operate and is significantly more likely to compete in the international market and obtain funding from external investors. There is in addition a need to invest in the mechanical and electrical plant, which includes power, heating, cooling, and air treatment and infection control. This is often known as the "hidden infrastructure", though is fundamental to supporting research capacity.
ICT and research support

86. IT networks and equipment are critical for the efficiency and productivity of UK science. Research departments also need access to rapidly increasing electronic resources and specific applications with appropriate storage, processing capabilities, and bandwidth to support this. There is a need to meet e-science capabilities and the challenges of an increased globalisation of the research process. An expansion of research techniques, such as computer based modelling, has created an intensive IT demand in areas such as particle physics, astronomy, environmental surveys, meteorology, genome research and social economics. Social sciences also need support for large statistical and mathematical data sets, and in the arts and humanities, digital libraries, with access to media archives and video streaming.

Well-found laboratory

87. An adequate supply of high quality equipment as part of the well-found laboratory is essential if the full potential of research is to be realised. The JM Consulting report shows that a number of research departments across the sector face considerable problems in maintaining this level of provision, severely reducing research capacity.

88. Maintaining a well-found laboratory is a significant problem in many parts of the HE sector. Research equipment and support is increasingly capital intensive and leading edge IT and laboratory equipment can go out of date very quickly. Maintaining an appropriate renewal programme can be extremely difficult. The sector has made good use of extending the life of equipment beyond that originally planned by overhauling, but this will not be generally at optimum efficiency. Joint Infrastructure Fund (JIF) and Science Research Infrastructure Fund (SRIF) funding has helped; though much of this has been used to develop new research capacity, rather than remedy the under-investment in the existing infrastructure. In addition there are parts of the sector untouched by these and many institutions find it hard to generate the recurrent investment needed to support this investment.

89. The JM Consulting report concludes that the remedial investment need in this area is in the order of £500 million. Science is not about standing still and on top of this are the advanced infrastructure needs required to maintain leading edge capability. The JM Consulting report puts this investment need at £1billion.
Benefits of additional investment
90. The additional investment in research infrastructure funding will ensure that:

- the historical infrastructure funding gap is met and does not recur. Investment will allow buildings to be repaired, maintained or replaced; facilitate enhanced efficiency and flexibility of the research infrastructure; and the creation of a more a sustainable cost effective research base, reducing the likelihood of further expensive remedial programmes of public investment;
- the level of investment, both capital and recurrent, is sufficient to maintain a globally competitive position for UK university research. Investment will enable the Government to narrow the gap with other countries in level of research funding, R&D activity and competitiveness and allow UK universities to attract the best research students and staff from around the world; and
- universities maintain their strong record in research and commercialisation and underpin further economic development in the UK. Investment will strengthen the flow of knowledge and technology to the marketplace and ensure that university research will benefit individuals and the economy through transformation into new processes and products. It will ensure that universities increase their links with business, business support agencies and regional bodies including the Regional Development Agencies. This will enhance the UK’s continuing development as a knowledge economy and improve the ability of the UK to compete for inward investment and gain a share of the increasingly mobile and global R&D market.

Sustainable investment
91. There have been many positive aspects of the various capital investment schemes introduced since 1998. However, overall funding for teaching has been less generous than for research. For future sustainable capital programmes to be successful the formula used for allocation and the split between teaching and research are crucial. Institutions should be given the opportunity for strategic development. Institutions’ capacity to reshape their operations and activities in line with the changing needs of their customers (individuals, industry, commerce and government) is vital. Institutions are making considerable progress to enhance management and strategic capacity in this area. This must not be restricted by a return to the short-term, highly specific earmarked funding regime of recent years, coupled with the very wide year-on-year fluctuations to institutions’ recurrent grant allocations that work against effective planning and the optimum use of public funds.

97 Regular, albeit distinct and time limited, capital programmes such as SRIF and JIF have helped address some of the under-investment in the HE infrastructure.
Infrastructure management

92. Universities have managed exceptionally well in difficult circumstances. Whilst in the past there have been valid criticisms of universities’ estates and space management these must be understood within the context of a number of legitimate constraints and external challenges.

93. Despite these constraints institutions have developed estates strategies linked to wider corporate plans and other institutional plans such as finance strategies in order to facilitate space management and allocation procedures. Estates professionals have embraced these challenges. Improved space management is a key aim, and space management practices and procedures have been supported by good practice publications developed by both the National Audit Office (NAO) and HEFCE. Recently HEFCE has developed a new space initiative and the Commission for Built Environment, HEFCE and the Association of Universities Directors of Estates (AUDE) are currently conducting a joint study into the added value of quality building in HE.

94. The development of Estates Management Statistics (EMS) means that there is now a greater focus within the sector on producing management information that can enhance estate management performance. Years one and two have been extremely successful and EMS have just reported to UK institutions for the third year. Several HEIs have used EMS results to make direct changes to strategy and implement better practice.

98. This has included a bulge of 1960s and 1970s buildings reaching the end of their design life; unpredictable incentives that have often rewarded those with poor estates; marginal funding of much of the growth in teaching over the last decade; and a rapid escalation in the cost of new technologies.

99. University estate functions are represented by the Association of University Directors of Estates (AUDE) comprised from 22 professional bodies including 28 members of the Royal Institution of Chartered Surveyors and 17 members of the British Institute of Facilities Management but also including members of the RIBA, RTPI and CIBSE among others.

100. HEFCE Space Management Study.

101. A recent report published by the Higher Education Facilities Managers Forum, Beyond Figures: Sharing Lessons Learnt. Exploring Institutions’ shows that EMS statistics are being used to: support budget plans; business planning; space reports; benchmarking both within and outside the sector; cost forecasts for new buildings; performance review of estates strategy; and university strategic planning.
Our mission is to be the essential voice of UK universities by promoting and supporting their work.