January 2005/07
Policy development
Report on survey
This report is for information

This report analyses the results of the 2004 higher education-business and community interaction survey for UK higher education institutions. It is the fourth annual survey of its kind. The 2004 survey shows continuing improvement in interactions between higher education and business by almost every indicator.

Higher education-business and community interaction survey

2002-03

Department for Employment and Learning
Higher Education Funding Council for England
Higher Education Funding Council for Wales
Scottish Higher Education Funding Council
Office of Science and Technology

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Higher education-business and community interaction survey
2002-03

To	Heads of publicly-funded higher education institutions in the UK
Of interest to those responsible for	Links with business and the community, Research, Continuing vocational education, Funding, Planning
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Executive summary
Purpose
1. The higher education-business and community interaction survey (HE-BCI) has been developed as the primary vehicle for assessing the volume and development of higher education (HE) knowledge transfer, or rather exchange, between the UK HE sector on the one hand and business and the wider community on the other hand. This report presents and analyses the results of the 2004 HE-BCI survey of UK higher education institutions (HEIs). The survey enhances and continues the work of previous surveys, the last of which was published in January 2004. All financial and related data refer to the whole academic year 2002-03; data reported for infrastructure and capacity are a snapshot of the position as at 1 October 2004. Data were collected by HEFCE on behalf of all the UK HE funding bodies.

2. Business in this context means private companies of all sizes and sectors, and public bodies (for example, both public and private bodies have 'business' needs such as IT systems and human resources consultancy). Community is taken to mean society as a whole, including all social, civic and cultural components.

3. The HE-BCI survey is carried out:

- to provide data regarding the continuing development of interactions
- to provide reliable and relevant information to support the continued public funding of the third stream of HEIs' activity
- to give HEIs good benchmarking and management information, and to develop a source of indicators at the level of the individual HEI, some of which will be useable to inform the allocation of their continued funding.

Key points

4. The survey builds on previous HE-business interaction surveys but with significant changes in both content of the questions and data collection process. To reflect the broader range of indicators covered this year, the process has been renamed HE-Business and Community Interaction Survey. Questions include numerical – including financial – sections, which often relate to changing levels of activity and output where the year-on-year trends are potentially informative and significant indicators of change. These generally reflect aggregate data for a whole academic year. Other questions which refer to more gradually evolving data, such as strategies and structures, were dealt with via the extranet; information submitted this way can be updated by the HEI as and when changes take place, and is therefore more current.

5. Data are categorised by country and English region, as with previous surveys. However, results have not been analysed by 'research profile'. (Due to the diversity of the HE sector and the rapid developments in individual institutional strategies, research profile – always a somewhat artificial categorisation – was not found to add value.) Individual HEIs are not identified. However, every HEI was given the option to permit its data to be put on CD-ROM along with other HEIs which also gave their permission. This option has been taken up by 48 per cent of HEIs, and has served to provide valuable benchmarking data for them; it also marks another step towards complete transparency which would be required if some HE-BCI survey metrics were to be used to inform the allocation of individual HEIs' funding.

6. The Government has published its response to the Lambert Review of Business-University collaborations, and incorporated it in its Science and Innovation Investment Framework 2004-2014. This framework declares support for several Lambert recommendations including the development and expansion of the third stream of HE funding, for which the main route in England is the HE Innovation Fund (HEIF). The framework states that future HEIF funding in England should be substantially by metrics-based formulae; the third round of HEIF will award funding for 2006-07 and 2007-08, and may be partially informed by data gathered under HE-BCI.

7. 164 HEIs were invited to respond to the survey (four of these HEIs chose not to provide data and were informed they would be classed as nil returns); there is one more HEI represented in the 2002-03 data set than in the capacity and infrastructure snapshot taken on 1 October 2004 due to a merger. The level of completeness of individual responses was encouraging considering the changes to the survey since last year. To ensure the data were as robust as possible, as in previous years, a range of accuracy, sanity and validity checks was carried out. Where possible, data were also correlated with data from other sources which, although not duplicating the HE-BCI survey, permitted some deductive comparisons.

8. Some of the 2004 survey results are not directly comparable with the previous years' surveys, due to changes in some questions and definitions. Having allowed for this, we can deduce the following:

a. Overall the survey data show a continuing improvement in HE-business interactions. There is evidence of growing ownership by HEIs of their own distinctive approaches to contributing to the economy and society (their third stream strategies), reflecting the diversity of the HE sector. There is an increase in the commitment to supporting small and medium-size enterprises (SMEs) and meeting regional skills needs. Provision of a single

enquiry point for business and working with SMEs to determine their needs from HE is available at 89 per cent and 79 per cent of HEIs respectively.

b. Significant increases in income are reported from consultancy (up by 38 per cent from a year ago), access to equipment and facilities (32 per cent), and regeneration funding (16 per cent). UK total collaborative research income has risen for the third year running.

c. The number of HE staff reported whose main role is working with business and the wider community is 4,134 full-time equivalents. Since this is the first time the HEIs have been asked to split such dedicated third stream staff according to the area of activity addressed, it is possible that this figure is not entirely robust.

d. The turnover of formal spin-off companies (both with and without HEI ownership) was £358 million, with an employment of nearly 13,000 full-time-equivalent staff. Intellectual property-based income, from licensing and sale of shares in spin-offs, appears to have diminished slightly – although most of the apparent drop is accounted for in English regions, and some HEIs have reported that previous years' figures may have been double counted.

e. Comparisons with data from the North American situation are complex. However, it remains apparent that 2002-03 UK exploitation of intellectual property (IP) focused more on spin-off activity and less on licensing than at HEIs in the US.

9. HEFCE, the Office of Science and Technology and other members of the HE-BCI stakeholders group (see Annex G) will review the outcomes of the survey, in preparation for the 2005 survey (which will be based on 2003-04 data). They will aim to:

- stabilise the questions and the process as far as possible, allowing future trend data to be treated with greater certainty
- increase the validity of the results
- further develop the link between the survey, HEIF 3 and other policies
- ensure that no items of data are collected if their utility is not demonstrated.

Action required

10. This report is for information.

Background

11. As many post-industrial economies become increasingly driven to value creation and the application of knowledge, these so-called 'knowledge economies' seek to engage universities and colleges more and more for economic activity and social development. This process has been apparent in the UK for the last decade through the broadening of access to the HE sector, students and academics working to break down the traditional remote image of higher education, and increasing government support for these activities.

12. The term 'third stream activity' has been coined to represent a spectrum of strategic activities within the HE sector that go beyond the core activities of teaching and research. While third stream activity relies heavily on teaching and research – for example, continuing professional development (CPD) employs many of the same resources as teaching – third stream policy focuses on enhancing the contribution of HE to the economy and society.

13. The HE-BCI survey has been developed as the primary vehicle for assessing the volume and development of HE knowledge transfer, or rather exchange, between the UK HE sector on the one hand and business and the wider community on the other. Recent enhancements reflect the increasingly diverse partnerships, range of services and contributions made by HE, and the need to develop a wider awareness of these, as well as the development of policy from Government. The 2003 HE White Paper, 'The future of higher education', notes: 'Universities and colleges are key drivers… both economically and in terms of the social and cultural contribution they make'. With these words in mind, the HE-BCI stakeholders' group (including national funding bodies, government departments and sector representative bodies) agreed to develop the survey substantially to bring it in line with the broader social and economic activities that HEIs undertake.

14. The 2003 HE White Paper also recognised the increasing importance of the regional agenda and the role that the Regional Development Agencies (RDAs) play in linking HEIs and regional priorities. In order to provide data to regionally based stakeholders, the 2004 HE-BCI survey collects data by region and economic sector (such as SMEs) where applicable. Some HEIs found it difficult to return some data in the new format used for 2004, but many accepted the usefulness of the survey for their own management and its value in informing funding and policy development.

15. The current survey, based on data from academic year 2002-03, is the first to be collected under the broader HE-BCI survey format, while being the fourth annual survey assessing third stream activities by the UK funding bodies. While changes this year have limited comparisons with previous data, the previous survey (HEFCE 2004/07) showed many encouraging increases in HE-business interaction between 2000-01 and 2001-02.

16. The third stream of funding was created specifically to encourage development of effective means of knowledge transfer – or, more accurately, knowledge exchange – between higher education institutions and business and the community. The Higher Education Reach-out to Business and the Community (HEROBC) fund in England and Northern Ireland, and the HEIF,

University Challenge (UC) and Science Enterprise Challenge (SEC), have paved the way for a permanent third stream of funding for HE in the UK.

17. The UK higher education sector is diverse: it encompasses small institutions that often have a specialist focus, a number of general colleagues and large multi-discipline institutions with, among other capabilities, an extensive transferable knowledge base. The HE-BCI survey is designed to recognise this diversity. The 2004 survey was carried out by HEFCE on behalf of the HE funding bodies for England, Scotland, Wales and Northern Ireland; the Department of Trade and Industry; and the Office of Science and Technology (OST). For more history of the surveys see 'Higher education-business interaction survey 2000-01' (HEFCE 2003/11).

18. When the first (2001) survey of HE interaction with business was launched, it stated that a medium to long term aspiration is to have a set of indicators that could, if so decided, inform allocation of the third stream of funding. However, because of the importance of assessing the activities of the whole HE sector, and taking into account the diversity of the sector, it was clear that indicators relevant for one HEI were not going to be the same as for another.

19. Many organisations outside the HE sector benefit from the HE-BCI process. These stakeholders include government departments, HE representative bodies, the Confederation of British Industry (CBI) and HESA (see Annex G). The stakeholders will have access to the full data set at the institutional level although no respondent will be publicly identified. HEFCE's Analytical Services Group has been engaged in the design, validation and analysis procedures of the survey process.

20. For more about the development and context of the HE-business interaction surveys, see the reports from previous years: HEFCE 01/68, 2003/11 and 2004/07.

Outcomes and results

21. Most, but not all, indicator and benchmark data collected in the 2004 survey show a continuing upward trend in HE-business and community interaction. The survey questions have been updated this year to focus more on those data which stakeholders believe to be most relevant. A drawback of such changes is a loss of year-on-year comparability. Some comparisons with previous surveys have been made, but only where judged to be relatively robust. The HE sector for the most part has continued to embed parts of the data capture process, especially where the data are assumed to be of future importance and where there are institutional benefits in terms of management.

22. Nearly all 164 UK HEIs responded to the survey. There is an increased completeness of survey returns, which has been aided by the move to a two-part process (Excel spreadsheet and online SQL database both available via the HEFCE extranet). The survey has collected more information this year on activity with non-commercial organisations, and on HEIs' public sector and social, community and cultural interactions.

23. The fluctuations in reported activity of various types may indicate a continuing evolution in HEIs' own planning. Such changes are desirable and necessary in the development of a diversity of missions under the 'third stream' funding provisions. Also HEIs can and do respond to the political as well as direct funding context – and to such situations as concern over tax

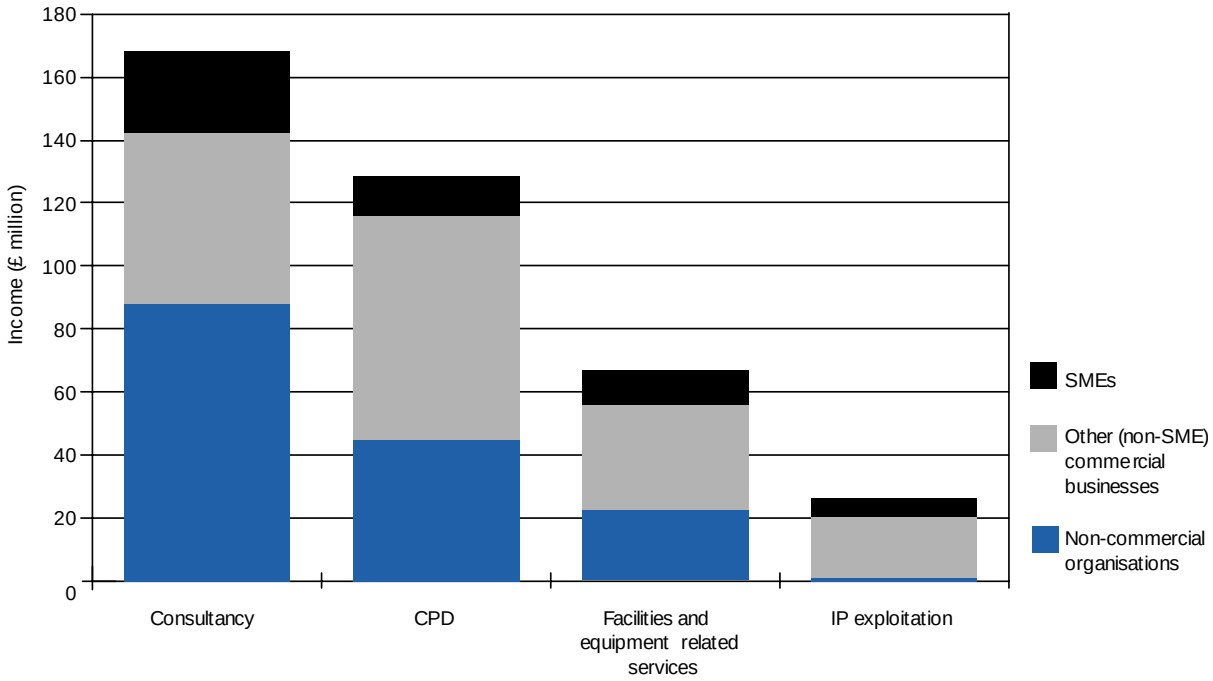
arrangements related to spin-off company formation. As the overall volume of interactions increases year on year, differential growth between activity types may lead some outputs to be seen as more valuable proxies for ultimate impact than others.

24. Data returned under benchmarking questions to the online database show a positive trend in HEIs' strategic planning on business support and, linked to this, there are more staff incentives for engagement with business. Another improvement is an increase in numbers of HE governors from outside the HE sector, the majority of these having commercial experience; this change is happening in the context of HEIs' trend toward smaller, more engaged governing bodies. Provision of access to education and research collaboration with industry are now seen as the top two areas of HE contribution to economic development, and support for SMEs and meeting regional skills needs have grown in significance.

25. Most (98) HEIs report private commercial business, and 50 report public sector partners, as the main beneficiaries of their services. However, when first and second priorities are combined, the public sector is most strongly represented. Twenty-six HEIs reported social, community and cultural (SCC) groups as their main priority.

26. Half of all HE consultancy income is from the non-commercial sector. Income from larger businesses is substantially greater than that from SMEs in consultancy, IP-related activity, access to facilities and equipment, particularly in CPD. There has been a small but continuing increase in HEIs' in-house IP capability and in those having a commercialisation company or equivalent commercially focused capability. Figure 1 shows relative amounts of income from various third stream interactions.

Figure 1 **Summary of knowledge transfer income by partner type**



27. Eighty-nine per cent of HEIs now offer a single enquiry point for business. About 79 per cent of HEIs offer assistance to SMEs in determining their needs – as a precursor to identifying the relevant resource. Total consultancy income has increased by 38 per cent.

28. Licensing activity has increased following the drop in 2001-02. Nearly half of the number of licences granted were to SMEs, and 18 per cent were granted to non-commercial organisations. The income was dominated by that from larger commercial businesses.

29. Overall reported income from IP dropped by more than 22.5 per cent (excluding sale of shares). However, we doubt that such a large reduction actually occurred in this 12-month period, and there is evidence that in previous years HEIs may have double counted IP income. The format for reporting IP-related income has been improved, and explicit guidance was issued for HEIs to avoid double counting. For 2002-03 80 HEIs have reported zero income from IP, and 45 have reported a drop from 2001-02 to 2002-03, of which seven report a drop of more than £500,000. In view of the difference over previous years, we considered asking respondents to re-calculate IP income, but felt it would be too burdensome. Greater consistency and robustness of results is expected in future surveys.

30. The turnover from active formal HEI spin-offs was reported at £358 million. These spin-off companies employ nearly 13,000 full-time equivalent (FTE) staff, even though the number of spin-offs formed has fallen from 213 to 197. Reported turnover of HE staff and graduate spin-off companies were £40 million and £106 million respectively; this is an incomplete indicator of the HEI's third stream success as the data refer to companies with which the HEI is not directly involved.

31. Income for access to equipment and facilities has risen by more than 30 per cent. The UK total collaborative research income has risen from 2001-02. Since this includes projects which may receive in-kind contributions from business – which is difficult to quantify – it will be an underestimate of the total value of business input. The largest provision of industrial research (£62 million in income) is from the clinical medicine field, which includes medical product testing. Engineering (aviation, mechanical and production) provides nearly £30 million of research income, and the biosciences over £23 million; followed by chemistry, electrical and computer engineering, and then general engineering. Overall UK companies spend around £260 million per year on sponsored collaborative and contract research in HEIs; the top 700 research and development (R&D) spending companies put over £16 billion into R&D in 2003.[1]

32. The survey included questions on interactions with 'non-commercial organisations' to recognise the importance of activity which is not primarily wealth-creating but may provide a real, if indirect, contribution to the economy, for example through more effective expenditure of public funds. Over a third of HEIs gave a high priority to their interactions with non-commercial organisations, such as local government/authorities and a range of social, community and cultural partners.

[1] Source: R&D Scorecard, DTI

33. In the context of public sector interactions, the NHS and health authorities were the highest-ranked beneficiaries of HEI partnerships, with education organisations in second place. Transport and civic security authorities were generally rated lower, although a handful of HEIs included these as first or second priorities. Over 50 HEIs identified 'other' as their first or second priority which included local government/authority, the voluntary sector and a range of specific social and civic partners.

34. Regeneration funding to HEIs has increased by around 15 per cent. The most common applications of HEI regeneration funds are: building strategic links with local industry, then facilitating partnerships, followed by fulfilling their regional mission through new services to industry. There has been a modest increase in HEIs' monitoring of labour market skills needs and reflecting this in their planning. There has been a small shift from focus on the RDA defined regions towards those defined by the HEIs as their actual area of engagement.

35. Commercial and non-commercial organisations spent nearly £130 million on education and CPD supplied by the HE sector. Of this, SMEs accounted for 10 per cent, the remainder being split between other commercial (56 per cent) and non-commercial bodies (35 per cent).

36. Comparisons with the North American HE sector are restricted, because the span of the annual AUTM surveys is narrower than that for this survey: the AUTM survey focuses on commercialisation-related data and it is limited to the top North American research institutions. Even so, the data show that UK HEIs continued to generate more than three times as many spin-off companies per £ million of research expenditure as in the US; US universities produced around one-third more patents per £ million and well over double the licence income per £ million.

37. Improvements to the survey process were expected to result in increased cost of completing the survey due to more and new data being requested. HE-BCI has an underlying aim to take account of and, where possible, minimise the burden on all parties. This year 60 HEIs did not respond to the question regarding estimated cost and time taken to complete the survey; those who did respond suggested a total of around £185,000 and over 4,300 person hours.

Next steps

38. In England the key fund to support HE knowledge transfer is the Higher Education Innovation Fund, which is jointly supported by HEFCE and the Office of Science and Technology. It incorporates and builds on earlier initiatives HEROBC, UC and SEC. Together these schemes have allocated over £400 million mainly to English HEIs for activities and actions from 2000 to 2006.

39. In Northern Ireland, knowledge transfer is promoted primarily via an adaptation of HEIF which is a joint initiative of the Department of Enterprise, Trade and Investment (DETI) and the Department for Employment and Learning (DEL), and delivered by the Regional Development Agency, Invest NI. Although the programme is very much set in the broad context of UK innovation policy, eligible activities must take account of DEL/DETI strategic priorities and also reflect the Northern Ireland Regional Innovation Strategy 'think/create/innovate'. Funding of around £9.5 million has been approved to cover academic years 2004-05 to 2006-07.

40. In Wales, HEFCW has made extensive use of HE-BCI and the preceding HE-BI surveys in establishing its new Third Mission Fund. As part of its strategy to minimise the data collection burden on HEIs in Wales, HEFCW has signalled its intention to utilise returns to future HE-BCI surveys as a key vehicle for monitoring and evaluating HEIs' contributions to the economy and society. HE-BCI survey data will also be used to inform future funding decisions side by side with the verifiable indicators of third mission performance that each HEI in Wales has been asked to put forward as part of its current three-year third mission strategy. HEFCW and the Welsh Development Agency are also analysing HEIs' third mission strategies in conjunction with their HE-BCI returns to help identify strengths to build on in Wales and areas of weakness that need addressing.

41. In Scotland, SHEFC introduced formula allocation for knowledge transfer based on activity measures through its Knowledge Transfer Grant from 2004-05 and, while aiming to maintain predictability in allocations, will monitor and keep under review the metrics used for funding purposes.

42. From January 2005, the HE-BCI stakeholders group will review the survey process and prepare for the 2005 survey which will collect 2003-04 data. The 2004 survey was substantially different to previous years, to deal with accumulated needs to refine the scope and process. The three years prior to that had seen only minor changes to questions, and this consistency enabled longitudinal comparison and testing of indicators. For the 2005 survey and beyond, further adjustments will be kept to a minimum. In time, the HE-BCI survey will provide a firm base for informing policy and funding decisions, allowing HEIs to embed their data gathering processes and to identify those data which assist internal management and inter-HEI benchmarking.

43. Refinements which may be needed in future surveys are ones that provide advantages to the HE sector and other stakeholders; they could relate to SCC areas, a more informative handling of the collaborative research data, and ensuring that regeneration data are not double counted.

44. Different data have different levels of robustness, in terms of their suitability for use as metrics in any formula and as evidence for the effective deployment of public funds to HEIs. Recently added questions on qualitative and quantitative data, such as that in the SCC section, may well be refined to ensure satisfactory usefulness and accuracy.

45. Development of the HE-BCI surveys has been closely linked to development of funding methods for the third stream of funding, in terms of shaping policy and supporting Spending Review planning. Therefore the results of the HE-BCI survey will influence the informal and formal consultations on HEIF 3 which are expected to take place in 2005.

46. The 2005 survey is expected to be launched earlier in the year than that for 2004. Responses are not likely to need as much checking by HEIs because the survey questions will be the same as this year. Since in England formula funding will be a substantial part of HEIF 3, English HEIs will have an incentive to respond accurately and promptly, which may permit an earlier finalisation date for the 2005 survey results. Speeding up the survey cycle is hoped to

occur for the following year too. The results of both surveys will help inform the 2006 Spending Review.

47. Some indicators may be summed and viewed as a group (for example income from consultancy with contract research), to allow more valid overall 'value' comparisons across the diverse sector. Similarly, some income measures can be an important indication of external partners' valuation of the partnership or service enabled or provided by an HEI. These are examples of how the survey data might be applied as they become increasingly robust year on year.

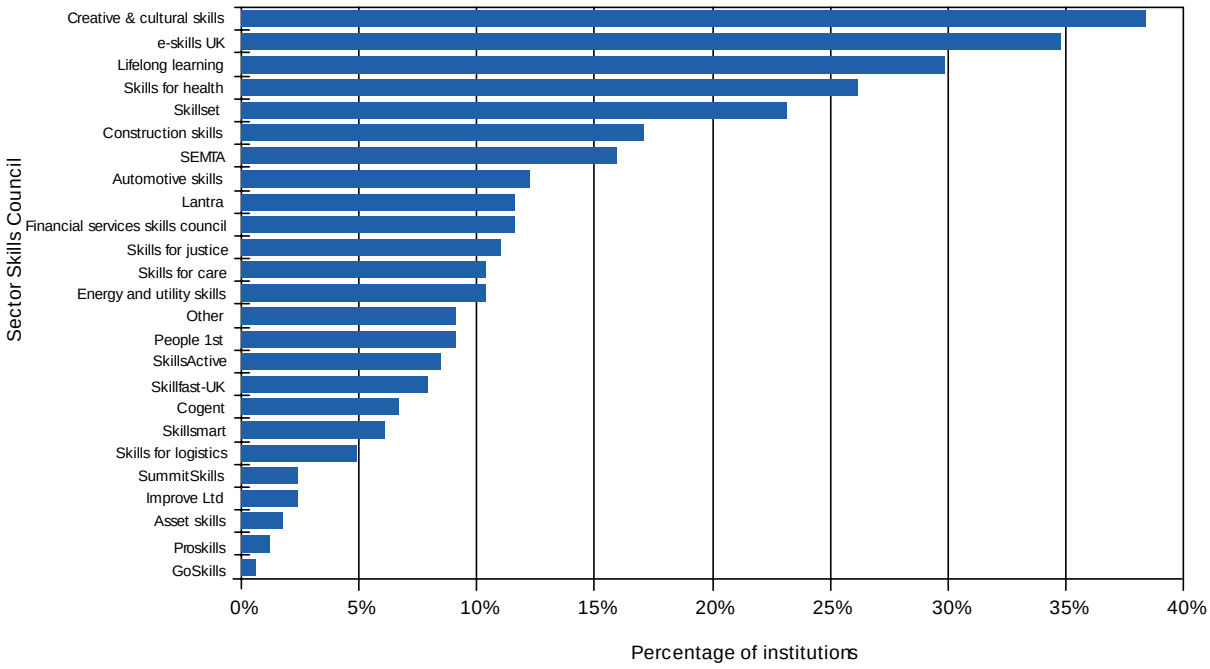
Analysis

Strategy

48. HEIs are becoming increasingly strategic in pursuit of their diverse third stream aims. The growth in knowledge transfer activity seen in previous HE-BI reports has continued, evidenced by benchmarking of strategic plans for business support including financial incentives offered to staff for engaging with business and the community.

49. The majority of HEIs (98) reported private commercial business as the main beneficiary of their services, and 50 HEIs reported public sector partners. However, when first and second priorities are combined, the public sector is most strongly represented. Twenty-six HEIs reported social, community and cultural (SCC) groups as their main priority. HEIs were asked for the first time to state which Sector Skills Councils they strategically engage with (see Figure 2). Data returned show the Creative & cultural skills council was the most common of these, identified by nearly 40 per cent of HEIs. As the Sector Skills Councils continue to develop their work with HEIs and employers, these engagements will undoubtedly become more important for more HEIs.

Figure 2 **Proportion of HEIs engaging with Sector Skills Councils as part of institutional strategy**



50. Previous HE-BI surveys asked HEIs to select priority sectors or clusters from a list that was developed to focus on some of the key knowledge transfer sectors. In the HE-BCI survey reported here this classification has been replaced by Standard Industrial Classification (SIC) codes to make the data more transferable to other users. Data returns show that the two most common SIC fields of work are 'Education' and 'Health and Social work'. The next priority was 'Other community, social and personal service activities', followed closely by 'Manufacturing', which encompasses several categories of previous HE-BI surveys.

51. The highest number of HEIs reported that the selected SIC sectors with which they worked most were those having 'best fit with the institution's strategy'. 'Response to demand from companies in these sectors' was the second highest response, with a similar level for HEIs following 'priorities in RDA regional strategies' and identifying 'important business clusters in its region'. These data suggest that the UK HE sector is becoming increasingly strategic, with individual HEIs playing to their strengths and addressing regional priorities, rather than trying to adopt a standard model.

52. In Table 1, providing access to education remains the highest priority in terms of contribution to economic development, as expected. Respondents were asked to select only the top three areas of economic impact, and therefore the results show increases in some categories and decreases in others. 'Supporting SMEs' and 'Meeting regional skills needs' have attracted a higher number of responses than the previous survey, while only technology transfer has dropped substantially – although it is possible that this is a relative rather than absolute change.

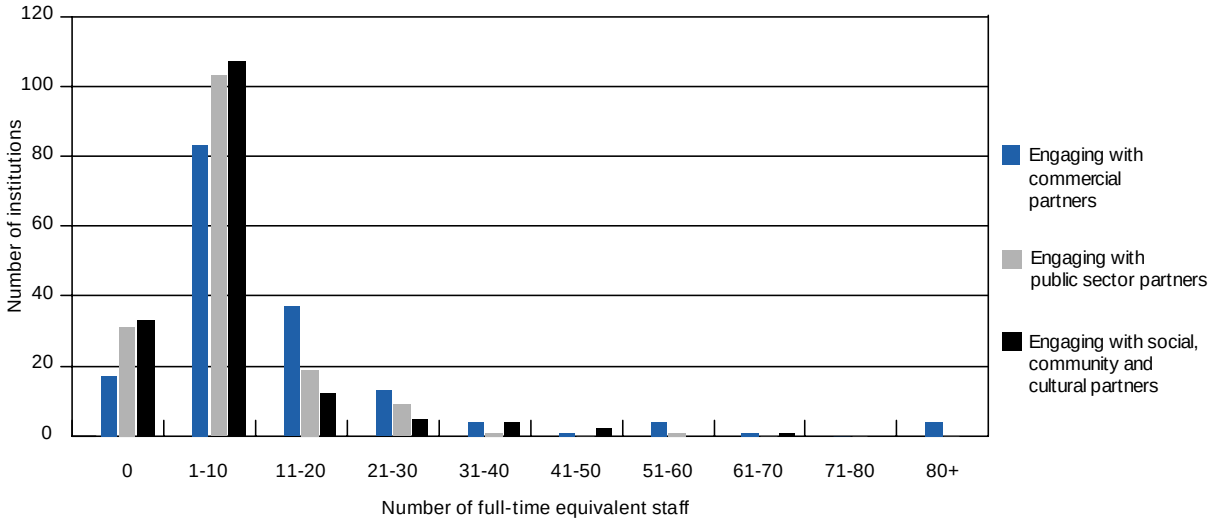
Table 1 **Economic development priorities (proportion of HEIs)**

Areas of activity	**England**	**Northern Ireland**	**Scotland**	**Wales**	**UK**
Access to education	55%	50%	84%	69%	**59%**
Research collaboration with industry	38%	0%	37%	38%	**38%**
Meeting regional skills needs	38%	50%	16%	46%	**36%**
Technology transfer	29%	100%	53%	31%	**33%**
Supporting SMEs	34%	50%	11%	38%	**32%**
Meeting national skills needs	28%	0%	16%	15%	**26%**
Developing local partnerships	23%	0%	21%	8%	**21%**
Attracting non-local students to the region	17%	0%	11%	8%	**15%**
Graduate retention in local region	12%	0%	16%	15%	**13%**
Support for community development	11%	0%	11%	23%	**12%**
Spin-off activity	5%	50%	11%	8%	**6%**
Attracting inward investment to region	6%	0%	5%	0%	**5%**
Management development	4%	0%	0%	0%	**3%**
Strategic analysis of regional economy	0%	0%	5%	0%	**1%**

Infrastructure

53. One of the original aims of the HEROBC fund in England and similar schemes elsewhere in the UK was to assist HEIs in establishing and enhancing their capacity to respond to the needs of business and the wider community. Such capacity needs to be deployed in the appropriate infrastructure, such as dedicated staff and operational management processes. A common early use of third stream funding was to establish a central office or unit to liaise with external partners and clients. The majority of HEIs report increased engagement with commercial, public and SCC partners since the last survey. This suggests that third stream funding is having the desired effect in building capacity and fostering an enterprise culture within HEIs.

Figure 3 **Number of FTE staff employed in dedicated business and community (third stream) function**



54. Figure 3 shows the frequency distribution of dedicated third stream staff by the main activity they are involved in. There are now over 4,000 FTE staff employed in this capacity in the UK. Around half of these are reported to focus primarily on engaging with commercial partners, with the remainder split slightly in favour of public sector partners. Some specialist colleges employ a high number of dedicated third stream staff in relatively similar roles to the industrial liaison officers that has been traditional in some research-led HEIs for over a decade. Some HEIs did not return these data.

55. The new HE-BCI survey distinguishes between staff engaged in a facilitation role (dedicated third stream staff, shown in Figure 3), and the mainstream academics who deliver the required service or engage in the particular partnership (Figure 4). For example, a client interested in contracting a research project may deal first with a business development manager (BDM) who then introduces the client to a suitable (research-active, for example) member of staff. The majority of institutions reported up to 20 per cent of their staff (excluding dedicated third stream staff) as active in the delivery of third stream services, but some were unable to provide even an estimate.

Figure 4 **Proportion of staff (% of academic staff) directly involved in providing services to business and the community**

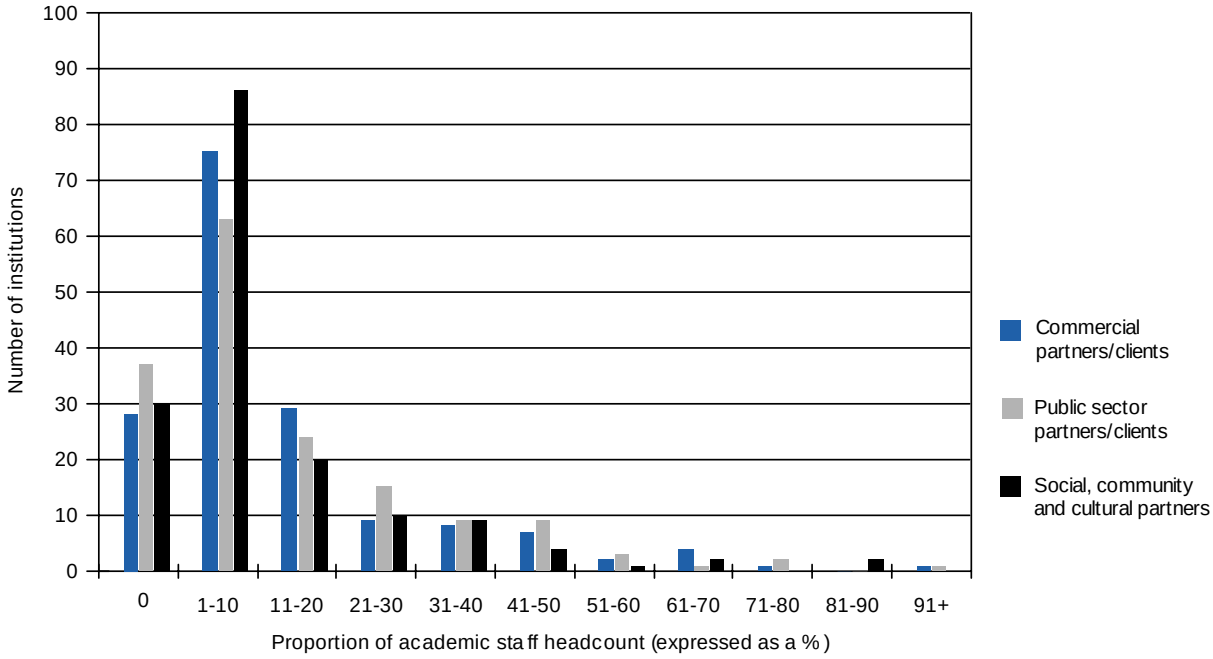
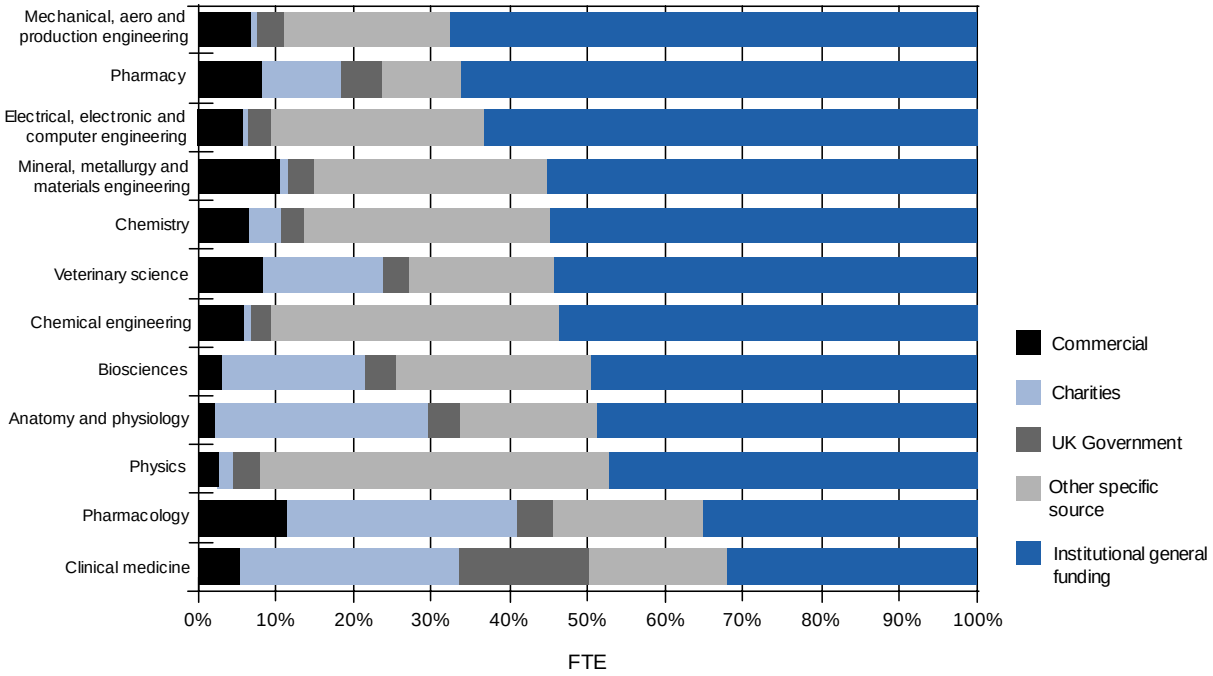


Figure 5 **Sources of funding for academic posts (by selected cost centres)**



Source: HESA staff record 2002-03

56. Data taken from the HESA staff record (see Figure 5) provide information on sources of funding for academic posts. A predictably high number of medical-related staff are supported from non-commercial external funding, whereas commercial grants provide a higher proportion of other (such as engineering) externally funded posts.

57. HEIs reported that about two-thirds of their governors are drawn from outside of HE, with the majority of these having a background in commercial business (see Table 2). Nearly two-

thirds of responding HEIs report representation of the SCC sectors on their governing body and a quarter report no public sector representation.

Table 2 **Number of governors and proportion by sector**

Region or country	Total number of members on governing body	Percentage from commercial business	Percentage from public sector organisations	Percentage from social, community and cultural groups	Percentage from other
North East	123	31%	41%	7%	20%
North West	324	33%	17%	6%	44%
Yorkshire and the Humber	271	33%	8%	8%	51%
East Midlands	234	32%	20%	11%	37%
West Midlands	283	34%	41%	14%	11%
East of England	201	42%	16%	9%	32%
London	1,067	34%	19%	7%	40%
South East	469	36%	29%	8%	26%
South West	303	44%	15%	14%	28%
England	**3,275**	**35%**	**22%**	**9%**	**34%**
Northern Ireland	63	24%	25%	8%	43%
Scotland	463	33%	18%	6%	43%
Wales	326	25%	21%	20%	35%
UK	**4,127**	**34%**	**21%**	**9%**	**36%**

58. As HEIs continue to embed third stream activity, there has been a consistent increase in in-house IP management capability (see Figure 6). Many HEIs have used public funding to establish and staff these offices, and many are expected to become self-sustaining in the longer term. In many HEIs IP exploitation is viewed as an integral part of the third stream spectrum, and a single unit is responsible for facilitating all third stream interactions.

59. The number of HEIs with an internal department for managing consultancy (Figure 7) is higher than the number with an internal department for the exploitation of IP. These two activities have much in common, for example, customer relationship management and contractual negotiation, so this suggests that knowledge transfer is more important to the majority of HEIs than IP exploitation. The survey questionnaire allows HEIs to indicate that both internal departments and external agents may be used by the HEI as required.

60. Figure 8 shows that most HEIs have a range of infrastructure available to support external interactions. SMEs often comment on the complexity of approaching potential HEI partners, which raises the question of HEI responsiveness. Nearly 90 per cent of HEIs now offer a single business enquiry point (some of which are not limited to links with SMEs). Almost 80 per cent of HEIs specifically offer assistance in determining the needs of an SME in order to more efficiently

direct them to their knowledge transfer services. Development of a more professional and open access approach for consultancy and other interactions by HEIs has helped engender wider adoption of standard good practices for managing and developing these links.

Figure 6 **Proportion of HEIs with capability to seek licensing opportunities**

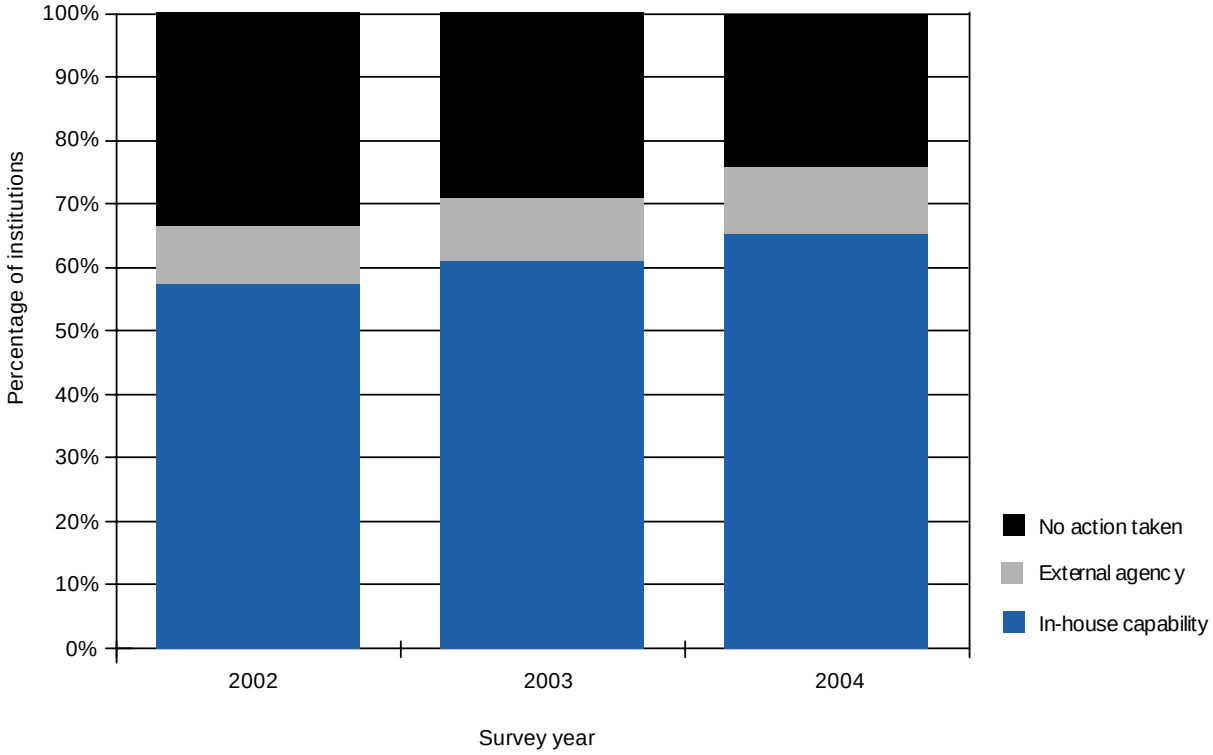


Figure 7 **HEIs' method of managing consulting links**

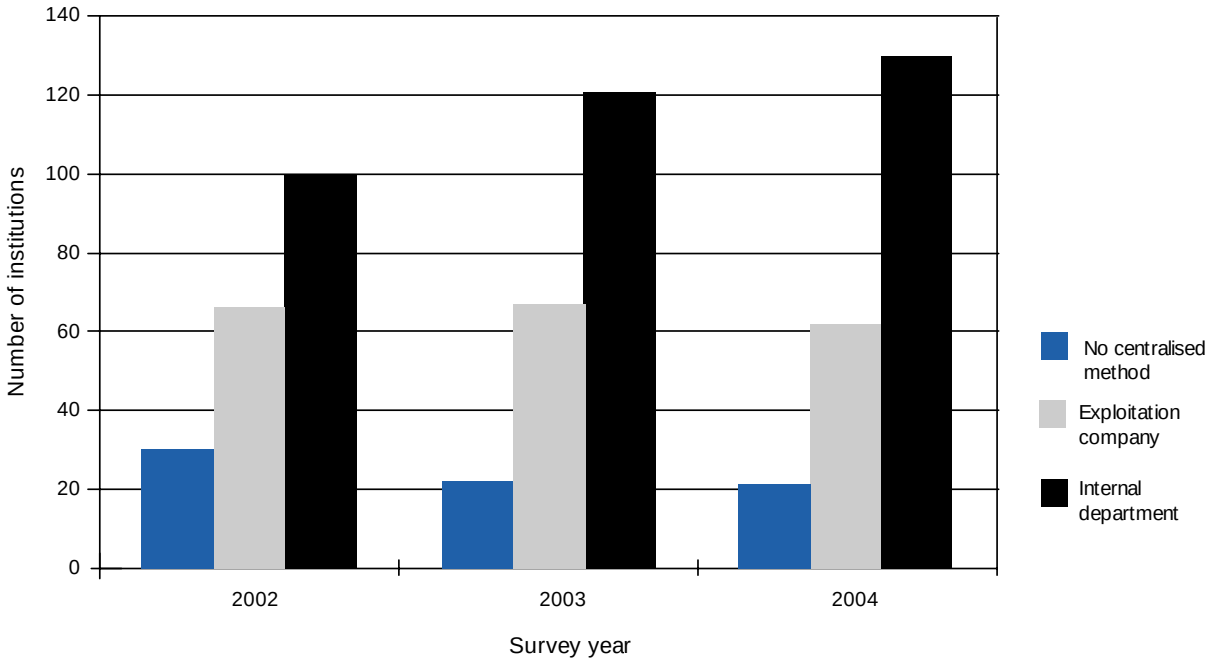
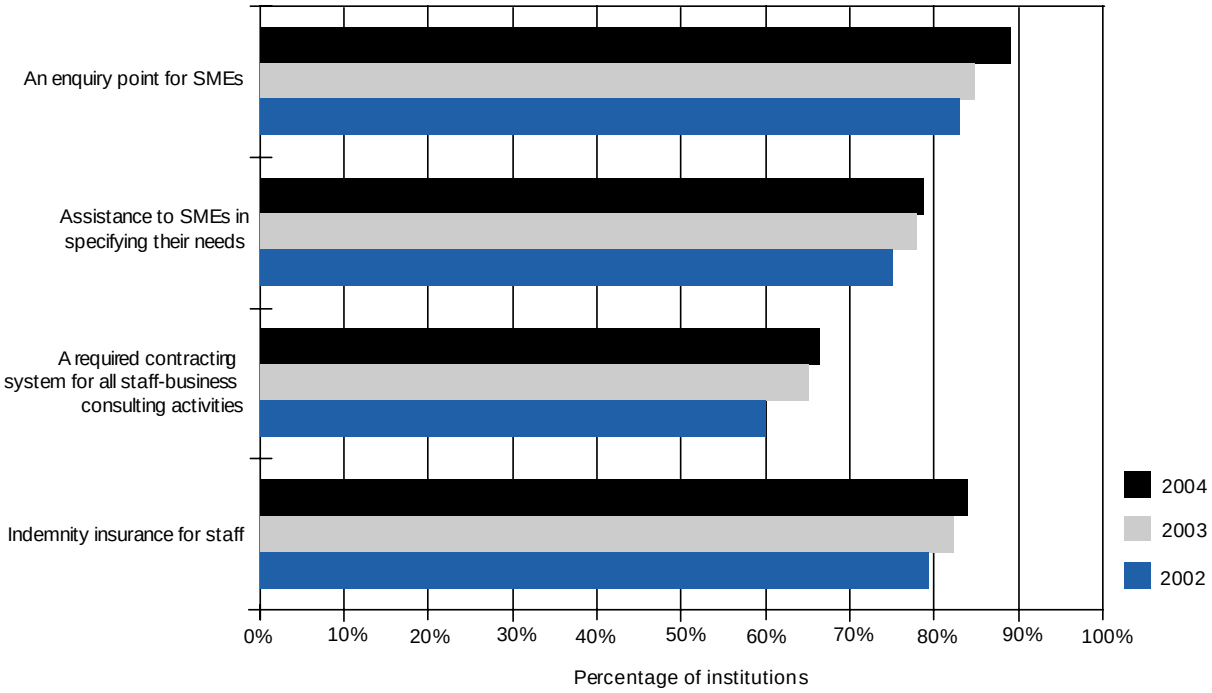


Figure 8 **Proportion of HEIs offering consultancy and other support**



Research-based interactions and intellectual property exploitation

61. Much third stream activity is linked to research, that is the creation of knowledge. However, with increasing levels of collaboration among HEIs, it may be that business and community partners can best access the knowledge they need through a single point of knowledge transfer expertise. For example, academics from one HEI may provide consultancy and testing using equipment from a partner HEI as part of a regional collaboration.

62. While financial figures are subject to a number of caveats, including the effects of increased reporting, consultancy income has increased in real terms in each of the last three years (see Figure 9).

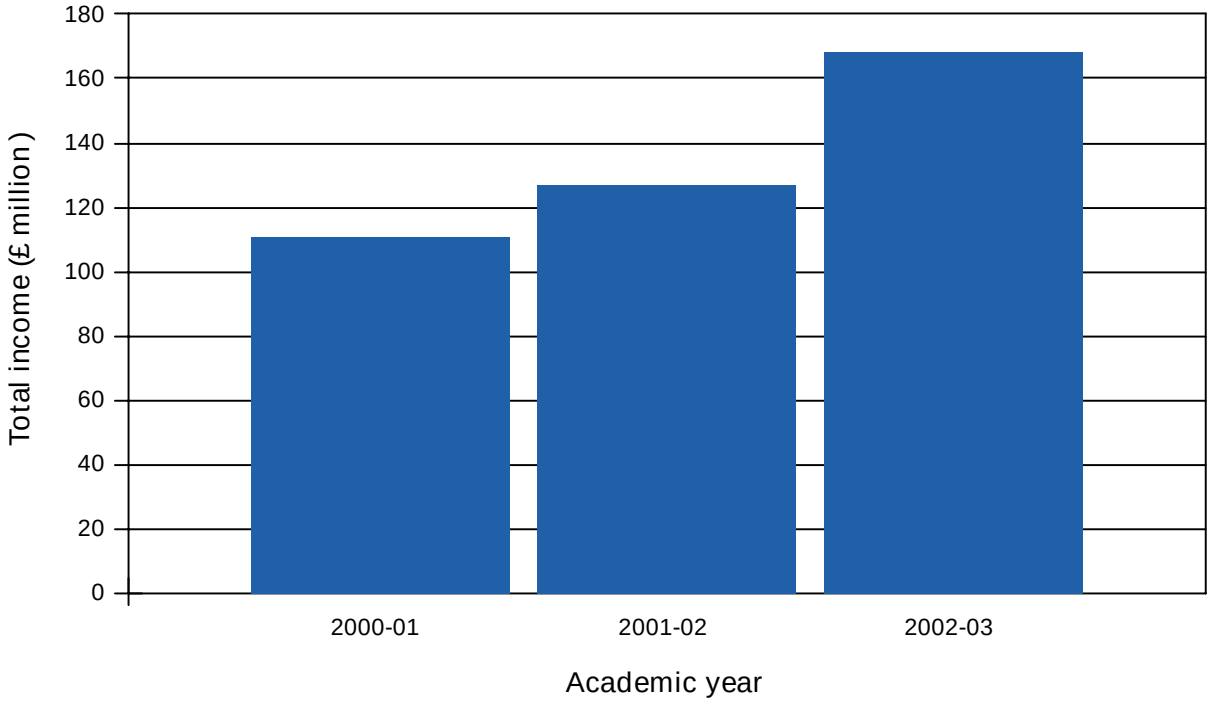
63. Many HEIs have used third stream funding to embed consultancy activity more effectively, or at least to monitor it centrally. Academic staff are being encouraged to interact with business and the community, and more HEIs are recognising these activities in terms of career progression; 66 per cent of institutions require staff to report contract activity. Some of the reported increases may therefore be due to more academics taking advantage of the benefits offered through central infrastructure; for example, 84 per cent of HEIs now offer indemnity insurance for staff.

64. The process of creating, protecting and exploiting IP can be costly, time-consuming and prone to risk. Some institutions have developed a high level of expertise over the years in identifying potentially profitable research activity, attracting financial and commercial support and exploiting the outcomes.

65. Figure 10 is a diagram of the research exploitation process (assuming that only promising ideas will be progressed at each stage). It may be possible to assess IP exploitation quantitatively and qualitatively by measuring the volume ratio between the various stages. This

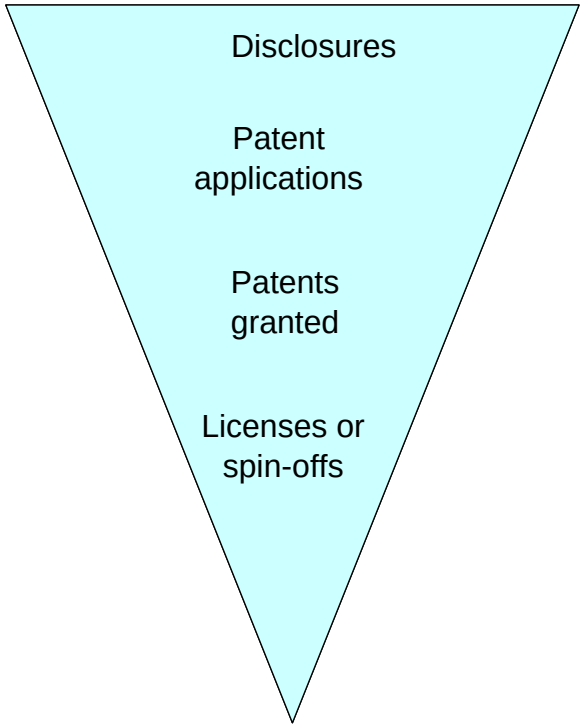
model cannot be applied to a single year, because patents granted will be based on applications filed some years previously. Simple measures of volume at any single stage are not necessarily valid as indicators of activity to inform funding.

Figure 9 **Total income from consultancy (real terms*)**



* 2000-01 and 2001-02 have been adjusted to 2002-03 prices.

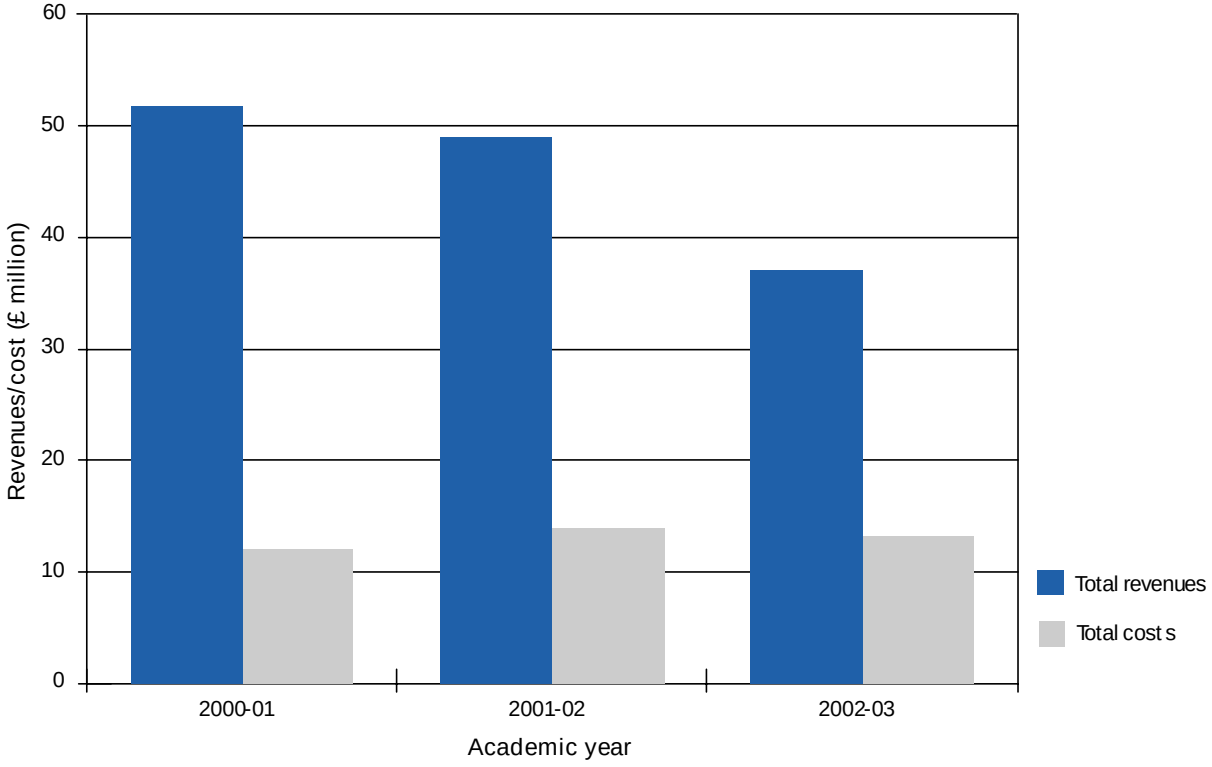
Figure 10 A simplified research exploitation process



66. The reported number of disclosures has risen steadily over the last three years (see Figure 12), although increases in the UK total mask variations at national and regional levels. The majority of both disclosures and licences arise in HEIs that have high levels of research income, where the scale of the knowledge base may make it financially practical to support a professional IP team.

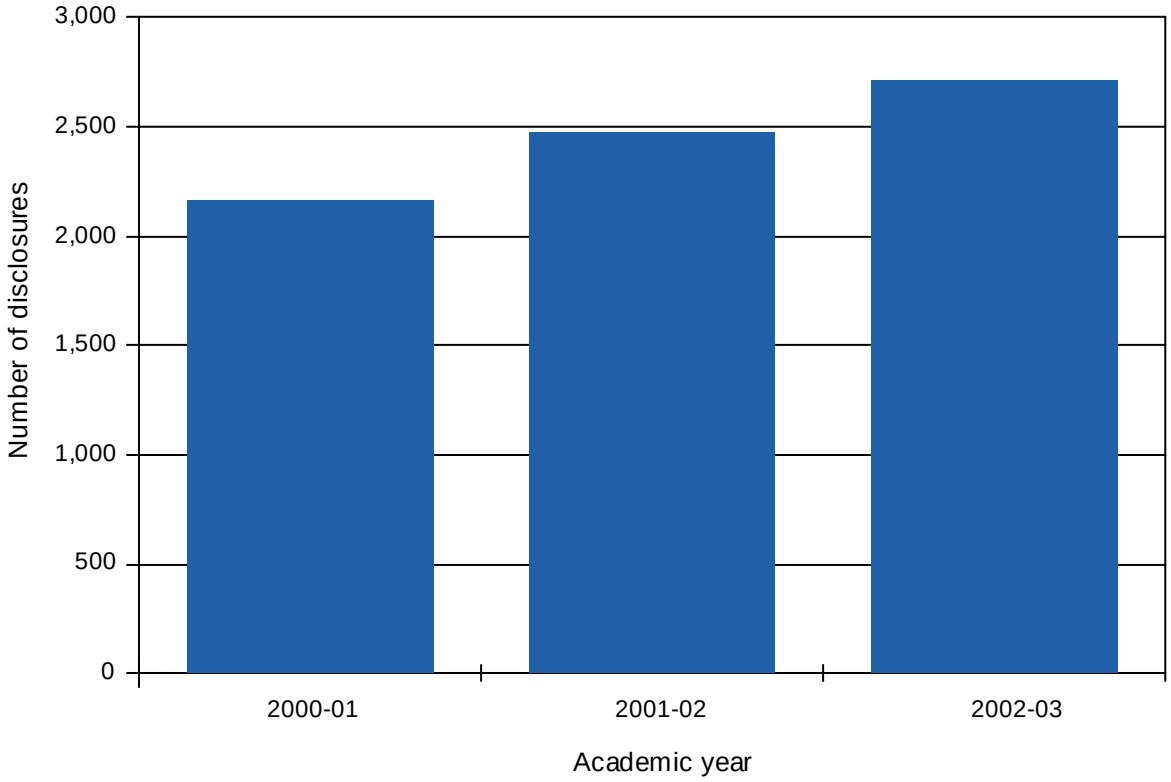
67. Total IP-related income has apparently decreased since the previous survey (see Figure 11). Fluctuation in revenue from the sale of shares in spin-off companies could be responsible for some of this effect, but some respondents have suggested that there may have been instances of double counting in previous years (for example, between IP activities and consultancy income), as 2002-03 was the first year with explicit instruction to report financial income in only one section of the survey. While reported protection costs are roughly constant, it is likely that full IP protection costs (in other words, costs beyond patent registration fees and the costs of specialist staff) are only partially represented in data returned under HE-BCI. However, anecdotal evidence suggests that there is progressively more accurate judgement in the targeting of IP expenditure.

Figure 11 **Total revenues and costs of IP related activities (real terms*)**



* 2000-01 and 2001-02 have been adjusted to 2002-03 prices.

Figure 12 **Number of disclosures made by UK HEIs**



68. Increased numbers of disclosures shown in Figure 12 are likely to result from a combination of an increase in volume of research and the effects of culture change and awareness arising from third stream development. HEIs which are raising the priority of their third stream actions now often have specialist staff, such as commercialisation officers, actively identifying opportunities for the exploitation of research. There may be a contractual impact on publication (the traditional model of research dissemination) of commercially sensitive results, particularly where this involves contract or collaborative research.

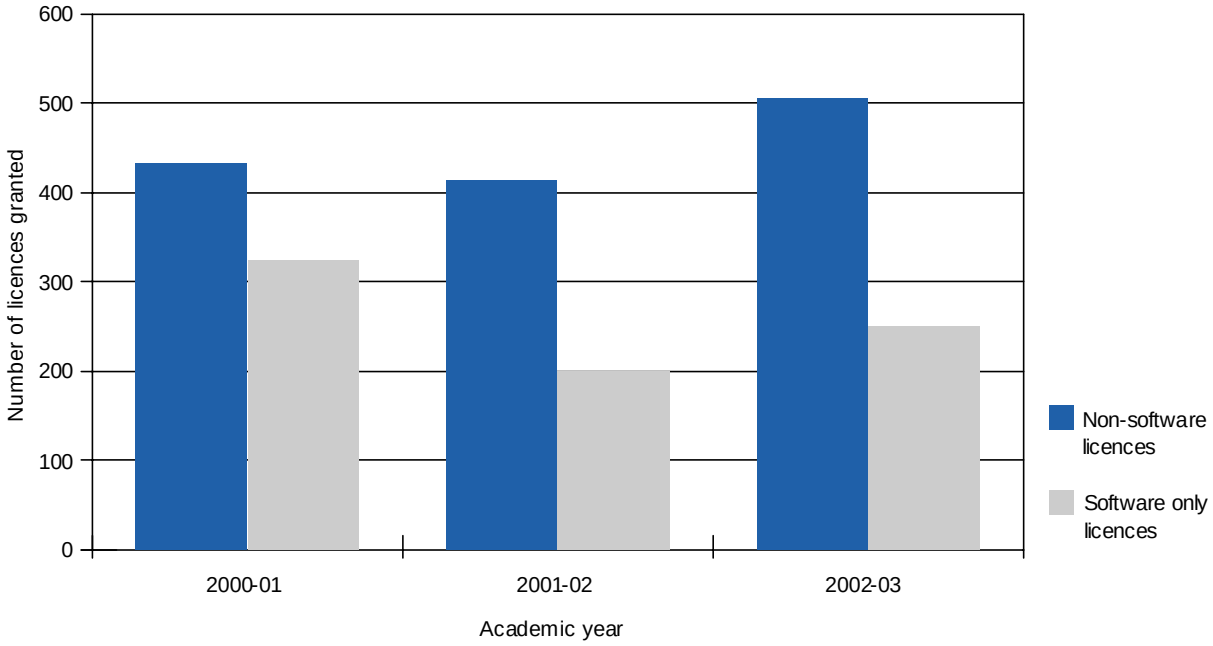
69. The 2002-03 survey had a much improved format for requesting data on patent process. In previous years, HEIs had been requested to return only one instance of a patent being granted, even if it was registered in more than one territory; however, 2002-03 data reflect all patent instances. This accounts for the apparent large increase in the cumulative number of active patents (from 1,907 in 2001-02 to 3,923 in 2002-03). HEIs reported 1,188 active non-UK patents, which implies that 2,735 are active in the UK. These data will become more informative as a time-series is developed, but for 2002-03 all UK nations saw increased patent applications and only Northern Ireland had fewer patents granted than the previous year.

70. Licence numbers for both software and non-software have increased following a drop in 2001-02 (see Figure 13). Previous reports noted that the effect of the ‘dot-com bubble’ of 2000-01 produced artificially high figures.

71. Research undertaken in UK HEIs provides the knowledge base for much of the interaction between these HEIs and business and the community. The volume of these interactions is measured by the annual HE-BCI surveys; successive Research Assessment Exercises (RAEs)

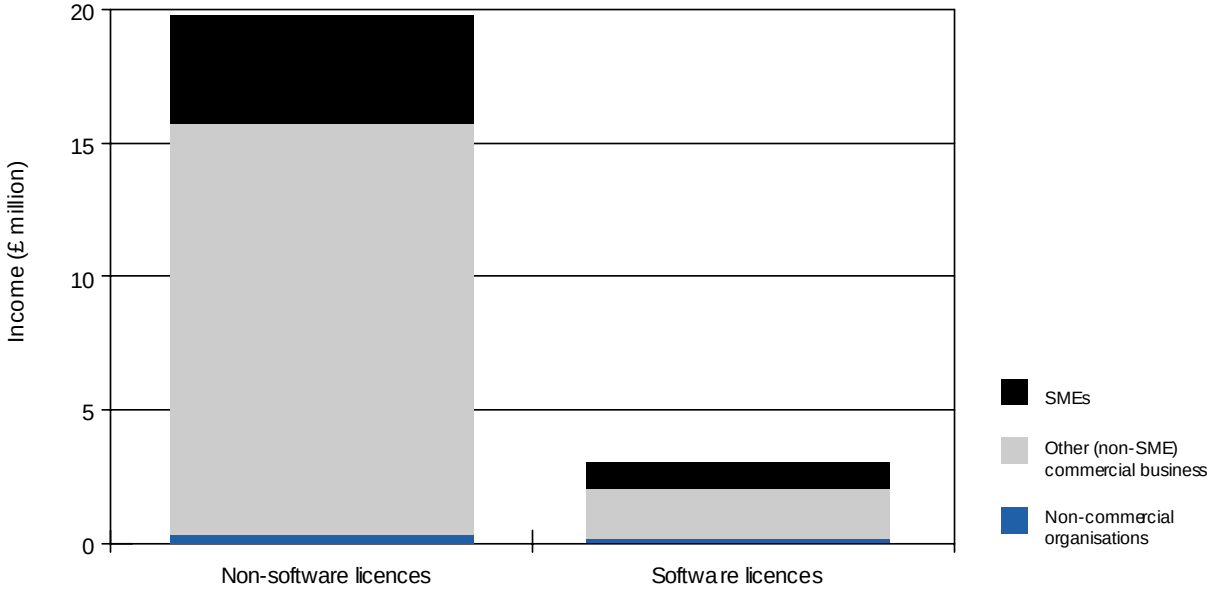
have assessed the excellence of this and other research. The 2008 RAE assessment panels will consider the quality of all types of research and all forms of research output, including applied and practice-based research, on a fair and equal basis. For further information visit www.rae.ac.uk.

Figure 13 **Number of licences granted by UK HEIs**



72. Of the 758 licences granted by UK HEIs in 2002-03, nearly half (362) were to SMEs. Fewer (137) were issued to non-commercial organisations, with the remainder for other commercial partners. Licensing is an excellent example of knowledge transfer benefiting many sectors of the economy and of the commercial value of HEIs' intellectual property. More evidence is required from the non-HE partners themselves to be able to accurately measure the ultimate impact of this knowledge transfer.

Figure 14 **Income from licences, by sector**



73. The overall income to the UK HE sector from licensing activity approaches £23 million, with over £17 million of this figure being generated by non-SME commercial business (see Figure 14). Other IP income for UK HEIs is from copyrights, designs and trademarks, and from the sale of shares in spin-off companies. These factors bring the total IP-related income to around £37 million in 2002-03, while reported costs for IP protection total around £13 million. These figures must be treated with caution, though, because many HEIs report that they are unable to accurately estimate the full costs of the research and exploitation activities (and the many staff involved), and it is likely that true costs are substantially higher. It should also be noted that in each of the survey years there have been instances of very significant levels of income from the sale of a single spin-off company. In 2002-03 over £9 million of the total IP income may be accounted for in this way. While these success stories are welcome and motivating for academic staff and institutions involved, it would not be sensible to expect these levels of return from more than a small minority of companies.

74. The number of new spin-off companies (not including staff and student start-ups) has fallen from the 2001-02 level to 197 (of which 177 have some HEI ownership). The total number of new and existing active spin-off firms is 945, with 566 having survived for at least three years. Nearly £360 million in turnover and almost 13,000 FTE staff are reported in relation to active formal HEI spin-offs in 2002-03. Many HEIs do not hold staff and turnover data centrally – in part because of the separate legal and commercial status of such companies – and therefore the picture is likely to be incomplete.

75. While figures collected for staff and graduate start-up activity are less directly representative of central HEI strategy (as the HEI has no IP involved), they are valuable for assessing the wider impact of HE on the economy and society. In 2002-03 more than 70 start-up companies were created by HE staff and nearly 500 by graduates. Turnover of staff and graduate start-up companies are reported as over £40 million and about £106 million respectively, although these data do not show the complete picture. One research-strong HEI volunteered an estimate that 45 per cent of graduate start-ups are in the creative and cultural sectors. As with a number of economically motivated actions, the HEI may facilitate this activity without expectation of any income being returned; this is an example of serving the public interest.

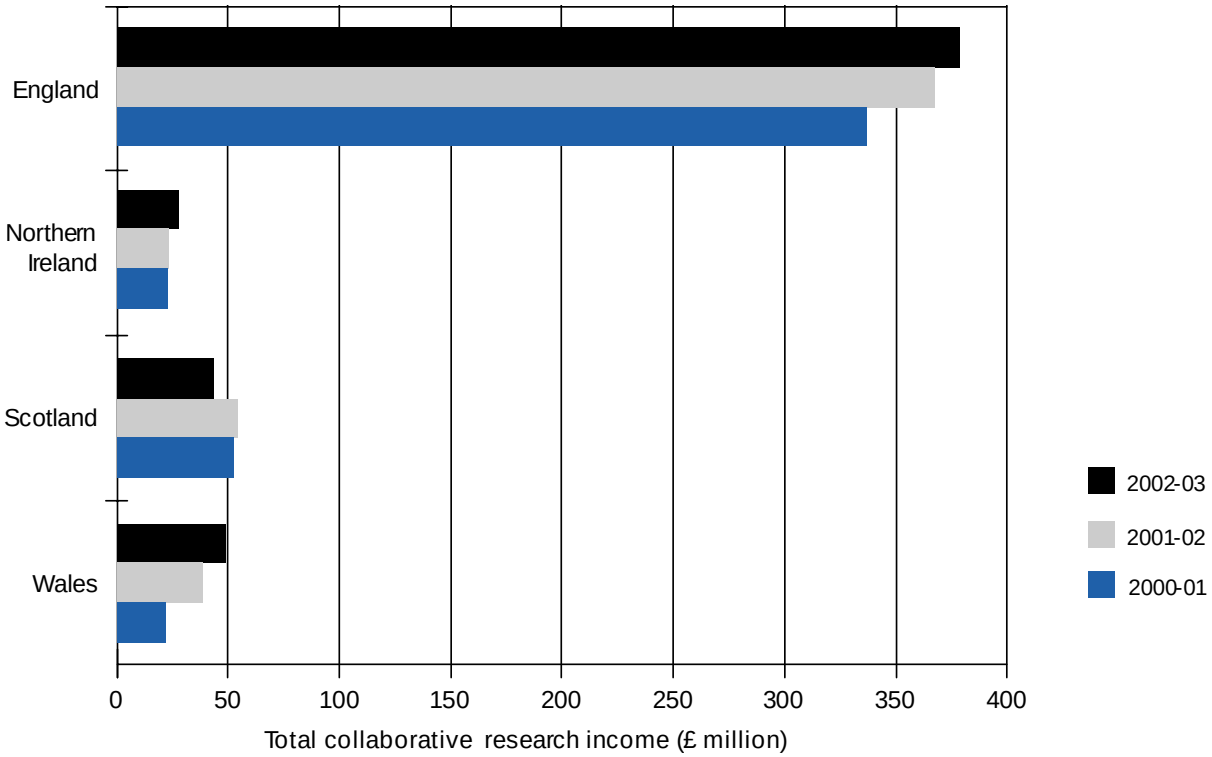
76. Consultancy and licensing may be seen as prime examples of responsive knowledge transfer, while collaborative research is perhaps a better example of knowledge exchange. Collaborative research projects vary considerably in terms of contractual arrangements and outputs. It is common for shared use of equipment and other varieties of in-kind contribution from business or public sector collaborators to form part of the project terms, and it is therefore difficult to gather robust data on the non-HEI contributions to these interactions.

77. While financial indicators give only a partial picture of collaborative research activity, data over the last three years (shown in Figure 15) show overall increases in UK activity despite variation at the national and regional level.

78. HE-BCI data is the most complete data source of UK HE third stream interactions, but data collected through other sources such as HESA can provide further detail, for example by subject cost centre.

79. Figure 16 shows HEIs' industrial research income as returned in the HESA Finance Statistics Return (FSR). Income for clinical medicine is more than double the next largest category. This point has been remarked on by a number of HEIs when making HE-BCI returns. It is accepted that activity such as the testing of new medical products, in some places, is captured under HE-BCI criteria. However, the clinical medicine category includes activities which are often far removed from an HEI's central third stream activities, and the income related to clinical medicine could therefore exaggerate that category's third stream significance. The relative scales of income from other categories is a more robust indication of the effect of HEIs' approach to interactions with industry. The apparent dominance of clinical medicine becomes even clearer when charity and government funding is included.

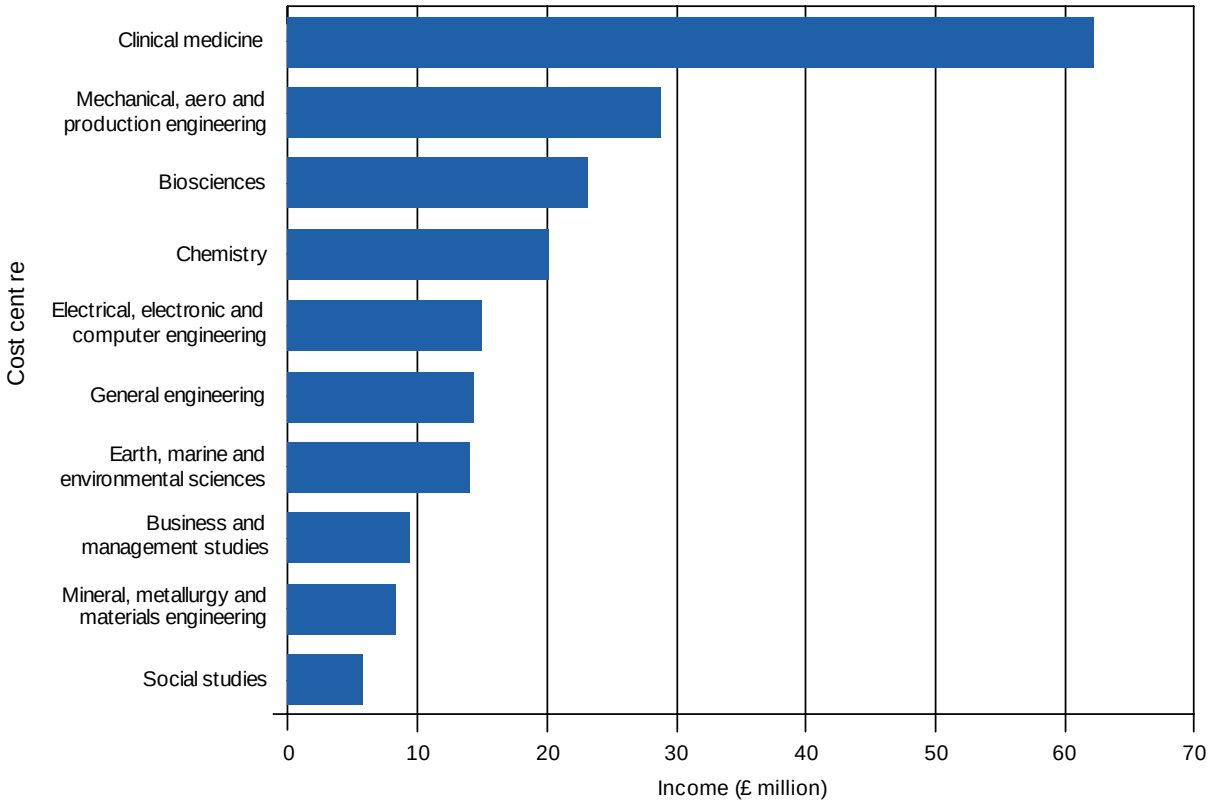
Figure 15 **Income from formal collaborative research (real terms*)**



* 2000-01 and 2001-02 have been adjusted to 2002-03 prices.

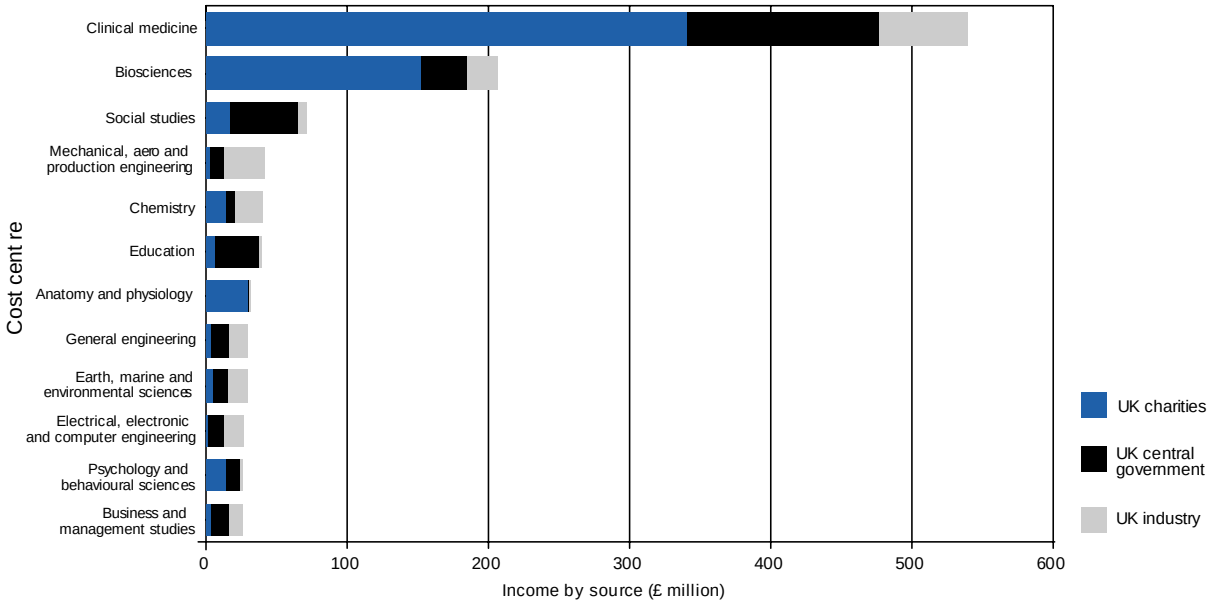
80. Figure 17 shows the relative significance of funding from UK industry and that from charities and Government (excluding the Research Councils). Over £300 million per annum is spent on clinical medical research by charities in the UK; there is also substantial charity funding of the biosciences, and anatomy and physiology. Central government research funding for medicine outweighs the industrial contribution, and provides substantial funding for social sciences and education. Industrial contributions still account for much research funding related to engineering and chemistry.

Figure 16 **Research income from UK industry (by selected cost centres)**



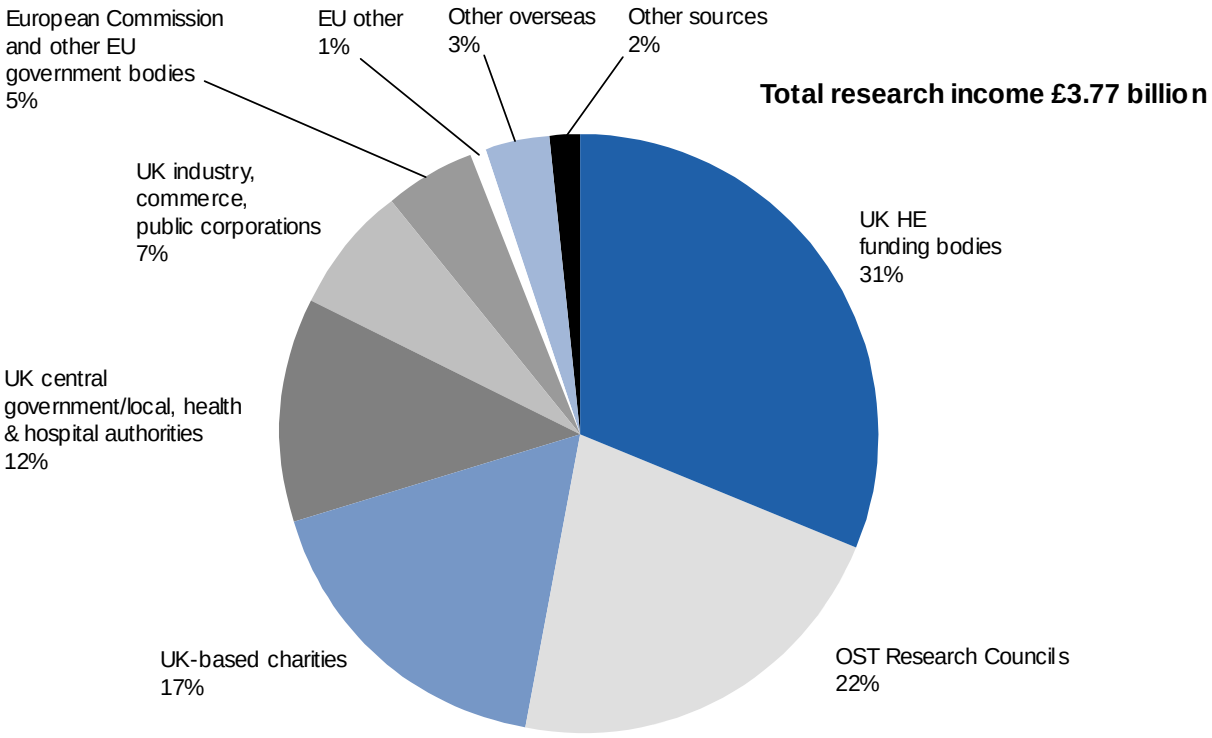
Source: HESA FSR 2002-03

Figure 17 **Major sources of research income by sector (by selected cost centres), 2002-03**



Source: HESA FSR 2002-03

Figure 18 **All sources of research income for UK HEIs, 2002-03**



Source: HESA FSR 2002-03

81. In Figure 18, total research income is shown in relative proportions. UK industry, commerce and public corporations account for just 7 per cent of the total, which suggests that HEIs may have been justified in focusing their income generation elsewhere. However, much of the funding allocated by Research Councils in particular include the requirement for (some of) the funding to be matched from other sources, including business. While complete Research Council figures are not available, 43 per cent of EPSRC grants by value include formal collaboration with a third party[2].

82. The UK's largest 700 R&D spending companies spent around £16.6 billion on research and development in 2003. This compares with UK companies spending around £250 million each year on sponsored collaborative and contract research in HEIs. As company R&D spending is expected to increase in the future with the introduction of tax credits, there is considerable potential for a much larger amount of commercial research to be funded in HEIs[3].

83. Data collected on contract research income appear to be flawed. While the sum of contract research income from commercial partners correlates closely to data returned through HESA, income from non-commercial partners is suspiciously high. It is understood from some HEIs that basic research grants from Research Councils have incorrectly been included due to perceived ambiguity in the survey guidance. This question will be improved for the next survey, and it is likely that comparison with the 2002-03 figure (£659,708,000) will therefore not be robust.

[2] Source: EPSRC

[3] Source: R&D Scorecard, DTI

Social, community and cultural (SCC) activities

84. The 2004 HE-BCI survey seeks to gather data on the third stream spectrum more fully than previous survey reports, to recognise the whole range of third stream activities undertaken by HEIs, which are a reflection of the richness and diversity of the UK HE knowledge base. This has been facilitated by adding the 'non-commercial organisations' category (which is likely to include the majority of public sector and SCC interactions) to financial and numeric indicators, and adding some pilot questions to begin to assess SCC activity – that is, activity that is not primarily wealth-creating but often makes a real, indirect contribution to the economy. This area of analysis will be considered more fully in future surveys.

85. Previous surveys attempted to capture engagement with non-commercial bodies by using a broad definition of business to include 'companies of all sizes and sectors and a range of bodies in the wider community'. This suggests that there should not be substantial increases in data returned under the new category. However, the size of increases at the HEI level and in regional tables imply that some HEIs have returned data they had not included previously.

86. Where new questions have been included, many respondents provided useful data despite some perceived ambiguity in the questions. Nearly half of UK HEIs reported that staff are contractually allowed to spend 1-10 days per year providing services to social and community groups, civic authorities, broadcast media and cultural events. Twenty-five HEIs allowed more than 10 days for this, although it is understood that this time may be generally free for business and community activities rather than specifically for SCC activity.

87. Measurements for social, community and cultural activity would ideally reflect the benefits delivered, so while commercial companies may well be involved in non-commercial partnerships with HEIs ('social entrepreneurship') and these partnerships may even generate financial surpluses to be reinvested, the primary measurements of value are typically the social benefits, benefits to local communities, improved opportunity and enhanced quality of life. 'Civic' benefits are also delivered by HEIs, but these can either benefit the city/town (and thereby be local authority/public sector related), or benefit citizenship and the role of the concerned citizen. The survey therefore avoids using the term 'civic' in this context, while recognising that such activities will be reported under public sector or SCC, depending on where the impact is sought.

88. To develop further mechanisms of evaluating this area of knowledge transfer and related activity in non-financial terms, HEIs were asked to note specific SCC activities and outputs, and suggest how they could be used as indicators. Due to the diverse nature of the HE sector, the many highly individual and socio-economically desirable activities noted would be difficult to robustly monitor without a substantial degree of additional burden, despite delivering very real benefits such as job creation and social regeneration, reduced crime and enhanced opportunity.

89. Quantitative measures suggested by HEIs included using indicators such as number of programmes of free/chargeable events open to the public, or number of attendees at such public events (such as lectures from any discipline, recitals, art exhibitions, and theatres). The number of targeted services for particular community groups (for example, IT training for the elderly) was also suggested as a quantitative measure, as well as number of partnerships with museums and

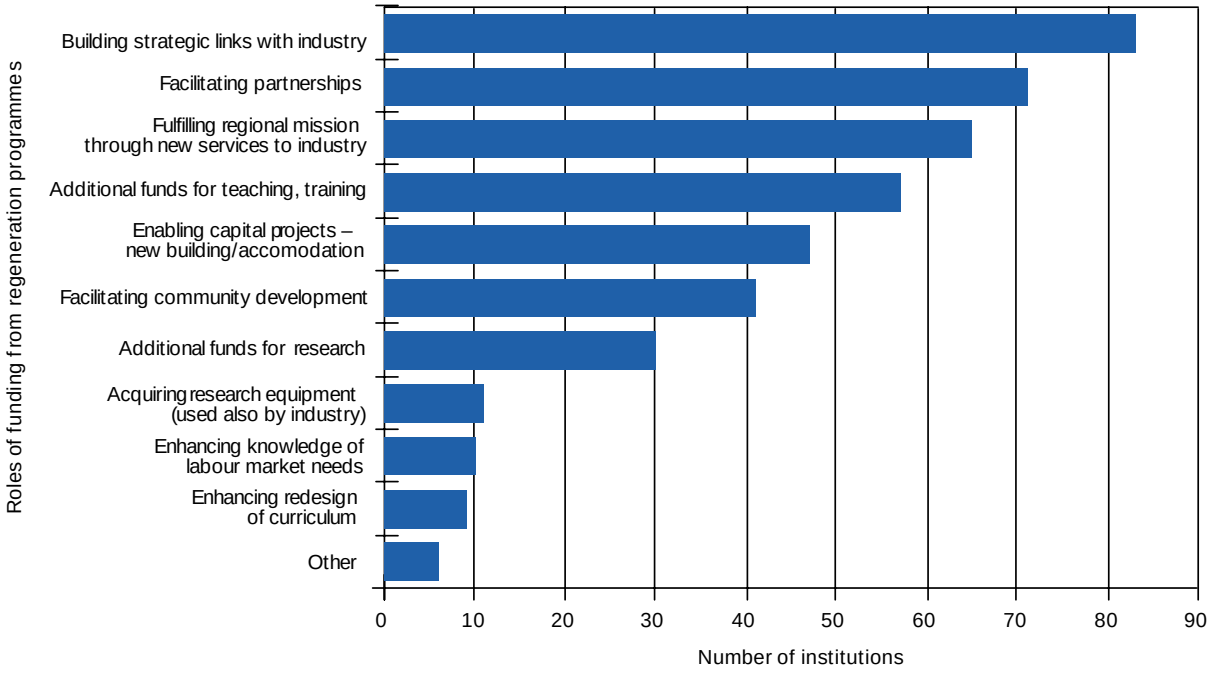
galleries. However, such numbers would not be an accurate proxy for actual impact, although they would be useful indicators of activity, especially if compared year-on-year.

90. Popular responses from HEIs, when asked what activity is not assessed through HE-BCI, also include staff and student volunteering, staff representation on regional and national boards and HEI engagement with local schools, community groups and clubs. Some uncertainty about the boundary between third stream SCC activity and widening participation activity was evident in responses: essentially the former is generally HEI staff-related, while the latter is very much student/prospective-student focused, including related aspirations. While the same activity may, in a few cases, serve both causes, they should be distinguishable in terms of which strategy they support. A handful of respondents felt that there is limited scope for any robust measurement of SCC activities.

Regeneration

91. Regeneration is not a subset of knowledge transfer but is a broad area of activity in itself. There is some crossover between SCC and regeneration activities, but this section focuses on those activities that actually have the badge 'regeneration'. Many of the social and economic benefits of HEIs working with business and the community contribute directly to regeneration of the locality and region. Many HEIs receive regeneration funding either directly or through collaboration with other partners. Where HEIs are asked to compare their levels of engagement with local and regional partners, the majority of HEIs showing change have reported increases.

Figure 19 **Most important role of funding to UK HEIs from regeneration programmes**



92. HEIs reported regeneration income approaching £150 million for 2002-03. The largest share was allocated through RDAs, although income from the European Regional Development Fund and European Social Fund was almost as high. The most common role of regeneration funding for HEIs was 'Building strategic links with local industry', with

facilitating partnerships and regional mission falling into second and third place respectively (see Figure 19).

93. A number of HEIs highlighted the potential for ambiguity in reporting on regeneration funding, from EU sources for example, to provide services such as consultancy. Some HEIs are believed to have returned contract numbers as consultancy while the payment for these was returned as regeneration income; for example, an HEI may have reported separately under these headings, a target of assisting 50 SMEs through consultancy and an income of £100,000. In reality this is an example of the mixed economy portfolio which HEIs have to manage; such portfolios optimise both funding and outcomes.

Education and CPD

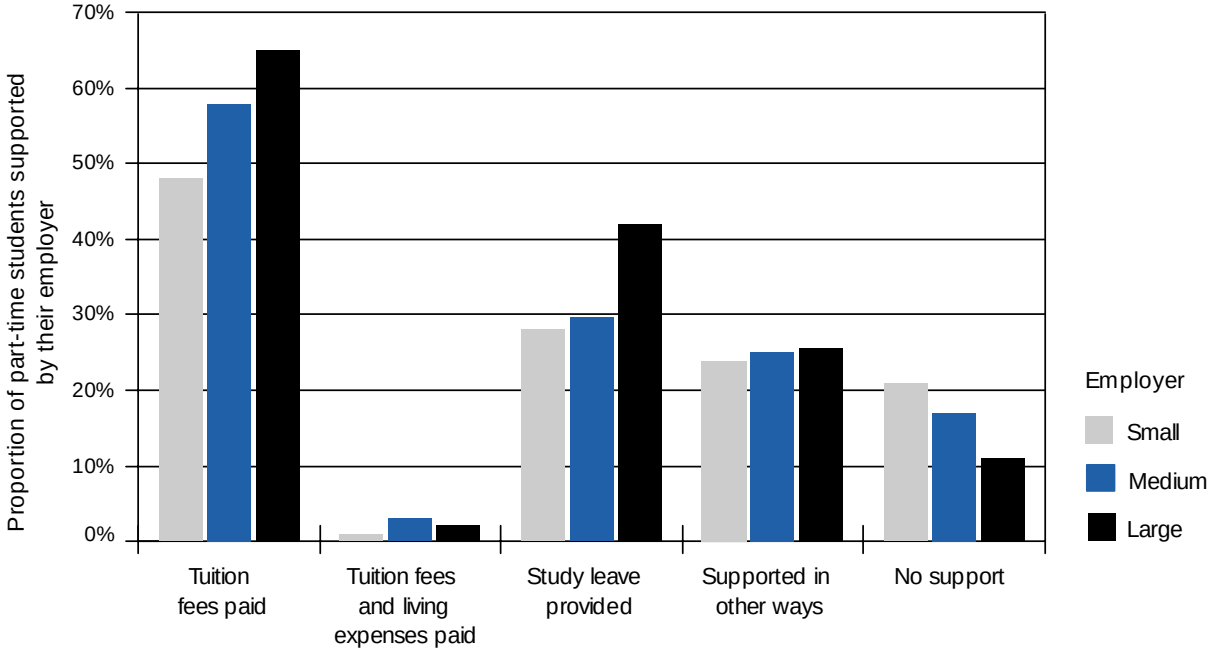
94. While some third stream activities such as licensing rely heavily on research infrastructure, many business and community partners look to HEIs to provide teaching-related services. Some of these activities, such as student placements, focus on both undergraduates and postgraduates, with the main impact being enhanced employability of the student. In other interactions, an employer may pay for a number of its staff to attend CPD courses (in-house or remote from the employer), the impact being increased effectiveness for the employer. A third group of activities includes courses delivered to the public and benefiting the local community through access to the range of an HEI's teaching and learning resources.

95. Data on CPD and related teaching are extremely difficult for HEIs to gather in a complete and robust manner due to the wide range of types of provision on offer. Almost £130 million was spent by commercial and non-commercial bodies on education and CPD for their employees from the HE sector in 2002-03. SMEs account for around £13 million (10 per cent), with the rest split between commercial (56 per cent) and non-commercial (34 per cent) organisations.

96. Individuals whose undergraduate studies were supported by their employer are an indication of core interaction between HE and the economy. Data collected under the Destinations of Leavers from Higher Education (DLHE) survey, shown in Figure 20, are split by size of employer, but do not discriminate between commercial and non-commercial sectors. However, of the 9,000 individuals who were supported to progress their career, around half have their tuition fees paid by their employer although very few also receive living expenses.

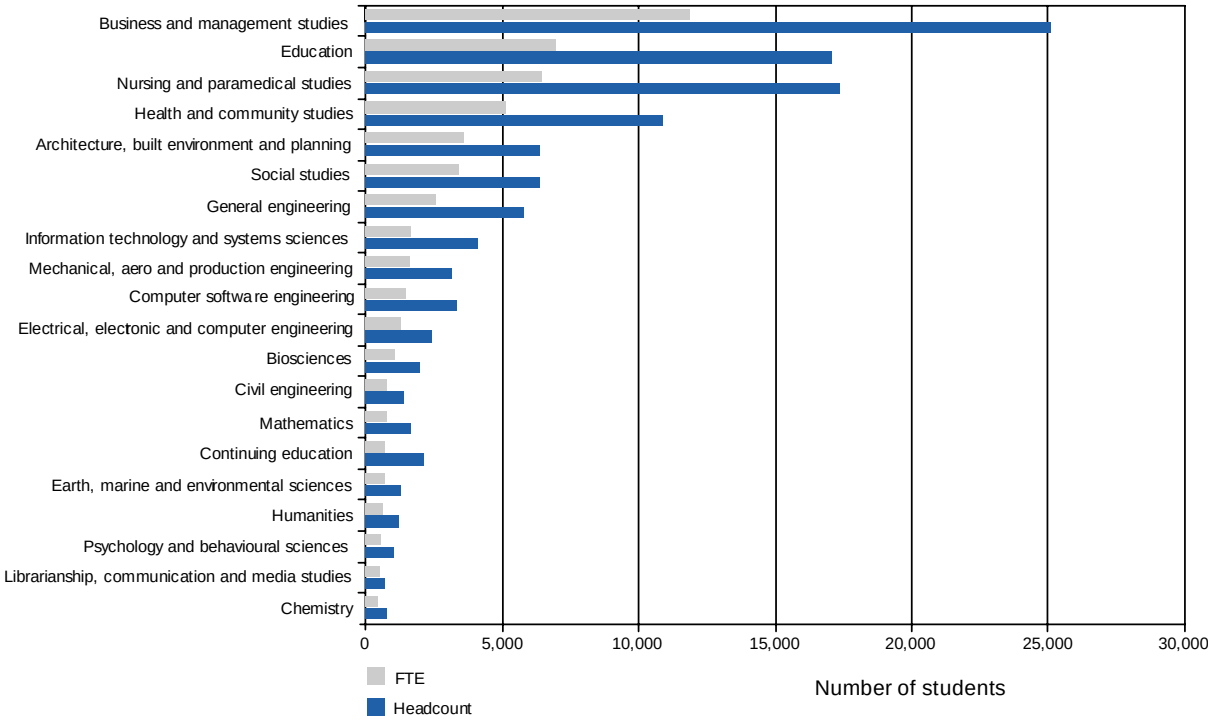
97. Data returned under the HESA student record, while not directly comparable with that from DLHE referred to above, are provided by subject of study (cost centre) in Figure 21. These data show that the largest number of supported students (those whose fees are paid by their employer) are on courses related to business and management.

Figure 20 **Provision for part-time students from employer, by size**



Source: HESA DLHE. Small organisations are defined as having less than 50 employees; large have more than 250 and the remainder are classified as medium.

Figure 21 **Students with employer support, by subject (selected cost centres)**



Source: HESA student record 2002-03

Annex A Full data by region and nation

Annex B Questionnaire part A (strategic/qualitative questions)

Annex C Questionnaire part B (numeric/financial questions)

These annexes can be downloaded from the HEFCE web-site under Publications.

Annex D
International comparisons, IP-related

1. In order to compare the UK HE sector with those of other countries, internationally equivalent statistics must be available. For the US and Canada the Association of University Technology Managers (AUTM) Licensing Survey collects information for North American HE institutions similar to that gathered in the HE-BCI survey in the UK[4]. Currently few other internationally comparable data are collected, although work has begun on benchmarking within the EU[5].

2. Comparing raw data may not be useful in itself because this does not consider the different numbers and sizes of institutions in each country; any useful benchmark must take these factors into account. Benchmarking is also difficult because definitions used may vary from survey to survey. In this case AUTM samples only the top North American research institutions rather than the whole HE sector. For this reason some form of normalisation is needed to allow for valid comparison. As in previous HE-BI surveys we have used research expenditure as the most appropriate proxy for unit resource, as this information is available for both UK and US institutions.

3. US HE institutions in the AUTM survey generated 364 spin-offs from a research base of £21 billion, which contrasts with 197 from £3.4 billion in the UK HE-BCI survey during the reporting period. US institutions formed one spin-off for every £60 million of research expenditure compared with around £17 million per spin-off in the UK.

4. International differences in the handling of patent awards make them a less robust comparative indicator. This year the total number of patents (including overseas) awarded to UK institutions (371) has been collected, and we can compare this to the number of US patents awarded to US universities (3,109). This works out at 1.1 patents for each £10 million of research spending in the UK, compared with 1.5 patents for US universities. This difference could in part be explained by the vast differences in the cost of producing patents in different research areas[6]. For example, US companies working in pharmaceuticals and biotechnology produce just one patent per £10 million of R&D spending, whereas electronic and electricals produce seven. The patents of UK HEIs in the HE-BCI survey reflect the UK research base as a whole, with a concentration of patents in medical and biotechnology, and it is these areas which have the highest research costs per patents produced.

5. Licensing of technology (only a part of wider knowledge exploitation) provides another route for income generation and for delivering benefit. Comparing licence income (excluding equity sales) as a percentage of research expenditure, US institutions generated 3.1 per cent compared to 1.1 per cent for UK institutions during the HE-BCI reporting period.

[4] Data quoted here are from the AUTM Financial Year 2002 report

[5] ProTon Europe www.protoneurope.org

[6] Source: R&D Scorecard, DTI

6. Taken together, the licensing and spin-off data suggest that different strategies dominate the exploitation of IP in the US and UK. US institutions perform more strongly in licensing than UK HEIs, whereas UK HEIs form new spin-off companies more readily.

Table A
Commercialisation activity in the UK and US, 2002-03

	US universities AUTM survey	UK HEIs HE-BCI survey
Number of institutions	156	165
Research expenditure Industrial (£000s)	1,599,540	201,770
Research expenditure Public (£000s)	13,436,672	2,220,742
Total research expenditure (£000s)	21,081,281	3,418,501
New patents granted	3,109	371
Patents per £10 million research expenditure	1.5	1.1
Licences	3,739	758
IP income from licensing, other and spin-off sales (£000s)	643,166	37,079
Licence income as percentage of total research expenditure	3.1%	1.1%
Spin-off companies formed	364	197
Research £ expenditure per spin-off (£000s)	57,916	17,353

Source of US data: AUTM Financial Year 2002 report
Source of UK data: HESA FSR 2002-03 and HE-BCI survey 2002-03

Notes to Table A

7. The total number of UK HE institution spin-off companies in Table A is derived from the HE-BCI survey, including both those with some HEI ownership and those companies that use HE intellectual property as a basis for their operation.

8. UK research expenditure is derived from the HESA FSR 2002-03, Table 6 Expenditure by Activity: Total research grants and contracts. This comprises aggregate research funding from OST Research Councils; UK charitable income; UK central government; local, health and hospital authorities; UK industry; commerce; public corporations; EU sources, and other overseas income[7]. Institutions are free to use their total block grant funds for either teaching or research as they feel appropriate. Since full expenditure details of the block grant are not collected it is assumed, in this calculation, that all of the research block grant funds are spent on research, and therefore research income from the Funding Councils has been used as a proxy for expenditure.

9. The US figures are from the AUTM survey. The number of start-up companies formed is divided by the total sponsored research expenditure. The start-up companies defined in this survey are those dependant on institutions' technology for initiation, and so are equivalent to those spin-off companies recorded in the UK's HE-BCI surveys. Research expenditure is taken over the 2002 US fiscal year. It should be noted that Canadian institutions do not currently return staff salaries as research expenditure, and as no data are available it is not possible to provide a meaningful benchmark for these institutions.

[7] Table 6 does not separately identify spend on Funding Councils' block grant for research

10. The exchange rate used is the annual average spot rate for 2002 from the Bank of England and is 1.5035 US dollars to the £.

References

Association of University Technology Managers Licensing Survey: FY2002

Annex E
Development of the HE-business and community interaction survey

1. As recommended in the report based on 2001-02 data (HEFCE 2004/07), the HE-BCI stakeholders group reviewed the survey format and process, considering developments in third stream policy and activity since the original brief in 1999.

2. The data collection exercise was run from the HEFCE extranet, an authenticated and encrypted web-site that is increasingly being used for data collection from each HEI. Questions regarding capacity and infrastructure were made available online, which allowed data to be entered directly into the dedicated HEFCE database. Questions relating to financial and numeric outputs from 2002-03 (such as numbers of patent filings and income from consultancy) were collected in a Microsoft Excel spreadsheet, which also contained data returned the previous year by that HEI. The spreadsheet contained validation checks to aid HEIs in completing the return (these have been described in previous reports) and, following completion, was submitted via the extranet and uploaded into HEFCE's survey database.

3. The data held in the online database should reflect the current position, and HEIs need update these data only as and when there are developments. The next survey cycle, however, may include amended questions, and HEIs' will be notified of any changes when they are prompted to update their strategic, benchmark and capacity data. The data collected in the spreadsheet refer to academic year 2002-03 and will likely be requested annually.

4. Many institutions have commented that additions or developments, and even relatively minor changes to definitions, have significant effects on the ease of capturing data and the reliability of any time series to be reported. The HE-BCI stakeholders group recognised this when collating questions for the 2004 survey, and has been careful to balance the extra burden and loss of year-on-year comparability against the need to drive the survey forward so as to more fully reflect the current third stream landscape.

5. To introduce HEIs to the new survey format and process for the 2004 survey, seminars for HEIs were held in May 2004 in London, Newcastle and Birmingham. The events were well attended showing an encouraging growth of awareness of the survey. During these sessions a number of further refinements were suggested by attendees. Some have been incorporated already while others would have presented too great a change to implement this year.

6. The stakeholders group was aware that even minor changes to the survey have a knock-on effect in terms of validity of year-on-year data comparisons. For this reason changes between previous surveys had been limited. Considering the need to update the survey to an extent where data could be used to inform funding decisions for 2006-07 however (the timescale for the third round of the HE Innovation Fund), it was agreed to consolidate a number of key significant developments in 2004. This allows one year for HEIs to make adjustments to their data-capture systems before the baseline is re-established through the survey on 2003-04 data, and then stabilised with the 2004-05 data.

Annex F
List of abbreviations

AURIL	Association for University Research & Industry Links
AUTM	Association of University Technology Managers
DLHE	Destinations of Leavers from Higher Education
DTI	Department of Trade and Industry
EPSRC	Engineering & Physical Sciences Research Council
EU	European Union
FSR	Finance Statistics Return (HESA)
FTE	Full-time equivalent
FY	Financial year
HE	Higher education
HE-BCI	Higher education-business and community interaction (survey – formerly HE-BI)
HE-BI	Higher education-business interaction (survey)
HEFCE	Higher Education Funding Council for England
HEFCW	Higher Education Funding Council for Wales
HEI	Higher education institution
HEIF	Higher Education Innovation Fund
HEIF 3	Third funding round of the HEIF
HEROBC	Higher Education Reach-out to Business and the Community
HESA	Higher Education Statistics Agency
IP	Intellectual property
OST	Office of Science and Technology
R&D	Research and development
RAE	Research Assessment Exercise
RDA	Regional Development Agency
SCC	Social, community and cultural (see paragraph 84)
SEC	Science Enterprise Challenge
SEMTA	Science, engineering and manufacturing technologies awards
SHEFC	Scottish Higher Education Funding Council
SME	Small and medium-size enterprise (for definition of SME in this report see www.euresearch.ch/fr/2120.htm)
UC	University Challenge

Annex G
HE-BCI Stakeholders group

Adrian Hill	Higher Education Funding Council for England (Chair)
Patricia Ambrose	Standing Conference of Principals
Catherine Benfield	Higher Education Statistics Agency
Linda Bradley	Department for Employment and Learning
Tim Bradshaw	Confederation of British Industry
Teresa Cooper	Higher Education Funding Council for Wales
Ian Harrison	Department of Trade and Industry
Tim Horton	HM Treasury
David Leech	Research Councils UK
Amber Longstaff	Department for Education and Skills
Helen Mansfield	Universities UK
Michael McPartlin	Scottish Higher Education Funding Council
Gerhard Mors	Scottish Executive
Glenys Timmons	Office of Science and Technology

Officers

Adrian Day	Policy officer, HEFCE
Laura Eastman	Analyst, HEFCE

Annex H
List of respondents

North East
University of Durham
University of Newcastle upon Tyne
University of Northumbria at Newcastle
University of Sunderland
University of Teesside

North West
Bolton Institute of Higher Education
University of Central Lancashire
University College Chester
Cumbria Institute of the Arts
Edge Hill College of Higher Education
Lancaster University
University of Liverpool
Liverpool Hope University College
Liverpool John Moores University
University of Manchester
UMIST
Manchester Metropolitan University
Royal Northern College of Music
St Martin's College
University of Salford

Yorkshire and the Humber
University of Bradford
University of Huddersfield
University of Hull
University of Leeds
Leeds Metropolitan University
University of Sheffield
Sheffield Hallam University
Trinity & All Saints
University of York
York St John College

East Midlands
Bishop Grosseteste College, Lincoln
De Montfort University
University of Derby
University of Leicester
University of Lincoln
Loughborough University
University College Northampton
University of Nottingham
Nottingham Trent University

West Midlands
Aston University
University of Birmingham
Birmingham College of Food, Tourism and Creative Studies
University of Central England
Coventry University
Harper Adams University College
Keele University
Newman College of Higher Education
Staffordshire University
University of Warwick
University of Wolverhampton
University College Worcester

East of England
Anglia Polytechnic University
University of Cambridge
Cranfield University
University of East Anglia
University of Essex
University of Hertfordshire
University of Luton
Norwich School of Art & Design
Writtle College

London
Birkbeck College
Brunel University
Institute of Cancer Research
Central School of Speech and Drama
City University, London
Courtauld Institute of Art
Conservatoire for Dance and Drama
University of East London
Institute of Education
Goldsmiths College, University of London

University of Greenwich
Imperial College
King's College London
Kingston University
University of London
University of the Arts London
London Business School
London Metropolitan University
London School of Economics & Political Science
London School of Hygiene & Tropical Medicine
London South Bank University
Middlesex University
School of Oriental and African Studies
School of Pharmacy
Queen Mary, University of London
Ravensbourne College
RCN Institute
Roehampton University
Rose Bruford College
Royal Academy of Music
Royal College of Art
Royal College of Music
Royal Veterinary College
St George's Hospital Medical School
St Mary's College
Thames Valley University
Trinity College of Music
University College London
University of Westminster
Wimbledon School of Art

South East

University of Brighton
Buckinghamshire Chilterns University College
Canterbury Christ Church University College
University College Chichester
University of Kent
Kent Institute of Art & Design
Open University
University of Oxford
Oxford Brookes University
University of Portsmouth
University of Reading
Royal Holloway, University of London
University of Southampton
Southampton Institute
University of Surrey
Surrey Institute of Art & Design University College
University of Sussex
University College Winchester

South West

University of Bath
Bath Spa University College
Arts Institute at Bournemouth
Bournemouth University
University of Bristol
Dartington College of Arts
University of Exeter
Falmouth College of Arts
University of Gloucestershire
University of Plymouth
Royal Agricultural College
College of St Mark & St John
University of West of England, Bristol

Northern Ireland

Queen's University Belfast
University of Ulster

Scotland

University of Aberdeen
University of Abertay Dundee
Bell College
University of Dundee
University of Edinburgh
Edinburgh College of Art
University of Glasgow
Glasgow Caledonian University
Glasgow School of Art
Heriot-Watt University
Napier University
University of Paisley
Queen Margaret University College Edinburgh
Robert Gordon University
Royal Scottish Academy of Music and Drama

University of St Andrews
University of Stirling
University of Strathclyde
UHI Millennium Institute

Wales
Cardiff University
University of Glamorgan
North East Wales Institute
Royal Welsh College of Music and Drama
Swansea Institute of Higher Education
Trinity College Carmarthen
University of Wales, Aberystwyth
University of Wales, Bangor
University of Wales, Lampeter
University of Wales, Newport
University of Wales, Swansea
University of Wales College of Medicine
University of Wales Institute, Cardiff