



Response to the Department for Education and  
Skills Discussion Papers on Issues for Higher  
Education

*Prepared by Stephen Keevil on behalf of Scientists for Labour*

**SUMMARY**

1. Scientists for Labour (SfL) is an organisation open to members or supporters of the Labour Party who are interested or involved in UK science and technology. Since its establishment in 1994, it has become a strong political voice for science. In July 2002 the Labour Party admitted SfL as an Affiliated Socialist Society.

2. Many members of SfL are university academics and researchers, key stakeholders in higher education. Our responses to the questions posed by the DfES discussion papers are set out in this document.

3. The papers deal with a number of important and complex issues, and several recurrent themes emerge. Our recommendations regarding these cross-cutting themes are summarised here.

4. **Research and Teaching.** SfL believes that there is an intimate relationship between excellent research and excellent teaching in science at university level.

- i. It is vital for the science base that the next generation of scientific researchers must have contact with academics who are themselves research-active.
- ii. Synergy between research and teaching is demonstrated by the fact that many of the best research-active institutions are also among those with the best teaching reputations.
- iii. University teaching is already highly professional, as indicated by the esteem in which British universities are held globally.
- iv. Promotion and pay for academic staff should reflect teaching excellence as well as research performance.
- v. Effective expansion of the sector will require many additional teachers, and in science many of these will need to be research-active.

5. **Governance and Autonomy.** SfL believes that universities should remain autonomous institutions, able to develop their own missions and strengths within broad guidelines to ensure probity, coherence and achievement of broader social policies. We believe that this is an important guarantor of academic freedom, and that it has been earned by the excellent performance of the sector in teaching and research.

- i. Universities should be free to determine their own investment priorities.
- ii. There should be no artificial barriers to prevent certain universities from engaging in publicly-funded research. It follows from paragraph 4 that this would damage teaching and hence the science base.

- iii. Universities should not be required to prioritise short-term economic benefits over longer term, more speculative research.
- iv. Universities should be free to expand degree and sub-degree provision as determined by their own strengths and by the market, without undue external influence.
- v. Un-necessary bureaucracy, regulation and audit should be eliminated.

**6. Investment.** SfL believes that the financial crisis faced by the sector can only be addressed by increased investment through the funding council block grant arm of the dual support system.

- i. UK universities perform excellently by international standards, but our competitiveness is threatened because funding council support for infrastructure has not kept pace with increases in research council funding for specific projects.
- ii. Reducing funding to groups rated as internationally and nationally excellent (grades 5 and 4) in the 2001 RAE is very damaging to the sector and to the future of the science base.
- iii. Universities need sufficient funding to invest properly in infrastructure, staffing and emerging research areas. They should not have to make damaging and ultimately impossible choices between these priorities.

**7. Staffing and Salaries.** SfL believes that action must be taken urgently to address recruitment and retention problems among academic and research staff, and to end the current need to make staff redundant due to shortage of funds at a time of expansion.

- i. Overwhelming evidence shows that university salaries are inadequate relative to comparable groups, causing marked recruitment and retention problems in some areas of science.
- ii. Salaries do not reflect the outstanding performance of the sector in teaching and research.
- iii. Increased recruitment of academic scientists is needed to protect staff-student ratios with current student numbers, and expansion will require an extra 5,000-10,000 academics.
- iv. Instead, universities are being forced to make academics redundant in order to invest in infrastructure.
- v. In view of recruitment problems and the current crisis over London weighting, pay differentiation according to geographical location should be reviewed urgently.
- vi. Pay differentiation according to discipline is contentious, but should be examined pragmatically on the grounds of recruitment and retention. Any such differentiation should be on a fair and appropriate basis.
- vii. Action is needed to establish permanent research posts and proper career structures for researchers.

**8. Access and Expansion.** SfL believes that there is a close relationship between poor prior achievement and low aspirations as barriers to access, and that these must be addressed as part of any future expansion.

- i. Measures should be put in place, with proper resources, to improve school performance, develop alternative entry routes based on potential rather than achievement, address low aspirations, and develop links between universities and local schools.
- ii. Mechanisms to enhance links between universities and schools to help address some of these issues should be explored urgently.

- iii. Planned expansion should include honours degree, ordinary degree and sub-degree provision.
- iv. Improved access and equality of opportunity will allow more students with the ability to undertake honours degree courses to do so.
- v. Many of the higher technical skills required by the economy are probably better delivered through sub-degree programmes, which will need to be expanded to maintain the standard of the benchmark honours degree.

9. **Finance.** SfL believed that the injection of funds so badly needed by universities must come primarily from public funds, but we accept that it must ultimately be derived from a variety of sources.

***Research Funding***

- i. Collaboration with industry is the only way to perform cutting-edge research in certain fields, and is welcome as long as sponsors pay the full costs of the work they commission. Industrial funding should be seen as a supplement to proper public funding, not a replacement.
- ii. We would encourage increased funding to support links between industry and higher education, perhaps based on the EU FP6 Marie Curie Fellowship scheme.
- iii. We would encourage tax incentives to encourage the development of endowments, but as a supplement to proper public funding, not a replacement.

***Student Funding***

- iv. Whilst we believe that it is wrong to base student finance entirely on parental income, we also believe strongly that more support should be available to allow students from lower income families to participate in higher education.
- v. We do not believe that employers in general should be expected to contribute to tuition costs, although there are situations where this is appropriate.
- vi. A single 'graduate premium' figure is simplistic and misleading. We do not accept that research scientists receive 'disproportionate personal benefit' from their education.
- vii. We advise strongly against up-front tuition fees, which would deter under-represented, debt-adverse groups and hence militate against diversity and inclusiveness.
- viii. We believe that any contribution from students should instead be based on ability to pay, and should be payable after graduation in the form of a progressive graduate tax.
- ix. We advise strongly against differential fees based on the 'market rate' for different courses or institutions, or generalised assumptions about the earning power of graduates in different disciplines. This would hinder recruitment and diversification in disciplines that are expensive to teach but do not attract the highest salaries - disciplines which often also serve a social good such as medicine or scientific research.

## **1. INTRODUCTION**

### **1.1 The organisation**

10. Scientists for Labour (SfL) is an organisation open to members or supporters of the Labour Party who are interested or involved in UK science and technology. Since its establishment in 1994, it has become a strong political voice for science. In July 2002 the Labour Party admitted SfL as an Affiliated Socialist Society.

11. Scientists for Labour aims to improve the understanding both of science and of its importance, within the Labour Party and nationally. It is also involved in advising the Parliamentary Labour Party on technical issues affecting other areas of government policy, and regularly lobbies government ministers on science policy issues. Many of our members are academic scientists working in universities and so are key stakeholders in the higher education sector with first hand experience of the issues affecting research and teaching.

### **1.2 The author**

12. Stephen Keevil is a physicist and clinical scientist, currently Senior Lecturer in the Division of Imaging Sciences at King's College London. He has 20 years experience of higher education as a student, researcher and academic. He was recently co-opted to the Executive Committee of Scientists for Labour.

Contact:           Dr Stephen Keevil  
                          Division of Imaging Sciences  
                          King's College London  
                          Guy's Campus  
                          London  
                          SE1 9RT

stephen.keevil@kcl.ac.uk

### **1.3 Background to Response**

13. We are pleased to have the opportunity to respond to the Department of Education and Skills discussion papers on higher education, and hence to contribute to the development of policy in this area. Our primary aim in this submission is to examine how changes to the higher education system currently under discussion would impact on university science and hence on the science base and on our increasingly technologically-based economy. As Labour Party supporters, we are also concerned that future arrangements should serve the aims of wider social policy and promote equality of opportunity.

14. SfL welcomes the government's increased expenditure on higher education, and specifically on scientific research, after so many years of decline. However, issues such as the financial crises currently faced by a number of universities, the growing problems of recruitment and retention of academic and research staff, and the impact of the shortfall in funding council quality-related research (QR) funding following the 2001 RAE demonstrate that change is needed urgently if we are to maintain the quality of the UK science base and meet the government's aims for expansion of the sector. We agree wholeheartedly with the three key challenges set out in the Secretary of State's introduction to the papers: the need for significant extra investment to maintain our

universities at the forefront of research and teaching; the desire to give all students with the necessary aptitude the opportunity to undertake higher education, regardless of class and family circumstances; and the economic necessity of equipping our citizens with the skills they need in today's world. The first and last of these challenges are perhaps particularly relevant to science and technology, which is the most costly academic area in terms of capital equipment and running costs and also the area most able to deliver the skills needed in an increasingly technological world.

## **2. DETAILED RESPONSE**

### **2.1 Research**

*Should we enable more of the best researchers to focus on research, and develop a more professional teaching force for Universities, specialising in teaching? Will pressure for such distinctions grow if universities spend more on hiring top researchers?*

15. The question appears to be based on the premise that we do not already have a 'professional teaching force for universities'. SfL rejects this suggestion. The esteem in which UK universities are held worldwide is ample evidence of the professionalism of our university teachers.

16. Bright students who may wish to pursue a career in scientific research need to be enthused and introduced to research methodology at undergraduate level. SfL therefore believes that teaching of science at honours degree level is best undertaken by teachers who are active researchers at the cutting edge of their rapidly moving fields. The same is not necessarily true of sub-degree or more vocationally oriented courses.

17. Research excellence goes hand in hand with teaching excellence: many of the most research-active universities are also among the best teaching institutions<sup>1</sup>.

18. It does not follow that all established university researchers should hold teaching posts. In paragraph 88 we advocate the creation of more established research posts to provide employment stability and a career structure in research.

19. Because of the pressures of the Research Assessment Exercise (RAE) it is already common to appoint or promote 'star' academics largely on the basis of their research record, and such appointments may carry little or no formal teaching responsibility. It is right that researchers with an outstanding reputation should have consummate opportunities and rewards. However, SfL believes that quality and professionalism in higher education teaching can only be fostered if contributions to teaching are also recognised appropriately in terms of promotion and pay. The creation of more established research posts should not result in undue teaching load for other academics, to the detriment of their own research, or create a two-tier approach to academic careers, with teaching regarded as a second rate activity to be avoided by serious researchers.

*What about institutions with different focuses? Should some specialise in teaching, and others in research – perhaps developing more graduate schools? Should institutions group together to play to their strengths?*

---

<sup>1</sup> *The Times Good University Guide 2002* overall rankings.

20. Universities differ in the relative emphasis they give to research and teaching. To some extent this is a remnant of the former university/polytechnic divide, but even within the pre-92 sector there is much diversity, while many post-92 universities have significant research strengths.

21. SfL believes that universities should be allowed to evolve different missions, reflecting the diverse needs of the student population in modern higher education, and we do not see a need for prescription or proscription. However, we reiterate our belief (paragraph 16) that the next generation of research scientists must be taught by academics who are themselves active researchers.

*Do we need better measures for helping students understand the quality of teaching in different institutions?*

22. The Quality Assurance Agency provides a means of comparing the quality of teaching in different institutions. Recent changes to working methods to reduce the burden of assessment are most welcome. There are also widely available independent guides to the quality of universities and courses. SfL does not see a need for further measures.

*Is our current level of investment sufficient to enable Britain to remain globally competitive?*

23. SfL believes that current levels of funding are insufficient to maintain competitiveness.

24. The 2001 RAE demonstrated marked improvement in research performance since 1996, with 55% of research-active staff working in 5 or 5\* rated departments compared to 31% in 1996, and only 6% in departments rated 1 or 2 compared to 24% in 1996<sup>2</sup>. Since 5 and 5\* ratings indicate international excellence, this can be taken as evidence of greatly improved global competitiveness over this period.

25. The average unit of resource for 5\* rated departments increased by only 2.5% in 2002-03, while that for 5 rated departments fell by 12.3% because the overall increase in research quality outstripped research council funding<sup>3</sup>. A recent report by Evidence Ltd concluded that 'sustaining the UK's pattern of improvement in the face of growing international competition is now threatened... unless research funds are sufficient to make it worthwhile striving for the highest grades.'<sup>3</sup> The same report highlighted the damaging effects of attrition of RAE grade 4 departments, which represent a 'platform' for internationally competitive research in the future. The average unit of resource for these departments fell by 29.2% in 2002-03<sup>3</sup>.

26. By 2005, funding available for specific research projects via the Office of Science and Technology (OST) will have risen by 86% in real terms since Labour came to power<sup>4</sup>. This is a notable achievement by any measure. However, it has not as yet been matched by increases in funding for research infrastructure through the funding councils to recognise the levels of international excellence revealed by the RAE. In 2002, the government's cross-cutting review of science<sup>5</sup> found that 'the balance within the Dual Support system has shifted as the level of support for project funding through the Research Councils has over the last decade and a half, increased substantially faster than the level of underpinning support from the Funding Councils.' Urgent action is needed to address this disparity.

---

<sup>2</sup> 2001 Research Assessment Exercise: The Outcome. RAE4/01 (HEFCE/SHEFC/HEFCW/DELNI 2001).

<sup>3</sup> Maintaining research excellence and volume. A report for the Higher Education Funding Councils for England, Scotland and Wales and for Universities UK (HEFCE/UniversitiesUK 2002).

<sup>4</sup> Save British Science Newsletter 34, November 2002.

*As well as funding the best research, are we doing enough to support emerging departments and areas of study, so that innovation and new talent can flourish?*

27. No. The RAE engenders a situation in which it is difficult to secure funding for science that is either no longer seen to be at the cutting edge or is too new to have gained wide acceptance.

28. The abolition of generic research (GR) funding in response to the funding shortfall after the 2001 RAE has worsened this situation, since part of the aim of this funding was to support more speculative research. Shortage of funds also leaves many institutions with insufficient flexibility to deploy their limited quality-related research (QR) funding to support such work.

29. As part of the current RAE review, consideration should be given to new mechanisms to ensure that expertise in unfashionable areas is not lost (systematic biology is often cited as an example<sup>6</sup>) and that emerging areas are fostered.

*Should every university be funded to do research – or should we emulate America where only a minority of universities offer postgraduate research studies?*

30. As explained in paragraph 16, Sfl believes that teaching of science at honours degree level must be undertaken by active researchers, and in particular that it is essential for the health of the science base that the next generation of researchers are exposed to cutting-edge research and training in research methodology at undergraduate level.

31. The current research assessment system allows individual departments to receive funding according to their research performance. Even universities that are not generally research active may house groups with national or international research reputations. We believe that it would be a serious mistake and inequitable to remove funding from these groups simply because they are in the 'wrong' institution, or to deprive other departments of the opportunity to establish strong research and gain QR funding. This would amount to the establishment of what would clearly and rightly be perceived by students, employers and academic staff as a two-tier university system and would be very damaging.

*Is the balance right between research with an obvious benefit to society and the economy, and research aimed at discovering new ideas?*

32. All scientific research is of benefit to society, both in terms of its cultural role and the potential economic benefits whether in the short or the medium to long term.

33. It is of course right that research with immediate potential for the economy should be supported, but Sfl believes that high-quality science should be supported regardless of the perceived short-term benefit.

---

<sup>5</sup> Cross-cutting review of Science and Research: Final Report (HM Treasury 2002).

<sup>6</sup> Response of the Systematics Association to the House of Lords: Systematic Biology in the UK, January 2002.

*Do business and students contribute enough to research costs – and if they contributed more, how would this affect the nature of research?*

34. It is not clear how or why students might be expected to contribute to research costs. SfL is opposed to any such suggestion.

35. In terms of contributions by business, it is not clear whether the question refers to business funding of a greater amount of research or to full funding of the costs associated with the existing levels of contract research.

36. We are cautious about increasing the proportion of research funded by business, since this would create an inevitable bias towards work with obvious short-term benefits and away from more speculative areas. In addition, unless there were clear guidelines, the independence of institutions could be compromised.

37. We would certainly support the concept that businesses should pay the full direct and indirect costs of research they commission in universities. At present this is often not the case<sup>7</sup>.

*What more should we do to encourage the build-up of endowments in our universities?*

38. Universities in the US have long experience of encouraging gifts and endowments from alumni and others, so it is not surprising that the sums raised from this source are much more significant than in the UK. British universities are now increasingly active in this area, and there are some excellent examples of progress. Gifts are usually tax-efficient as charitable donations, but it might be that additional incentives could be offered.

## **2.2 Capital infrastructure**

*As equipment becomes increasingly complex, does this strengthen the case for the greater concentration of research infrastructure?*

39. The cases cited in the document are highly atypical: particle accelerators and ‘the biggest telescopes’ (we assume this refers to the ESO Very Large Telescope project) are projects of global scale that could not conceivably be undertaken by a single country, let alone a single university. ‘Big science’ of this type falls almost exclusively within the remit of the Particle Physics and Astronomy Research Council (PPARC), which has funding arrangements specially geared to the situation.

40. Setting aside such extreme examples, it is inevitable that the most successful research groups will have the necessary critical mass and income to justify the most complex and expensive equipment. To this extent concentration of expensive research infrastructure is already the norm. However, this should not be seen as an argument for restricting research funding to certain institutions.

*Could there be greater pooling between universities to share support services? What about making more efficient use of duplicated or underused building, as well as large scale research equipment?*

---

<sup>7</sup> Transparency Review of Research: Proposals for a new uniform approach to costing of research and other activities in universities and colleges in higher education (Joint Costing and Pricing Steering Group 1999).

41. University support services (e.g. personnel, estates, finance) are currently highly pressurised and frequently short-staffed. It is not easy to see how pooling them would improve matters. Also, universities differ in their individual priorities, missions and operating procedures, so there is little scope for pooling resources to reduce duplication.

42. In our experience universities are more often short of space than possessed of underused buildings, and the planned expansion of student numbers suggests that more space will be needed in each university rather than less.

43. Making better use of under-utilised research equipment is a good idea in principle, but in practice most major items of equipment are quite heavily used by their host research groups.

44. There is certainly scope for more collaborative work, pooling the strengths of different research groups, generating critical mass and encouraging fruitful areas of interdisciplinary research. This is especially true of smaller institutions.

*Do Universities give enough priority to funding infrastructure? Is it right to give Universities the choice about how much funding to devote to infrastructure? Are Universities using their assets as well as they should be to fund infrastructure improvement, or do they rely too much on Government?*

45. Universities are independent, self-governing institutions. It is right that they should be allowed to identify their own priorities, within broad guidelines on prudent financial management.

46. As discussed in paragraphs 23-26, core funding to universities from the funding councils is insufficient for their needs. Difficult decisions have to be made between conflicting priorities, such as staff remuneration and development, supporting speculative research, and funding capital infrastructure.

47. At present, institutions are switching more resources towards buildings and infrastructure to address the poor condition of much university estate and equipment. This is resulting in redundancies among academic and support staff, and increased workload for those who remain. This is an appalling approach to the problem of infrastructure underfunding, which should instead be addressed by increasing block grants.

48. A recent HEFCE report called for 'an immediate and substantial investment in the generic teaching infrastructure of UK higher education institutions (HEIs), to avoid deterioration in quality and standards<sup>8</sup>.' A figure of £5.1 billion was proposed, followed by 'significant recurrent investment so that institutions can manage their infrastructure on a sustainable basis.'

49. Universities receive the bulk of their income from government, in the form of funding for teaching and for research infrastructure from the national funding councils and funding for specific pieces of research from the research councils. It is not clear what assets, independent of government, are implied here.

*In reducing the funding backlog, should the priority be on improving the worst estates or funding the ones that will bring the most benefit to the economy and society? How do we strike the right balance?*

---

<sup>8</sup> Teaching and learning infrastructure in higher education (HEFCE 2002).

50. Again, SfL believes that universities should be allowed to identify their own priorities according to their individual missions and strengths. They should be sufficiently well funded to support a range of academic activities, including those that are of immediate economic benefit and those that are primarily of cultural significance or may not reap economic returns in the short term.

*Do we need more incentives for private gifts and endowments to help fund infrastructure, or does that distort what Universities can use their funding for too much?*

51. As discussed in paragraph 38, incentives to stimulate private gifts to endow universities would be welcome. It does not follow that this would constrain universities. Clearly some endowments are earmarked for specific purposes, but in general they should come as charitable donations without 'strings' attached.

52. As argued in paragraph 137 below, any such endowments should be seen as a supplement to adequate public funding of universities, not a replacement.

*If private funders make a greater contribution to infrastructure costs (either associated with research or otherwise), might that limit the uses that can be made of those facilities? Does that matter?*

53. If 'private funders' refers to charitable gifts or other donations with no 'strings' attached, whether from individuals, business or otherwise, then our response is as in paragraph 51.

54. If the term refers to support from business for specific initiatives, then the uses to which the facilities can be put are likely to be limited. In many instances this is not a problem: some types of research can only be pursued in collaboration with industry, and both parties benefit.

55. But if business-funded facilities are to form part of the basic infrastructure of the university, then the consequent restrictions may matter a great deal. Generally the claim that a sponsor has on a facility is proportional to the contribution made, so as business contributions increase the university's academic freedom and ability to look beyond the short-term decreases.

56. SfL believes that infrastructure funding from private donations and from business should be in addition to, not in place of, sustainable public investment.

### **2.3 Access and Expansion**

*Will the demand for graduates (and the graduate premium) hold up through further expansion? How can we make sure that standards are maintained whilst the sector expands?*

57. There will undoubtedly be a sustained demand for people with high level knowledge and skills to work in our increasingly technology-driven society, although clearly not all of the skills required by society and the economy are best taught through higher education.

58. Sfl believes that use of a single 'graduate premium' figure is misleading and simplistic. There is a very broad spread of graduate salaries, with university academic and research staff towards the lower end of a distribution that overlaps significantly with that of non-graduate salaries.

59. Also, as participation in higher education increases and there is greater diversification in the nature, level and content of higher education qualifications, and as occupations that were not previously regarded as graduate entry become so, figures based on a situation in which participation rates were much lower and programmes more uniform become increasingly unhelpful.

60. Maintenance of standards is an interesting question. On the one hand, few would deny that there are many individuals with the potential to benefit from an education at honours degree level who have in the past been prevented from doing so by inequalities of access and poor educational opportunities at school level. Expansion, together with improved access, diversification of university entry routes and improved schemes for credit accumulation and transfer, will allow such individuals to achieve their potential without dilution of standards,

61. On the other hand, it seems unlikely that expansion of higher education participation from just over 10% in 1980 to 41.5% now (in England) and a projected 50% by 2010 can be delivered purely through the conventional honours degree route without compromising standards. In this sense, the development of more ordinary degree and sub-degree programmes is welcome as a means of increasing participation without lowering standards.

*To what extent should any future expansion focus on applied and sub-degree programmes like foundation degrees, rather than traditional 3-year honours degrees? Will this simply draw from the same skills pool as other programmes?*

62. In keeping with the argument presented above, expansion should include both degree and sub-degree level programmes. Universities should be free to develop courses that meet market need and play to their own strengths.

63. Foundation degrees are a new initiative, and their acceptance by students and employers has yet to be demonstrated. It would be a mistake to focus too much on this type of provision until its role in the employment market and in students' progression through higher education is better understood.

64. Vocational courses still have a relatively low status in the UK, and the success of the new initiatives depends in part on addressing this.

*How much does the access problem lie in students' prior attainment at school or college or their own aspirations? Why are some Universities better than others at attracting a more representative range of students?*

65. Access to university is currently primarily on the basis of prior attainment, but unfortunately, because of inequalities earlier in the educational system this does not always reflect ability and potential. There is an intimate relationship between attainment and aspirations, since students from communities without a tradition of higher education are more likely to attend schools where high performance is not the norm, and are less likely to see higher education as a realistic ambition.

66. We believe that downward trends in teaching within the state sector are a major factor in increasing social

division and militate against wider participation in higher education.

67. It would be quite wrong to drop degree standards to solve recruitment problem. There are other ways to assess potential than A-level results, and some universities have developed excellent schemes for students from schools with a poor record of participation in higher education: for example, the Access to Medicine programme at King's College London<sup>9</sup>. The patchy provision of such schemes is simply because they are new and require significant resources.

68. SfL believes that future expansion should be accompanied by a growth in existing earmarked funds to encourage development of alternative entry schemes and to support students from unconventional backgrounds once they have reached university.

*How significant is student maintenance funding in helping to solve access problems, given that universities were still middle-class when grants existed?*

69. Universities were largely middle class when grants existed, but they were also attended by a far smaller proportion of young people and widening access was not such a priority for government. The problems of aspiration and prior attainment discussed in paragraph 65 were much more acute and were of less concern to government at to society as a whole. It would be erroneous to conclude on the basis of this experience, as this leading question invites us to do, that maintenance grants have no role in widening access.

70. SfL strongly supports provision of maintenance grants for poorer students.

*What are the best ways of closing the social gap while safeguarding the principle of admission on the basis of merit?*

71. SfL believes that effort is needed on four fronts.

- i. Improving educational opportunities at school, to remove the inequalities that currently exist on the basis of social class, location and ability to pay.
- ii. Measures to address low educational aspirations – to show that higher education is an option for all.
- iii. Better resourcing for alternative routes of entry to university that assess potential rather than prior attainment.
- iv. Resourcing to encourage stronger links between institutions and neighbourhood schools

#### **2.4 Independence at 18 and investment in the future**

*We treat 18 year olds as adults in most aspects of their lives. But for HE they are treated as dependents and we assume their parents will fund them. Is this the best approach?*

72. SfL believes that it is wrong in principle to treat 18 year-olds as wholly dependent on their parents, or to assume that parents will necessarily pay towards university education even if they are able to.

*If we don't take family circumstances into account, doesn't the state either end up subsidising the people that*

*need it least, or failing to provide support for those that need it most?*

73. We accept that in the real world of limited resources family circumstances should be taken into account and that resources, particularly those for student maintenance, should be targeted so as to support participation by students from lower income families.

74. However, it should be remembered that existing schemes of means-tested support for poorer students have failed to have a substantial impact on rates of participation from disadvantaged sections of society.

*Does the focus of our current student finance system on a student's parental income rather than their own later earnings discourage students from thinking about a degree as a long-term investment?*

75. SfL believes that students do generally view a degree as a long-term investment. They forgo three or four years of paid income, and under present funding arrangements incur significant debts in order to study at university.

*Why are young people reluctant to invest in their own future, given the benefits which a university education can bring?*

76. SfL believes that students do regard a university education as an investment in the future, which is why they are willing to forgo income and acquire debt as discussed in paragraph 75.

77. However, some students, predominantly those from poorer and other under-represented backgrounds, are less willing to take on debt for reasons of cultural or background. A recent report<sup>10</sup> found that the groups with the most negative views about debt were Muslim, black and minority ethnic respondents, those with family responsibilities and those from the lowest social classes. Thus increasing the degree to which students are required to 'invest' in their future by incurring debt is likely to work contrary to the government's aim of increasing diversity and improving equality of opportunity in higher education.

78. On the basis of this evidence, we reject the statement in the discussion paper that 'young people think nothing about borrowing...' This may be true of many young people, but it is least likely to be true of the very people who are currently under-represented in higher education.

*If it is a question of risk, how can we make the benefits clearer and help them to make well-informed, independent choices? Are poorer students more reluctant to take out loans?*

79. Making the benefits clearer is unlikely to have more than a marginal impact on groups who are culturally disinclined to take on debt. These groups can only be engaged by reducing the debt burden involved in higher education rather than seeking to justify it to them.

80. The evidence described in paragraph 77 demonstrates that poorer students are more reluctant to take out loans.

---

<sup>9</sup> <http://www.kcl.ac.uk/depsta/medicine/access.htm>

<sup>10</sup> Universities UK Student Debt Project – key early findings.  
<http://www.universitiesuk.ac.uk/mediareleases/show.asp?MR=330>

*Is this made more or less difficult by the fact that at present the price tag for every HE course is the same, but the benefits can be very different?*

81. Firstly, the price tag for every HE course is *not* the same: full-time undergraduate courses differ in length – for the brightest students in some science subjects, tomorrow’s scientific researchers, a four year course is becoming the norm, and four year honours courses are already the norm in Scotland; fees are paid for some students, such as those undertaking teacher training; bursaries are available for others, such as those studying healthcare subjects; students on some undergraduate courses at institutions not in receipt of funding council support are required to pay much higher fees; different arrangements apply to postgraduate and to part-time courses.

82. If this question refers to *financial* benefits to the *student*, then with the exception of highly vocational courses these are determined largely by the career that he or she goes on to pursue rather than the course undertaken, and bear no direct relationship to the costs involved in running the course. Science graduates may pursue various lucrative careers, for example in the financial sector, but those who remain in science will generally receive relatively low salaries. Science courses are among the most expensive to run. It would be disastrous to pursue the logic implicit in the question and to levy higher charges on science students – whether before or after graduation – so that many are dissuaded from studying science and those who do have another reason not to remain in the field after graduation.

83. It is important to remember that a higher education course has other benefits – benefits to the student in terms of personal and intellectual development, and benefits to society as a whole that may be cultural, economic or social. It is important to bear this in mind when considering higher fees for, say, medical students.

*Should paid work experience be accepted as a fact of life – and be better structured – or does it mean students can’t focus on their studies?*

84. It is now common for ‘full-time’ students to undertake paid work, usually outside college hours but increasingly biting into time when they should be studying. This inevitably affects their performance, and gives another unfair advantage to students from more affluent backgrounds who do not have to work to pay their way.

85. The situation is different for the increasing proportion of student studying part-time and in other unconventional patterns. Growth of this sector is greatly to be encouraged, and these students will in most cases be working as well.

## **2.5 Human Resources and Human Capital**

*Can UK Universities pay enough to attract the best staff? Does pay properly reflect performance? If pay was even better differentiated would it be easier for universities to attract the best people?*

86. Before addressing this question, it is necessary to comment on some of the salary figures and career information given in the discussion document.

- i. A lecturer in science would normally be expected to have held one or more postdoctoral positions (typically of three years duration) before appointment, in addition to a three- or four-year research

degree, making comparison with school teachers and other professionals even more unfavourable than the paper suggest.

- ii. The pay and London weighting figures given for a lecturer relate to the pre-92 university sector, and the figure for a senior lecturer to the post-92 university sector. This is confusing, since pay scales and the meaning of the title 'senior lecturer' differ between the two sectors.
- iii. The paper neglects contract researcher staff, who form the backbone of the workforce in scientific research and have a starting salary of £18,265 (even with a PhD) in the pre-92 sector outside London, and as little as £11,932 on the post-92 'researcher A' scale.

87. SfL strongly believes that UK universities do not and under present funding arrangements cannot pay enough to attract the best staff. There is overwhelming evidence that academic and related staff are poorly paid relative to comparable groups, and that this impacts on recruitment, retention, quality and morale in the sector. We will not repeat this evidence in detail here, but this contention is supported by the following government-commissioned reports.

- i. The Bett Report<sup>11</sup> (1999) found that pay for academic and research staff had declined by 30% relative to comparable groups over two decades. The report recommended radical reform, particularly to improve starting salaries.
- ii. The Roberts review (2002)<sup>12</sup> concluded that university science is facing major recruitment and retention problems. It highlighted uncompetitive salaries, high levels of casualisation, and the poor research career structure.
- iii. The government's recent cross-cutting review<sup>13</sup> concluded that 'there has been an erosion of the relative position of the HE sector in terms of pay... This relative decline in pay matters to the extent that it is causing increasing recruitment and retention difficulties in particular areas.' The review concluded that 'academic pay needs to be related more closely to market forces if the UK is to maintain its leading position' and recommended that future funding should include 'a ring-fenced sum for academic pay... to attract and retain the best academic talent in an international market'.

88. Particular concerning for science is the 'demographic time-bomb' facing universities, referred to in the Roberts review. Up to a third of academic staff will retire over the next few years in some areas of science, and with current recruitment problems it is difficult to see how these staff can be replaced, let alone additional staff recruited to cope with planned expansion.

89. A recent HEFCE report<sup>14</sup> found that academic staff recruitment rates in mathematics, physics and engineering will need to increase to maintain *current* staffing numbers, and that 'universities and colleges will need to recruit staff at substantially higher levels to teach the growing number of students expected to enter higher education'. The Association of University Teachers (AUT) has estimated that 50% participation in higher education will require 5,000-10,000 additional academic posts by 2005<sup>15</sup>.

---

<sup>11</sup> Independent Review of Higher Education Pay and Condition: Report of a Committee Chaired by Sir Michael Bett, 1999.

<sup>12</sup> SET for Success: the Supply of People with Science, Technology, Engineering and Mathematics Skills, 2002.

<sup>13</sup> Cross-cutting review of Science and Research: Final Report (HM Treasury 2002).

<sup>14</sup> Academic staff: trends and projections (HEFCE 2002).

<sup>15</sup> Association of University Teachers 2002 Spending Review submission 'Reaching for 50% participation: sustainable growth in UK higher education'

90. In science, as argued in paragraph 16, these posts will need to be filled by research-active teachers. We must groom high quality postdoctoral researchers *now* so that they are ready to move into these academic posts in a few years time. Yet in a survey by Save British Science in 2000<sup>16</sup>, 79% of university science departments said that recruitment of postdoctoral staff had become harder.

91. The picture is particularly gloomy as far as research careers are concerned. At present many university research positions are seen largely as stepping-stones to permanent academic posts. They are generally fixed-term posts undertaken in the years following completion of a PhD, and there is essentially no career structure for those who are unable to obtain an academic post or who wish to remain in full time research. It is common for such individuals to hold a series of fixed-term appointments, in some cases for several decades. Moving to a new fixed-term post often involves loss of incremental progression and other accumulated benefits. Eventually these researchers often leave science altogether. The impact of the Fixed Term Employees (Prevention of Less Favourable Treatment) Regulations 2002 on these practices is not yet clear.

92. This unsatisfactory state of affairs has recently been examined in some detail by the Science and Technology Select Committee<sup>17</sup>. Sfl urges the establishment of more permanent research posts, providing stability and career progression for researchers and ensuring that their expertise and experience is not lost to the science base.

93. In the 2002 spending review, the Chancellor of the Exchequer announced ‘...an increase in the average annual pay of Research Council postdoctoral researchers by £4,000 by 2005–06...’. This is a very welcome development. At present, the starting salary of a researcher in a pre-1992 university in London – with a PhD – remains less than that of a station assistant on the London Underground.

94. Pay in the sector certainly does not reflect performance. Higher education has absorbed a colossal increase in student numbers in recent years whilst retaining an excellent global reputation for teaching and further improving the quality of its research against international benchmarks. This tremendous improvement in productivity has occurred at the same time as the decline in relative pay described above. This situation is neither fair nor sustainable.

95. Pay differentiation has been widely discussed, and may offer a way forward. The new pay arrangements recently introduced for NHS staff may offer a model in certain respects<sup>18</sup>.

96. There is certainly scope for greater differentiation according to geographical location to reflect recruitment and retention difficulties. At present geographical supplements are only paid in London, and are so far behind the supplements paid to other public sector workers that university staff in London are currently engaged in industrial action over the matter.

97. Differentiation according to academic subject is more contentious. Sfl believes that all academic study is fundamentally of equal value, not just work that may benefit the economy either in the short or the long term. However, recruitment and retention difficulties vary markedly between academic disciplines: academics and

---

<sup>16</sup> Recruitment of researchers in university science departments (Save British Science 2000).

<sup>17</sup> House of Commons Select Committee on Science and Technology, Eighth Report, Session 2001-2002. *Short-term Research Contracts in Science and Engineering*

<sup>18</sup> <http://www.doh.gov.uk/agendaforchange/newpaysystemnov02.htm>

researchers in numerate sciences such as computer science and physics are particularly attractive to potential employers. Therefore, on pragmatic grounds, there is a case for pay differentiation between disciplines.

98. Pay differentiation already exists, in that clinical academics are paid according to NHS medical staff pay scales. This results in anomalous situations in multidisciplinary departments in medical schools, where a relatively junior clinical academic may well be paid substantially more than the non-clinical head of department. Experience such as this suggests that caution should be exercised to ensure that any further differentiation is appropriate and equitable.

99. Efforts to establish a basis for pay differentiation that meets legal requirements for 'equal pay for work of equal value' have fuelled the development of job evaluation schemes for higher education. Whilst a laudable aim in itself, unfortunately these initiatives have consumed much of the additional funding for higher education pay announced by David Blunkett in 2000. Also, attention has focussed on factor-based evaluation schemes, whilst AUT believes that competence-based schemes are more appropriate in the context of higher education, where job content may change rapidly.

*Do universities have the right career structures to promote the brightest academics quickly? Are lecturers properly prepared for teaching?*

100. Academic career structures do provide the opportunity for rapid promotion, but due to the pressures of the RAE this is more often on the basis of excellence in research rather than teaching. SfL believes that high quality teaching should also be reflected in pay and promotion opportunities.

101. As discussed in paragraphs 87-89, career structures for researchers are very poor – many would say non-existent. SfL have made a number of statements on this position.<sup>19</sup>

102. Universities have gone a long way in recent years to improve training programmes for new academic staff. This is largely independent of the ILT, which is regarded as an irrelevance by many university staff. Such training will become increasingly important as the sector diversifies.

*Does the time currently spent on administrative tasks represent value for money for the University and the taxpayer?*

103. No. Universities are subject to excessive assessment, both of research (the RAE) and teaching (through the QAA). The new QAA procedures should go a long way towards reducing this workload. Consideration should also be given in the RAE review to ways of reducing the administrative burden that it imposes on higher education institutions and academic staff. SfL has addressed this issue in a recent submission to the House of Commons Select Committee on Science and Technology

*Could Universities do more to deploy, manage and develop people with the right skills for different jobs? Do they take human resources issues seriously enough, and get the best from all their staff? Do HE managers need different skills than managers in the private sector?*

---

<sup>19</sup> eg Russell W (2000) *Chemistry and Industry* 21, 703

104. We have addressed the issue of the relationship between teaching and research in paragraphs 16-19. We believe that there is a place for more established research posts to address the currently poor career structures in university research (paragraph 92). However, we firmly believe that university teachers in science must also be active researchers.

105. There are examples of poor financial and human resources management in the university sector, although there are probably at least as many examples in the private sector. Many institutions have taken important steps towards improving matters, but there are limits to what can be done with present pay structures and levels of resourcing.

*What can we do to encourage more flexible use of people and interchange of staff between Universities, industry and the public service?*

106. There is already a great deal of interchange in that sense that professionals from the NHS, public service and industry are frequently involved in the delivery of relevant courses.

107. At senior level it is not uncommon for staff to enter the university sector with experience in industry, but this is more difficult at more junior levels because of uncompetitive university salaries. We believe that more encouragement should be given to schemes to facilitate longer term exchange programmes.

108. We are encouraged by initiatives such as the EU Framework 6 Marie Curie Fellowship scheme<sup>20</sup>, not specifically for promoting European mobility but for their potential to establish long-term technology transfer networks between university research groups and industrial research and development bodies. This should not only generate further industrial funding, but also focus the ability of the research group to tackle the key technical problems of industry. We would see the establishment of such networks just within the UK for technology transfer purposes as a considerable benefit to our competitive position.

*Are the ratios of support staff to academics right? How do technology and the changing profile of students affect staffing roles in universities?*

109. Support staff are essential to the proper functioning of universities, and their presence ensures that academics and researchers can use their time most effectively. Unfortunately poor salaries and resourcing have eroded the quantity and quality of support staff in many areas. For example, technicians are increasingly scarce in many areas of science, leaving routine technical tasks to be performed by academics and researchers. It is notable that many technical vacancies are not being filled as a means of cutting back on staff costs - this has dramatic effects on laboratory teaching as well as research.

110. Greater use of technology in education creates new roles in areas such as information retrieval and on-line learning. In these areas universities are often attempting to attract staff with skills that are highly prized in the economy at large, so again uncompetitive salaries are a problem.

---

<sup>20</sup> [http://www.dti.gov.uk/ostinternational/eu\\_rtd\\_d/src/human/marie.htm](http://www.dti.gov.uk/ostinternational/eu_rtd_d/src/human/marie.htm)

111. As participation grows and the characteristics and educational backgrounds of students becomes more diverse, more resources will be needed to help them achieve their potential. For example, students entering with lower A-level performance will need greater support to reach the required standard. A funding premium is required to address this aspect of expansion through improved staff-student ratios and better student support services.

112. As more students study part-time and by distance learning, this will also have implications for the staffing needed to support the necessary technology.

*How much do staff: student ratios matter at universities, given that most subjects mix large lectures with smaller tutorials? Does the change in the staff:student ratio represent better value for money or a decline in standards?*

113. This question appears to be internally inconsistent, since small tutorials are obviously not possible without adequate staff-student ratios.

114. SfL believes that university education, and nurturing of the next generation of scientists, depends fundamentally on adequate staff-student ratios. Decline in ratios has led to increased workload for academic staff and decline in the quality of the student experience.

115. As participation and diversity increase, as we have argued in paragraph 111, staff-student ratios will need to improve to maintain standards. Yet at present there is risk of further decline due to redundancies among academic and support staff, as universities struggle to invest in infrastructure at a time of serious underfunding. AUT estimates that 2,000 academic posts are currently at risk. This is in addition to the ongoing problems of recruitment and retention, particularly in the sciences. One casualty of the cut back in resources is the reduction in laboratory practical classes resulting from increased student staff ratios.

## **2.6 Freedom and accountability**

*Does freedom for institutions have a value in and of itself? Given that the taxpayer provides almost half of all University funding, what say should government have over issues like fees or access?*

116. SfL believes that the independence of universities is a key guarantor of academic freedom. Nevertheless, it is right for government to ensure that admissions and financial policies satisfy the aims of wider social policy, such as equality of opportunity and equitable employment practices.

*How do we measure standards of education and financial probity in universities? Is there too much or too little accountability to students and taxpayers? How can we balance freedom and accountability?*

117. Educational standards in universities are assessed by the Quality Assurance Agency (QAA). The assessment procedure has previously placed a burden on universities that many consider to be onerous, and is currently being modified to reduce unnecessary bureaucracy. Ensuring financial probity is the responsibility of the funding councils.

118. SfL considers that at present there is too much accountability. Funding council grants are increasingly steered towards specific initiatives with restrictive conditions attached. We believe that institutions should be free to pursue their own priorities, within very broad policy guidelines and with necessary mechanisms in place to

ensure probity and quality, and that resources are allocated appropriately (e.g indirect research costs).

*Could the idea of 'earned autonomy' work in HE to free successful Universities from restrictions without losing all accountability?*

119. Universities are already autonomous, and we believe that it is fundamentally important that they retain autonomy and academic freedom. All institutions should be freed from unnecessary restrictions and bureaucracy, which does not mean that they should not be accountable.

*Is there more that universities could do to listen to their students? Are the existing quality measures sufficiently robust to enable them to choose between courses?*

120. As stated in the discussion paper, most universities already have mechanisms in place to consult students at all levels, from evaluation of individual lecture courses to representation on governing bodies.

121. We believe that students do have access to enough information to enable them to choose between courses – both QAA assessment results and widely available independent guides to the quality of institutions and courses.

*To what extent do universities meet the needs of employers – and enable graduates to have the skills employers are seeking?*

122. There are many types of course available in higher education – from highly vocational courses aimed at a specific form of employment (e.g. medicine) to courses that are intended primarily to provide intellectual stimulation and training in analytical thinking without specific employment endpoints (e.g. classics). Science comes somewhere between these two extremes. Science degree courses must meet the twin aims of providing rigorous training for future researchers whilst also producing numerate graduates with transferable skills that are attractive to many employers. Universities have responded to these needs, and the increasingly diverse backgrounds of university entrants, by introducing four year MSci (or equivalent) courses, usually allowing students who are less able or not intent on a career in science to exit after three years with a BSc (or equivalent). Students who complete the fourth year of such courses are better equipped with the skills they will need for further study or research in preparation for a career in science.

*Should Universities build better a closer links with schools – perhaps through student volunteering, or through academics working in a certain subject supporting teachers in that subject?*

123. We believe that this is important for several reasons.

- i. It could foster links between courses at school level and at university, easing what is often a difficult transition for students.
- ii. It could aid diversification of university participation, by making school pupils more familiar with the world of higher education and helping to eliminate prejudice and misconception.
- iii. Involvement of academics and researchers at the cutting edge of their subjects could help make school level more exciting and relevant.
- iv. Some students and junior researchers who participate may be encouraged to pursue careers in school teaching, which could be particularly important in shortage subjects such as science.

124. However, any such scheme would need adequate resourcing, rather than simply adding to existing academic workloads.

*Are Universities sufficiently good at managing and governing themselves to take on more freedom?*

125. As discussed in paragraph 116, we believe that universities should be allowed the freedom to develop their own missions and strengths within the broadest of guidelines, consistent with ensuring probity, the coherence of the sector and the wider aims of public policy. We believe that the success of the sector by all international comparisons demonstrates the ability of universities to flourish in such a regime.

*Do they have to little – or too much – freedom over audit issues? Can we be sure that the taxpayer’s £5bn is being well-spent?*

126. The esteem in which UK universities are held, their success in recruiting international students, the increases in research assessment ratings, and the disproportionate impact that British science has on the world stage all provide assurance that money invested in universities is being well-spent.

127. However, we believe that the current inadequate level of investment in universities represents a failure to capitalise on past investment and threatens to erode the position of UK universities in the future.

## **2.7 Funding and Finance**

*Who should pay tuition costs? How much should taxpayers contribute? What proportion should come from students and parents? Should employers contribute? Should alumni be encouraged to give more?*

128. It seems inevitable that tuition costs will in future be met from a combination of sources, since funding purely from general taxation is no longer acceptable politically. We do not propose specific proportions that should come from different sources: any such figures would be arbitrary in the absence of proper financial analysis.

129. Many employers already contribute to their employees’ university education. In some sectors (e.g healthcare and teaching) employees provide bursaries or pay fees. It is increasingly common for employers committed to staff development to fund employees through part-time courses. Whilst there is scope for expansion of such schemes, we do not believe that employers should be compelled to contribute more.

*Who derives the most benefit? The nation as a whole benefits from having well-educated graduates, but graduates and their employers get a disproportionate personal benefit – where does the right balance lie?*

130. SfL does not accept that graduates receive a ‘disproportionate personal benefit’. As discussed in paragraph 58, the concept of a ‘graduate premium’ is deeply flawed. We believe that graduate salaries are generally more than offset by the contribution that graduates make to the economy and through the income tax paid by those graduates who do earn particularly high salaries. As explained in section 3 of the paper, ‘increases in those with higher education spurs faster economic growth’.

131. In science, graduates certainly do not receive salaries that would justify the graduate premium figures

discussed in the paper, yet their efforts to maintain the UK at the forefront of international science have enormous short- and long-term economic benefits.

*Is it right that every course should cost the same when the benefits can be so different? Some courses may only marginally increase average earnings, whereas others promise a substantial boost to earnings?*

132. The paper discusses the possibility of charging 'market rates' for courses, citing engineering and medicine as examples of courses that might attract higher fees on account of their higher running costs. We have pointed out in paragraph 82 that the assumption of a direct link between particular courses and high earning potential is flawed: the salary earned by a graduate is determined more by the career that he or she goes on to pursue than by the course itself, and bears no direct relationship to the costs involved in running the course. Courses in science, engineering and medicine are much more expensive to run than those in arts and humanities, but careers in these areas are by no means the most lucrative. A differential fee structure that penalised these groups of graduates would be disastrous.

133. Since currently excluded groups are more debt-averse (paragraph 77), differential fees would mitigate against diversification in areas that attracted higher fees. Some ethnic groups are already seriously under-represented in medicine, for example.

*Should those who put something back into their communities, by working for example in the public sector, pay the same as where the main benefits are seen by the individual and private employers?*

134. No. If graduates are to make a greater contribution to the costs of university education, it is right that individuals should pay more if they do receive major financial benefits from their graduate status. Since salaries are generally lower in the public sector, such an approach would have the effect envisaged in the question.

*When should fees be paid – up front as in England and Wales or after graduation as in Scotland? If fees were higher, how might an endowment or other graduate repayment scheme work – and how would universities receive the necessary funds in the interim?*

135. SfL believes that if students are required to contribute towards fees, it should be after graduation, as is currently the case in Scotland, and according to earnings rather than 'up front', which would deter many students and would be contrary to the principle of progressive taxation.

136. SfL favours a 'graduate income tax': a fixed percentage of income payable above a certain income threshold. Such a scheme would reflect ability to pay rather than any arbitrary assumptions about the value of a particular course in terms of potential income, or a purely market-driven system based only on the cost of running a particular course.

*Should universities have their own bursary and scholarship schemes to help poorer students – how should the balance be borne by the taxpayer and institutions?*

137. We have commented in paragraph 38 that further tax incentives to promote donations by alumni might help institutions to develop endowment funds. However, we do not believe that bursaries or scholarships provided in this way should form a core part of student finance arrangements.

*Would differential fees produce more discerning customers – and create a vibrant market in HE – or would many students settle for cheaper courses of a lower standard?*

138. Differential fees already exist, to the extent that higher fees are charged for overseas students and for postgraduate courses. We assume that this question applies to undergraduate course fees for home students.

139. SfL is opposed to such an approach. We believe that it would deter debt-adverse students from pursuing courses with a high 'price-tag', and would therefore mitigate against diversity in subjects that are expensive to teach and in those 'elite' institutions that levied higher fees.

140. The cost of running a course is not directly related to its standard. An excellent course in, say, history may be considerably cheaper to run than a mediocre science course. Differential fees may discourage students from studying science, which combines high running costs with unexceptional salaries for those who remain in the field. This would have a serious impact on recruitment of research scientists, which is already problematic, and hence on the science base as a whole.

## **2.8 Higher Education in the Economy and the Regions**

*Who should drive the links between business and HE? Or can it be a wholly equal relationship?*

142. Such links can be 'driven' by either partner. A key consideration to ensure an equal playing field is that the industrial partner should pay the full costs of commissioned research, which is otherwise subsidised by the already inadequate funding council block grant.

*How do we make sure HE services employers' needs better while safeguarding research which might lead to new discoveries or real long-term social benefits?*

143. Servicing employers' needs presumably relates primarily to the teaching function of universities. Whilst, as discussed in paragraphs 16-19, there is an intimate relationship between teaching and research, we do not see how designing courses to equip graduates with the skills required by employers would necessarily endanger long-term or speculative research.

144. As discussed in paragraphs 27-29, we believe that current funding arrangements leave insufficient flexibility for high-risk research, but this problem requires additional public funding and is independent of considerations about business links.

*How do we protect the independence and integrity of universities if they have to rely on business increasingly for sponsorship?*

145. SfL believes that business sponsorship cannot be substituted for adequate public funding if our universities are to retain their tradition of academic freedom and the ability to engage in research without obvious short-term economic benefits. While there might be a place for some business sponsorship we believe that this should be clearly differentiated from the basic research programmes of a department

*Is there a clear picture of what employers want and need from graduates?*

146. We cannot comment on this for all employers. As far as scientific research is concerned, it is clear what is required of new entrants, and we believe that by and large it is being delivered, although we are concerned that practical laboratory skills are not always as good as they should be because of a depletion of teaching and technical resources

*How can we best use foundation degrees and other sub-degree programmes like HNDs and HNCs to address higher level skills shortages?*

147. HNDs and HNCs are well-established routes to 'higher technician qualifications'. Foundation degrees are a new concept, and their role is yet to be established.

148. As higher education diversifies and participation increases, it is likely that sub-degree programmes will need to expand if the quality of the honours degree is to be maintained. Such sub-degree programmes are likely to be more vocational and skills-based in nature, and in some cases may be developed in conjunction with specific employers to provide job-related yet recognised and transferable qualifications.

*Do universities do enough to prepare students for the world of work?*

149. Again restricting ourselves to our field of expertise, we believe that higher education does equip students well for careers in science, and gives those science students who will opt for other careers transferable skills that are prized by employers.

*How should universities work in their regions and local communities, and in particular with important regional bodies like the RDAs?*

150. The role of the RDAs in science is yet to be established. Because British science has such an important global presence, it is difficult to restrict universities to collaborate on a regional basis. However recent closer collaboration between Scottish Enterprise and SHFEC could serve as a benchmark.

*How does that relationship with their regions and local communities work where universities have a major international role?*

151. Universities can have several important roles in the community.

- i. They are often major employers, and play an important role in employers' organisations such as London First.
- ii. They may be major customers of local manufacturing businesses.
- iii. They can attract inward investment in the form of students from other regions and from overseas and research contracts from government or business.
- iv. Their achievements and high profile can boost the profile and visibility of the region.
- v. Some universities play a crucial role in their local economies as major tourist attractions.

