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LSE Public Policy Group

Maximizing the social, policy and economic impacts of research in the humanities and social sciences:

Research Report

Supplementary Report to the British Academy
from the LSE Public Policy Group

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About LSE Public Policy Group (PPG)

PPG undertakes pure and applied research, policy evaluation and consultancy for government bodies, international organizations and major corporations active in the fields of policy evaluation, public management, budgeting and audit, and e-government, survey or focus group research, public opinion, and the design of election systems.

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The Wilson report is available in full for free download at:
http://www.britac.ac.uk/reports/impact/index.cfm

Further information about the Wilson report and its recommendations may also be obtained from:

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Introduction to this Report

1. This research report supports the main report *Maximizing the social, policy and economic impacts of research in the humanities and social sciences*. It follows the same structure as the main report and covers some similar ground. Signposts have been included in the text where further discussion and additional figures can be found in the main report. Here we go into more depth on some of the key findings from our research.

Chapter 1: The contribution of the humanities and social science disciplines in UK higher education

1.1. Humanities and social science (HSS) disciplines in UK higher education institutions provide a strong foundation for the economic, social, and cultural well-being of the UK. We analyse the scale and importance of HSS disciplines, and offer some comparison with science, technology, engineering and mathematics (STEM) disciplines and creative arts and design (CAD).

The output of students

1.2 In 2005-06 just under 339,000 students achieved qualifications in humanities and social science (HSS) subjects (shown in Figure 3 in the main report on page 16), equivalent to around 42 per cent of all qualifications awarded. We identify a broad three-way split in the total number of qualifications between humanities (H), social sciences plus cross-over or interdisciplinary social sciences (SS), and a related social science area, covering business, finance and economics. Each cluster shows healthy growth since 2002-03. Politics and psychology subjects have seen the largest increase in growth across all HSS subjects in recent years. Modern languages and information systems show comparatively lower growth rates than other grouped disciplines.

1.3 Looking at the number of first undergraduate degrees and higher degrees (including taught Masters-level qualifications and doctorates) provides a more distilled picture of potential research-specific activity in HSS disciplines, in Figure 1.1. In 2005-06, 153,000 first undergraduate degrees were awarded in HSS disciplines, around one half of all first undergraduate degrees awarded and broadly equivalent to the number awarded in science and technology (STEM) disciplines. HSS disciplines account for well over one half of all higher degrees awarded in the UK, including taught Masters and doctoral research. Over three fifths of taught Masters qualifications in 2005-06 were awarded in HSS disciplines. However, research degrees only made up one third of the total awarded, with the growth rate since 2002-03 that is half that of STEM disciplines.

Figure 1.1: The number and type of degrees awarded in 2005-06, by discipline groups, and percentage change since 2002-03

	TOTAL	HSS	STEM	CAD
Undergraduate first degrees	309,000	153,000	121,000	35,000
Percentage change from 2002-03	+13	+14	+11	+19
Higher degrees				
Research degrees	16,500	5,300	10, 800	400
Taught Masters degrees	108,500	68,600	33,600	6,400
Percentage change from 2002-03				
Research degrees	+11	+ 7	+ 13	+4
Taught Masters degrees	+35	+34	+34	+47

Source: HESA statistics 2005-06.
Notes: Here and in all subsequent figures: STEM = science, technology, engineering and mathematics; HSS = humanities and social sciences; CAD = creative arts and design.

Staffing numbers

1.4 Academic teaching and research staff working in higher education institutions show a similar type of pattern (shown in Figure 1.2 below) in the relationship between HSS and STEM disciplines. Overall 77 per cent of all 160,000 academic staff are involved in some kind of teaching activity, with the remaining 23 per cent doing research-work only. In the HSS disciplines however, the proportion of academics doing research-only drops to below 10 per cent. The proportion of academic staff in STEM disciplines doing research-only is much higher at 35 per cent. Of course teaching staff also do research. And teaching is a vitally important bedrock or 'engine' when evaluating the overall value and impact of HSS disciplines. A similar picture is shown by the proportion of HSS staff that are financed by sources other than the HE institution. Around one tenth of HSS staff are financed by other sources compared to over one third in STEM disciplines.

Figure 1.2: Numbers of academic teaching and research staff, and sources of funding, by discipline group in 2005-06

Academic staff	TOTAL	HSS	STEM	CAD
All academic teaching and research staff	160,000	59,800	88,000	12,400
Staff who only do research	36,800	5,500	30,800	600
Percentage of all staff who only do research	23	9	35	5
Staff who are financed by other sources	37,700	5,700	31,600	400
Percentage of staff financed by other sources	23	9	36	3

Source: HESA statistics 2005-06.

The funding of teaching and research

1.5 We estimated core research funding flowing from government funding and research councils to HSS disciplines at around £800 million in 2006-07. Just less than three quarters of this income originates from funding council allocations based largely on quality-related (QR) research, evaluated through the Research Assessment Exercise (RAE) and supplementary allocations relating to research. A further £210 million flows from two main research councils, the Economic and Social Research Council (ESRC) and the Arts and Humanities Research Council (AHRC), plus the British Academy. Total funding for HSS disciplines accounts for around 18 per cent of all government funding of academic teaching and research. HSS disciplines receive around 10 per cent of total funding from research councils (see Figure 1.3).

Figure 1.3: Total university core research funding by discipline groups in 2006-07

£ million	**TOTAL**	**HSS**	**STEM**	**CAD**
Funding councils *	2,020	570	1,340	110
Research councils	2,410	210	2,177	23
Academies +	50	15	35	0
Total government grant funding to universities for research	4,480	800	3,550	130
Total government funding (per cent)	100	18	79	3

Sources: Funding council data from Departmental SET Statistics 2006-07.
* estimated Humanities as 72 per cent of Arts and Humanities funding. Research council and Academies data from DTI Science Budget Allocations 2006-07 published in May 2005.
+ Some funding for research in the creative arts from the Royal Academy is not included in this table. Government contracts are also excluded.

1.6 Looking at the relationship between total expenditure by academic departments and government funding for research-related activity tells us quite a lot about the relationship between teaching and

funded research. We focus first on higher education as a whole. Rows [1] and [2] in Figure 1.4 below show all expenditure by academic departments and total estimated funding by government for research-related activity. Academic departments spent around £7.9 billion against research-related funding from government of £4.5 billion. The net difference, estimated at £3.4 billion (Row [3]), is equivalent to the expenditure by academic departments that are not directly funded by government funding for research activity. Other income flowing to academic departments may be part of tuition fees funding, education grants, funding council income not relating to research activity, and research grants from other bodies in the public and private sector. Overall we estimate that around 44 per cent of total expenditure by academic departments flows from sources of income *other* than government research-related funding.

Figure 1.4: Comparing expenditure by academic departments and income from government in 2006-07, by discipline group

	ALL	HSS	STEM	CAD
[1] All expenditure by academic departments on teaching and research*	7,930	3,120	4,260	550
[2] Total estimated grant income from government for research-related activity	4,480	800	3,550	130
[3] Very estimated expenditure on teaching and other non-research related activities [1 minus 2]	3,450	2,320	710	420
[4] Estimated percentage of total expenditure from teaching and other non-research related activities	44	74	17	76

Notes: *Figures in Row 1 are from HESA statistics 2005-06. They are used as an approximation of total expenditure for 2006-07.

1.7 The difference here between HSS and STEM disciplines is quite striking. In STEM disciplines, total estimated funding by government is equivalent to around four fifths (82 per cent) of total expenditure by academic departments. Consequently 18 per cent of total expenditure is found from other sources such as tuition fees and funding council money not related to research activity. In HSS disciplines, however, around two-thirds of total expenditure by academic departments flows from sources other than government research-related funding. Again these comparative percentages reflect how teaching is very much the 'engine' of HSS disciplines when seen in relation to research-related activity.

1.8 Looking at the number of students per academic staff member, in HSS disciplines the average is more than twice as high as the equivalent figure in STEM disciplines (see Figure 1.5). Similarly, the departmental expenditure per student in HSS disciplines is around half the equivalent figure in the STEM disciplines. More starkly, the amount of research council funding per academic staff member

in the STEM disciplines is more than seven times the amount in the HSS disciplines. These numbers, of course, reflect cost relativities between the disciplines.

Figure 1.5: Comparative metrics across discipline groups in 2005-06

	TOTAL	HSS	STEM	CAD
Crude number of students per academic staff member	14	19	10	14
Total Departmental expenditure per student *(£)*	3,400	2,700	4,800	3,200
Research council funding per academic staff member *(£)*	14,900	3,400	24,800	1,900

Source: HESA higher education statistics 2005-06.

Chapter 2: How HSS research fosters business and economic development

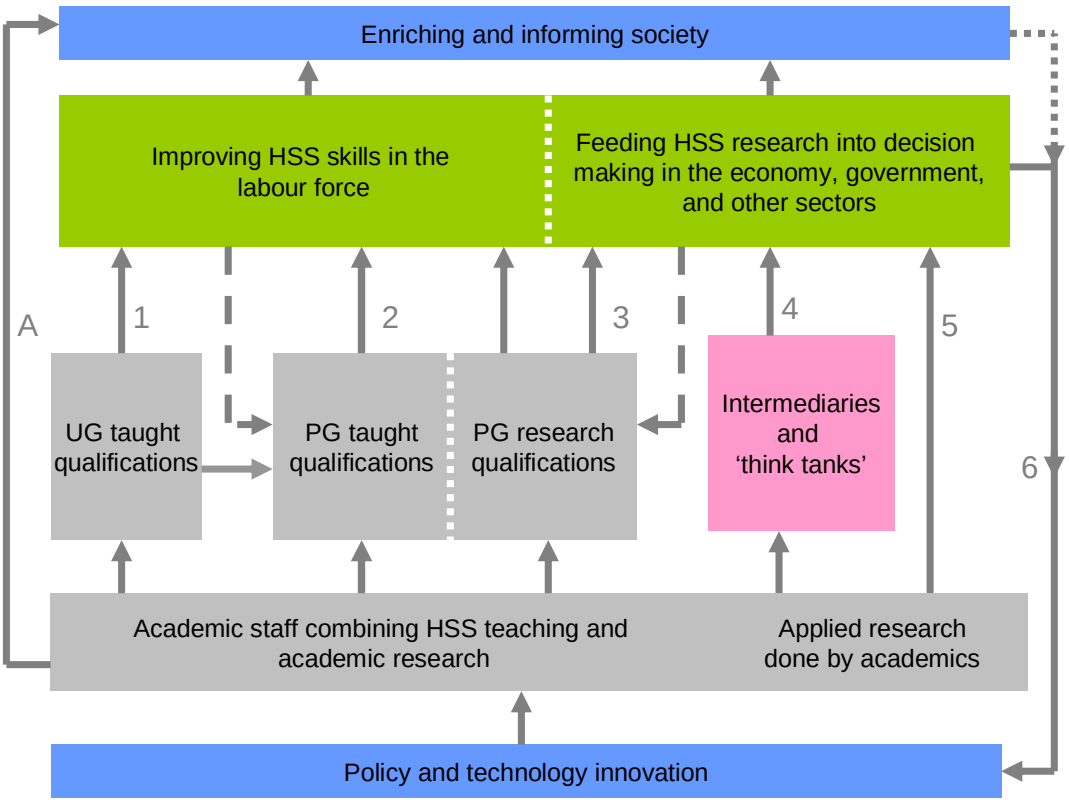
2.1 In a 'knowledge economy' there are many diverse ways in which higher education contributes to the development of business and the economy. In this Chapter we review the key mechanisms involved, accentuating both the wider and more foundational economic impacts of higher education teaching on the quality and competitiveness of the UK workforce, and also instrumental impacts of HSS research more specifically. We also consider how HSS academics view the linkages between their work and economic development.

Evaluating economic benefits of HSS disciplines must take into account the combined impact of teaching and research

2.2 Some key processes by which higher education contributes to economic vitality are shown in Figure 2.1 below:

- Academic teaching and research in higher education;
- Applied research channelled into public, private and third sectors;
- The role of think tanks, intermediaries and other aggregators in communicating academic research and deriving applied knowledge from it;
- Applied training and teaching in HSS disciplines for professional decision makers;
- Media and communications work by academics in society;
- Interdisciplinary and joint-working across disciplines in HSS.

Figure 2.1: Overview of the different ways in which HSS teaching and research can have impact and value in society



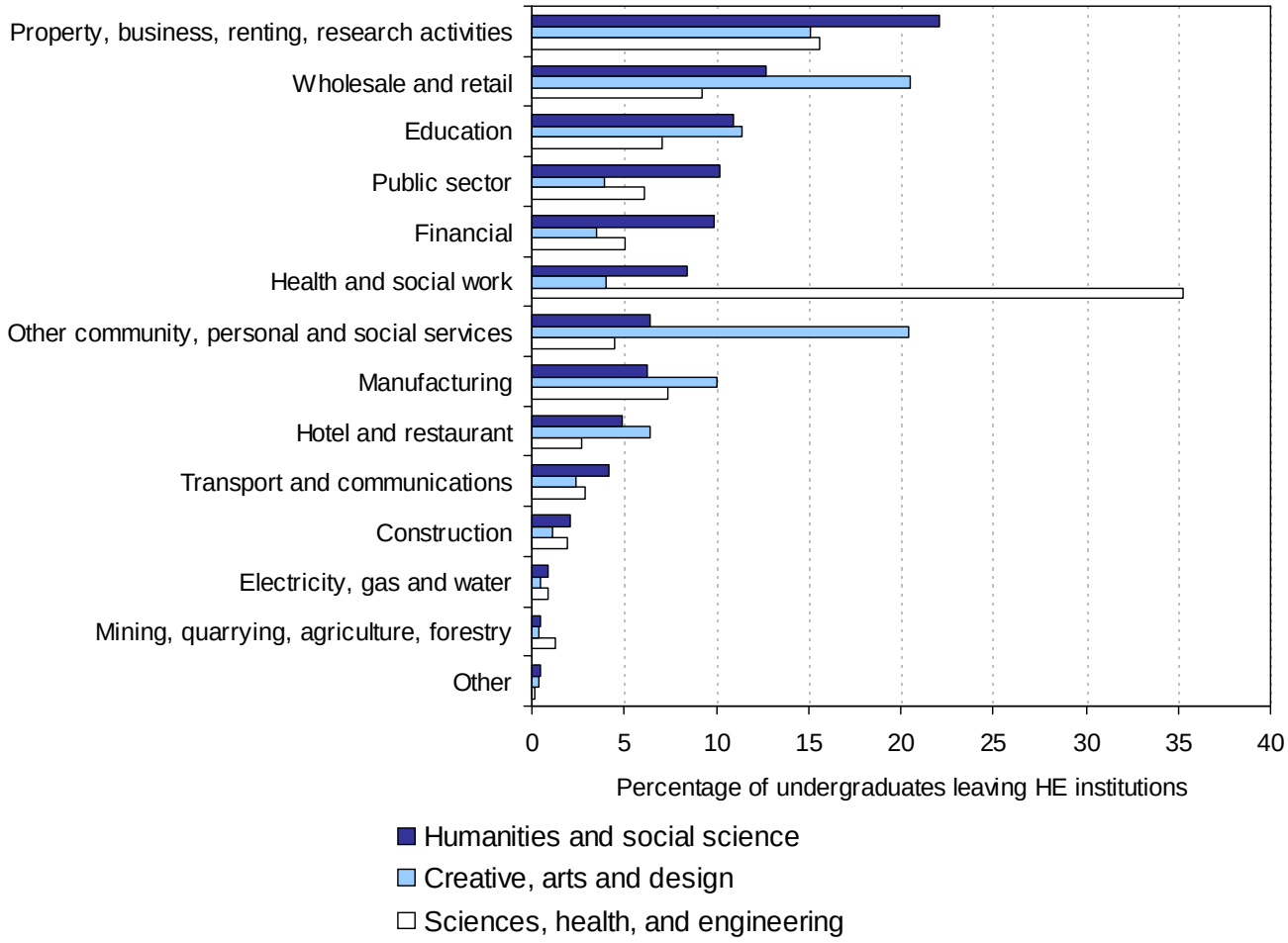
HSS graduates spread widely and diversely across the job market on leaving university *(Flow 1 in Figure 2.1)*

2.3 HSS disciplines generated around 145,000 first degree undergraduate qualifications in 2005-06, up by 14 per cent since 2002-03. Limited data is published by the Higher Education Statistics Agency (HESA) on what graduate leavers go on to do after leaving university. This information is classified in such a way that it makes it very difficult to gauge exactly what HSS graduates subsequently go on to do in terms of the employment. However, Figure 2.2 shows that compared with other discipline groups HSS graduates do tend to spread quite widely and diversely in terms of their subsequent role in the job market. This point was highlighted frequently by interviewees with one academic coining the term 'HSS diaspora'. Private sector employers suggested that high quality humanities graduates tended to exhibit highly marketable transferable skills. Examples mentioned included report writing, communication, and critical reasoning. Government executive officials from other countries also expressed admiration for the high-quality generalist skills of UK graduates, citing the benefits of the UK system as producing recruits with a broad range of

competency rather than the narrower and more technically-specific culture of training in European higher education systems.

2.4 Contrary to popular myths, it is clear that around two thirds of HSS graduates enter the business world. The biggest sub-categories here include general commercial activities (the top bar in Figure 2.1), wholesaling and retailing, finance, and manufacturing. Only a minority (29 per cent) of HSS graduates go into the governmental sector (defined as government employment, education and health care/social work, the last three of which are of course predominantly but not wholly public sector industries). An additional 7 per cent are in the ambiguous 'other community, personal and social services' category, which is split between government, voluntary sector and commercial services. Ironically perhaps, given the STEM disciplines' reputation with government as the motor of private sector growth, Figure 2.2 shows that they are in fact markedly more 'governmental' than the HSS disciplines. Because of the very strong recruitment of medical and related graduates into the NHS, nearly half (48 per cent) of all graduates from STEM disciplines go into the clearly governmental parts of the economy (a proportion that would tip over half if we were to include the 'other social services' category).

Figure 2.2: How humanities and social sciences graduates are recruited into different industries (in 2005-06)



Source: HESA data on the destination of undergraduates qualifying from HE institutions, 2005-06.

HSS graduate students are choosing further study in HSS disciplines as a stepping stone to professional development (*Flow 2 and corresponding feedback loop in Figure 2.1)*

2.5 We showed above that taught graduate courses are a critical activity in HSS disciplines. HSS masters courses have expanded rapidly in recent years. Part of this growth reflects bright students staying on at university for an additional year after their undergraduate degrees, often to undertake research, or to acquire advanced methods or language skills, or to develop more specialist or applied knowledge useful for their future employment. But in addition, the strong expansion of taught higher degrees in HSS reflects a growing 'post-work' demand from people in their mid to late 20s through into their 30s and already with substantial career experience. Interviewees generally agreed that students opting for HSS graduate courses are showing an increasing professional awareness, and courses are now often quite specific in content and often inter-disciplinary. This student group are overwhelmingly seeking to upgrade their skills, or to re-skill in

a more sustained and formal way, in subjects immediately relevant to their chosen industry and occupation, especially in business and management, but also in law, the public sector, education and health management.

A high proportion of HSS doctoral research students find employment soon after qualifying, but there is still scope for improving systematic links between graduate courses and business *(Flow 3 and corresponding feedback loop in Figure 2.1)*

2.6 In HSS disciplines doctoral students are a smaller group than in the physical sciences and for many years were widely seen as primarily orientated to entering the academic professions - a role where HSS disciplines in the UK have played a leading role internationally. However, with the (restrained) expansion of HSS doctorates, the growth of more 'professional' PhDs, and an improved emphasis on 'transferable skills' in HSS departments, graduates with HSS doctorates now enter the workforce in many diverse ways. Our interviews with private sector companies confirmed that they are attractive recruits in job markets. They are particularly in demand in consultancy and professional services firms, university administration, publishing, research and development firms, think tanks, and a range of other industries. Research by the UK Grad Programme (2003) shows that the unemployment rate among social sciences PhDs is only 1.4 per cent six months after gaining the qualification, contrary to the common misconception that doctorates reduce people's employability. Our focus groups with private sector employers generally agreed that HSS doctoral graduates bring strong analytical capacities to knowledge-intensive tasks, and help them maintain positive links with academics working on immediately relevant research, ideas and forecasting and promoting future trends.

2.7 Despite recent improvements in both masters and doctoral education, there could also be clear benefits in linking research users more closely into the way in which doctoral research opportunities are designed, shown by the feedback loops into the post-graduate teaching and research qualifications in Figure 2.1. Despite a large expansion of interning in private sector companies by individual HSS students, and some flourishing institutionally-organized intern schemes, business interviewees and focus group participants told us repeatedly that HSS faculties in universities were still in many cases reluctant to fully recognize the need to change their teaching practices. The majority of interdisciplinary or 'issue-centred' research institutes which we interviewed also tended to see strong links between taught courses, research students and applied research for clients. We found relatively few examples of schemes allowing HSS graduates to do work placement or interning schemes that count as part of their higher degrees, often because of the need perceived by academics to cram in material at the right level. Slightly more common were

applied research projects done in cooperation with external firms or as consultancy for them. At undergraduate level the longer period of courses affords more opportunities for interning, but formal schemes are not widespread, especially in the humanities.

2.8 Higher education in the UK generated £2.0 billion of export earnings annually in 2003-04, with secondary outputs of £1.5 billion (UUK, 2007b, p. 30). The humanities and social sciences account for three fifths of all international students, who collectively brought more than £2.4 billion to the UK economy per year, and this ability to attract students is highly dependent upon these disciplines maintaining strong research records. Across most humanities and social sciences disciplines the UK may claim to be second internationally to the much larger US academic institutions. In some cases and in many sub-disciplines the UK may also claim to be world-leading.

Scope for linking HSS research with private firms is high. However, firms' research requirements are often highly market-specific and geared to the 'bottom line'

2.9 Working through the influence flows in Figure 2.1, we turn here to the more direct roles that the research findings of HSS disciplines can play in fostering economic growth. In commercial areas there is a large primary 'market' for ideas and solutions originating from the social sciences and humanities. But businesses extensively prefer to acquire such knowledge in fully worked-out and carefully implemented ways, that closely fit their needs and that do not require any extensive re-working or follow-on detailing by company staffs. Focus group participants were very much in agreement that firms involved in competitive markets are naturally most interested in knowledge that can help create a direct competitive advantage for them or has detailed applicability for solving specific problems. Hence the challenge for HSS academics is to make more explicit the implications of applied research 'on the bottom line'. One business focus group participant told us:

> 'I think there is a problem with the cultural alignment and that works on a couple of levels - at the macro level, the direct transferability of concepts into solutions for business problems. . . at the micro level, a lack of understanding, appreciation, experience . . . as to what the day to day problems of people in those sectors actually are.'

From our interviews the general picture is that businesses often opt to work with market specialists or research consultants that can 'intermediate' academic ideas from HSS disciplines and aggregate them in ways that add value and facilitate easy implementation in a commercial context - a process to which we now turn.

Links from HSS research to business at large running via closely-related professions, 'knowledge-based' consultancy firms, other commercial intermediaries, think tanks and specialist media (Flow 4 in Figure 2.1)

2.10 The growth of the knowledge economy has involved the expansion of a wide range of knowledge-intensive service industry firms and intermediary organizations that are closely linked to higher education. These companies recruit a lot of highly skilled graduates from HSS disciplines, IT and the physical sciences and they regularly monitor the academic environment for new techniques, concepts, trends and developments. Some UK firms, such as large law firms and accountancy companies, are dominated by particular professions. Here strong forms of occupational community exist, with unusual levels of work autonomy for members and codes of ethics that provide some assurance of a neutral or public-spirited application of knowledge. Although commercial companies often apply very developed and specialized forms of academic knowledge, using concepts and toolkits of their own devising, professional staffs widely maintain links to universities via seminars, professional updating, journals etc.

2.11 A second type of company closely linked to HSS professions are major consultancy firms covering broad competencies such as strategy choice and advice, business change processes, management issues, IT services and organizational redesign, and commercial techniques and knowledge-systems. Some of the world's largest consultancy organizations have strong UK operations.

2.12 There are also many smaller specialist consultancies that draw on skilled graduates and maintain close links to academic departments and researchers with expertise upon which they can draw in detailed work. Additionally, intermediating firms and bodies analyse data and package ideas and methods for business purposes, especially those organizing conferences, training and staff development.

2.13 Lastly there are many well-known, semi-commercial 'think tanks', which act as idea-aggregators in business areas, promoting different packages of solutions. These bodies link strongly to the specialized and professional media that in many different areas of business and the professions provide interpretations, summaries and coverage of academic debates in closely related HSS disciplines. Of course, more generalist think tanks and media, especially the quality press and more 'pop professional' journals also play an extensive role in bringing the ideas and findings of

HSS researchers to the attention of the wider public, going beyond business audiences (see Chapter 4 below).

HSS research contributes to economic growth and commercial activity, but academics generally point to impacts which are quite decentralized, ad hoc, or indirect *(Flow 5 in Figure 2.1)*

2.14 Individual HSS academics and researchers may be consulted by companies on specific issues or may provide advice and expertise in irregular or temporary ways - as for example when a historian provides advice on historical accuracy for TV or film, in academic publishing projects, and in specific organizational consultancies. These relationships are difficult to track and there is little doubt that HSS academics mostly have fewer and more episodic links to commercial companies than is true in the physical sciences or medicine.

2.15 By creating or extending their applied research and consultancy arms to cover HSS areas, some major UK universities (such as Oxford, Cambridge and LSE) have in recent years begun to create more sustained training, conference, consultancy and research businesses within HSS areas. But these developments have taken place from a very low base. Similarly, 'starburst' companies spun off from academic departments or formed by HSS academics themselves have begun to crop up in the UK. But at the present time these firms are mostly very small operations and they occur much less frequently and grow less extensively than similar start-up firms in the physical sciences, IT or medicine. Since ideas alone cannot be patented without some physical instantiation of them in a product or system, and since expertise published for research dissemination purposes cannot be limited in their application, HSS academics are generally in a far less advantageous position in turning their intellectual property rights into commercial concerns than physical scientists are.

2.16 It is possible to point to a wide range of cases where HSS research directly contributes to economic well-being. Research conferences in higher education generate £200 million annually from international visitors and again the HSS disciplines seem likely to account for at least two fifths of this business tourism. In our survey of HSS academics many examples were cited of how humanities subjects especially were linked to specific tourist initiatives around literary, historical, archaeological and cultural events. We show below in Chapter 4 that historic research linked to buildings and literary/cultural figures is an important sustaining factor for much of UK 'heritage' tourism. Research excellence in the humanities and social sciences also feeds through directly into a strong UK industry performance in publishing journals and academic books.

Social sciences have developed good links with private sector sponsors but there is still scope for humanities to increase private sponsorship *(Flow 6 in Figure 2.1)*

2.17 Another interesting measure of the extent to which HSS research links into economic development is the extent of a flow-back of corporate patronage in sponsoring research. This is a very new area for humanities. However, there are signs of increasing activity in fields such as biomedical ethics and management consultancy. In the social sciences a range of funding interventions and other types of formal linkage between academic departments and commercial firms are already quite well developed. Business altruism and public relations strategies have also seen some firms increasing their sponsorship of creative arts, with some potential carry-over to the humanities. As a business focus group participant told us:

> 'In the last couple of years, with the rise of corporate social responsibility and some of the big issues around globalisation, . . . those issues are now moving up the corporate agenda. Businesses are beginning to understand that they do need external perspectives. They are now realising that things around the economy and society do actually matter.'

2.18 We searched the websites of the top 10 UK universities in HSS areas (defined here as Kings College London, London School of Economics and Political Science, Cambridge, University College London, Sheffield, York, Warwick, Manchester, Oxford and Nottingham) for evidence of external sponsorship or funding by not just companies but also government and civil society organizations. Using an advanced Google search, within each university domain we searched for 'centre', 'institute' or 'programme'. For each reference, we recorded the centre's name, the discipline area and whether the unit listed collaborations with private sector companies, government bodies, third sector organisations or other academic institutions on its homepage or in an 'about us' section. Note that our method does not distinguish the scale of financial linkages, which is generally not made explicit on websites. Hence the strength of a linkage is not assessed here, and in particular it may be that a governmental link is of larger scale than those for private companies.

2.19 Across the ten universities covered we identified nearly 300 formally designated institutes, centres and research programmes. Figure 2.3 shows that by far the largest number (over 120) are in the social sciences. Some 50 are in the humanities, a slightly lower number than in medicine and the physical sciences (which also may have more of an emphasis upon departmentally-organized research and hence less of a tendency to define separate organisational compartments to house this effort than is the case in the HSS disciplines). In 74 cases we were able to identify a funding sponsor or other formal linkage to an external body. Figure 2.3 shows the distribution across government, private companies and third sector organizations, such as charities and foundations. Finally we compare the pattern of linkages in HSS disciplines with other subject groupings. Perhaps surprisingly, the large bulk of the 12 private company associations with academic research (7 out of

12 links) are in the social sciences, which also have nearly half the links between government bodies and other academic institutions. (Also see Figure 5 in Chapter 2 of the main report.)

Figure 2.3: The number of research centres and institutes funded by or formally linked to different kinds of sponsor bodies, by discipline group (in our web census of top 10 UK universities, December 2007)

	Type of sponsoring organization				
	Government bodies	Third sector organisations	Private sector companies	Other academic institutions	**Total**
Social science	14	2	7	5	**28**
Medicine	6	10	2	3	**21**
Science and technology	8	1	2	2	**13**
Joint disciplines	7	0	1	1	**9**
Humanities	2	1	0	0	**3**
Total	**37**	**14**	**12**	**11**	**74**

How academic staff in HSS disciplines view 'economic relevance'

2.20 In our open-access e-survey of HSS academic staff we sought to explore in detail their attitudes to how their research fares on advancing economic prosperity, making public policy impacts, contributing to civil society organizations and influencing public debate and cultural change. With more than 455 responses, the survey provides a major new database, combining some strong quantitative rankings with a large number of detailed comments. Humanities staff were generally the most pessimistic about their discipline's impact, rating it on average as 2.5 on a seven point scale running from 1 (little impact) to 7 (strong impact). Humanities academics saw only a limited potential to improve this score, rating their discipline's potential impact at 2.9. By contrast, core social science academics rated their actual impact above half-way at 3.6 and saw a far higher potential for impact to reach 4.7. Academics operating in mixed areas between the humanities and social sciences also had only slightly lower numbers than these.

Figure 2.4: Perceived scores given by HSS academics on the impact of their discipline in economy and business, and the potential impact that their discipline could have

	[1] All HSS	[2] Humanities	[3] Social sciences	[4] Mixed or both
Economy and business				
Actual impact	3.0	2.5	3.6	3.4
Potential impact	3.8	2.9	4.7	4.1
diff.	**0.8**	**0.5**	**1.1**	**0.7**

2.21 More than 140 HSS academics contributed specific comments on achieving economic impacts from their research and we analysed and post-coded these views in considerable detail. Figure 6 in the main report provides a summary of the range of views of HSS academics vis-à-vis impact in the economy. Only one in five respondents commented pessimistically about their discipline's economic impacts, but very few of these commenters could give specific justifications for pessimism (shown by the cross-hatched sections of the bar). By contrast, a large proportion of respondents gave optimistic comments backed up with specific examples, and three fifths of respondents were optimistic in a more generalized way. We asked academics to tell us where they felt improvements could be made. We coded each comment for whether they acknowledged that their own discipline could improve or whether weaknesses lay with other stakeholders. Around one in two academics acknowledged that their own discipline could improve, while only one fifth of academics noted that improvements in economic impacts would need to be made elsewhere. This suggests a relatively self-critical stance from HSS academics in this area. However one fifth of academics responding expressed scepticism about or resistance to the relevance of discussions around economic impacts *per se*. For this group such a goal seemed either inappropriate or unattainable.

2.22 Figure 6 in the main report shows that the largest group of 127 HSS staff commenting in our e-survey pointed to the general benefits flowing to the UK economy from their research, and only one in ten cited teaching or training the future workforce as the primary form of their subject's research achieving economic impacts. Nearly a quarter of respondents (mainly in the social sciences) identified specific impacts on businesses and commercial operations, linked mainly to service industry practices, but also with some product development. This was also nearly matched by respondents citing examples of their discipline's work achieving economic impacts via informing

government economic policies. Finally one in six comments pointed to publishing or commercial media spin-offs from research.

2.23 We grouped areas in which academics said their discipline made impact on business and the economy. Generalised impacts and financial knock-on effects of their discipline were most frequently cited, for example, historians suggesting that their work has positive effects on the heritage industry and tourism. Working down the Figure, we see that about one quarter of academics generally made optimistic comments about how their work impacts on commercial organizations' practices or procedures. Nearly one-third of the suggestions made urged greater collaboration with business and commerce, with substantial numbers suggesting improving the relevance and accessibility of research to practitioners, raising awareness among businesses of the value of research and improving dissemination. One in six respondents commenting sought more government support to enhance economic impacts, and one in sixteen saw a need for academic research to improve if it is to be more useful.

2.24 In our interviewers with private sector representatives we found high levels of knowledge and sophisticated views on how the incentive structures for academics influenced levels of engagement with external stakeholders. The research assessment exercise (RAE) was particularly mentioned as over-weighted towards 'pure' research and towards an overly-siloed, single-discipline pattern of research and publication. Private sector executives can also find it very disconcerting to encounter academics in person, or read articles by academics, who explicitly reject economic relevance as a criterion with any bearing on research development. These instances tend to be remembered and quoted in 'business folklore' far more than perhaps their actual frequency might merit.

Current trends and future developments in HSS discipline's economic impacts

2.25 We have found compelling (albeit somewhat ad hoc or isolated) evidence of humanities disciplines working directly with private sector organizations to enhance productivity or more general economic performance. Academic interviewees generally agreed that there is huge scope for growing links between the humanities and the private sector, and private sector organizations expressed equally positive views about the impact and value of working with historians, linguists, and philosophers. Some key areas for future development are:

- *Modes of authorship and internal communication* can have a direct impact on the commercial performance of any business. At a very basic level, badly written internal guidance or external reports can create extra time and resource costs for staff, and may even

contribute to business breakdown or failure. The way in which language is employed in firms (and about firms, through advertising or branding) is a key factor.

- *Putting management in perspective* can help senior executives contextualise decision making in the firm against previous experience and development, possibly avoiding repeating past mistakes or an overly short term perspective on planning and strategy. We have found numerous examples of historians working in public policy contexts to help policy makers place current policy decisions in historical context. It was harder to find examples of historians working with corporations but see for example the link between the Mile End Group at Queen Mary, University of London and the IT company EDS. However both academics and private sector stakeholders suggested that there is strong potential in this linkage, even if it is simply to encourage corporate staff to 'take a step back from day-to-day priorities and think about the development of the firm in historical context'.

- '*Concept proofing' and discursive exploration of corporate values* has proved to be an interesting and valuable avenue for cooperation between philosophers and the private sector. Again, these linkages are not apparently widespread (one example is the Forum for Philosophy and Business at Cambridge University). But in areas such as biomedical ethics, and corporate and management practice, we have found interesting and indeed quite entrepreneurial cases of philosophers working with large corporations to develop understanding and innovation around concepts such as trust, corporate governance, and intellectual property.

- *Foreign language skills and cultural sensitivities* are undoubtedly an important driver for the international competitiveness of UK firms. Interviewees from the private sector told us that even the most basic knowledge of a client's language can help to build trust and respect. As one interviewee put it: 'The more sophisticated your language skills are, the better the chance of winning a client's business […] There is definitely a strong connection between companies who export regularly, language ability, and productivity'. Multinational companies interviewed told us that relevant language skills can often tip the balance in recruitment decisions. And having staff with an all-round awareness of the link between language, protocol and culture provides crucial business advantage. Although major firms tend to 'make positive noises' about the value of foreign languages, it is often hard to get them to commit funding or other resources to improving this situation. Firms expressed highly enthusiastic views about the value of foreign languages, but we found that this issue was rarely a first priority and given the option, UK-based firms preferred to tap into an ever-increasing supply of skilled foreign graduates with Euro-English as a second or third language, rather than hiring English-only graduates with no foreign language capability.

(See also Case Study H: Modern language research and teaching in the UK, found in the Appendix below.)

Chapter 3: How social sciences and humanities research helps shape public policy

3.1 This chapter gives some more detail on the organisation of the research function in government departments and how HSS academic research is used by policy makers. It also looks at how HSS academics view the way in which government uses their research. Lastly, we look at future trends in HSS research in government.

Government departments have grown social science research capacity and organization over recent years. There may be scope to build representative structures for some humanities professions

3.2 Traditionally the language of research across government has been the language of physical and natural sciences. In terms of research council funding this skew seems still relevant. However, in terms of policy rhetoric and new budgetary allocations there are signs that government has widened this somewhat narrow interpretation of science to encompass HSS-based subject areas as well as arts and creative disciplines. This is illustrated in the 2004 Science and Innovation Investment Framework, the current ten-year strategy for the exploitation of scientific evidence across government, which for the first time places the Arts and Humanities Research Council and the British Academy within the scope of the science budget.

3.3 The government organization Go Science is responsible for improving the quality and use of scientific research across government, primarily through the network of Chief Scientific Advisors (CSA). This network was set up in 2002 through the Comprehensive Spending Review to systematize the influence of departments over allocation of the government science budget. Although the CSA cadre is largely in place, and there are signs that it is an active and close-knit community, our interviews with senior research officials in government departments suggest that some wider organizational uncertainties remain in departmental make-up. Officials at Go Science suggested that this network has matured over recent years, and has become a highly active community of groups and sub-groups working across government. Still the majority of CSAs come from a natural or physical science background, and only one CSA currently holds joint responsibility for social science and hard science roles.

3.4 Given the tradition over previous decades of emphasizing physical science and engineering disciplines in government policy and rhetoric around research and innovation, it is perhaps somewhat perplexing that professional organisations for physical scientists, mathematicians and

engineers are less well established across major Whitehall departments. Go Science told us that bolstering these physical science professions across government is an important ongoing priority, partly in response to almost 20 years of government policy to outsource or transfer to the private sector large swathes of IT, engineering and scientific laboratory expertise.

3.5 Another forum for the betterment of government research is the Analytical Professions Group encompassing economists, lawyers, social researchers, statisticians, and in some areas, operational researchers. Interviewees generally agreed that some HSS-based professions such as economists and lawyers were clearly more established across government and had generally a clear idea 'where they fit in'. A number of senior economists in large Whitehall departments suggested that the Government Economics Service provides a coherent representative presence for the profession and an unofficial standard mark which is highly transferable across government. One even suggested that it was not uncommon for this to be the subject of 'professional jealousy' from other quarters.

3.6 Despite some CSAs with social science backgrounds, we found broad agreement that the social researchers are 'the most vulnerable' analytical profession. Economists and lawyers 'are expected to say certain things', while social research is often more intractable or does not deal in such cut-and-dry terms. Government social researchers generally agreed that there is often a necessity for evidence to be quantified and decisive, and social research is often too qualitative or enigmatic to provide compelling support for policy. One senior official suggested that: 'Traditionally social research has set itself in long term studies which last more than 18 months or so […] and this is often not what politicians and senior department officials want to hear'. Despite this, we found signs of proactive and close-knit cooperation across the social research community through the Government Social Research Network, consisting of around 1,000 social researchers.

3.7 There are signs that more large government agencies have realised the need in recent years to grow social research capacity, particularly in response to the kinds of cross-cutting policy challenges outlined above. Organizations with traditionally large science research budgets have set up new social research units within the last five years, for example the Food Standards Agency (FSA) and the Health and Safety Executive (HSE). Also humanities subjects such as history have sought to improve their professional profile across government, for example, the ongoing lobby led by senior UK historians to have government establish a position of Chief Historical Adviser.

3.8 Most Whitehall departments currently follow some kind of variation on the general system of 'embedding' researchers into policy units across the organization. Researchers are line-managed by

senior staff in policy units, but they belong to the central research capacity of the department and have access to central research training and guidance. This system has been in place for around five years, and there are many variations. Some departments have senior social research officials and co-locate a range of disciplines including social policy, economists, psychologists, and geographers. Other departments reveal complex splits across different professional cadres. CSAs gave us a varied range of views about the benefits and drawbacks of this system. Embedding researchers in policy units obviously locates research skills close to policy development expertise and provides potential for greater standardization and quality in the evidence base. On the down side, however, some CSAs suggested that researchers were getting drawn into 'low level' or short term research activity and the actual quality of research is often patchy and not coherent across the organization.

3.9 Discussion around the balance of research across short, medium and long term objectives also gave rise to expressions of reluctant acceptance of the *de facto* priorities for research in a political environments, and the limitations of commissioning long term studies looking at 'big questions' or cohort subjects. Generally CSAs told us that they spent anywhere between 40 to 60 per cent of their research capacity on handling 'typically' short term research or statistics requirements for policy staff. Anything up to a further 20 per cent or so is spent on medium term research, going into more detail to 'unpack' an issue and to compile policy summaries or briefing notes. A final portion is made up of overseeing ongoing or more long-term work. Most CSAs suggested that they would like to commission more longitudinal research. We found some strong examples of detailed long-term research of this kind, such as cohort studies and co-funded ESRC academic centres.

Government departments are active and experienced commissioners of HSS research and academics are well integrated into government research activity

3.10 Unsurprisingly, it proved to be no easy feat to access accurate figures on the level of government department commissioning and funding of academic work in the humanities and social sciences. This data is not collected by HESA as part of higher education statistics, and it is data which is not apparently held anywhere in central government, including by Go Science. We even struggled to elicit guesstimates from CSAs during our interviews on the breakdown of their own research budgets between HSS and the physical sciences. In some cases, and perhaps rightly so, interviewees have suggested that it is a meaningless distinction in any case – because much research now involves both domains. We would argue that we have found insufficient evidence of authentically joined-up research for this argument to be totally convincing. Tracking the proportion

of department expenditure on HSS is still at best a back-of-the-envelope exercise for most departments.

3.11 Figure 3.1 below gives an overview of research and development expenditure by departments in 2006-07, and distinguishes between types of recipient organizations. The degree of shading gives an indication of total research budget flowing to higher education institutions, research councils and the private sector. The white tips show ‘other’ funding which generally incorporates intramural funding activity between departments and to other public sector bodies. Clearly the former Department of Trade and Industry (DTI) leads the way with funding transfers for R&D in the economic sector. The major funding departments for higher education institutions are in Environment, Food and Rural Affairs, International Development, Health, and Education. The former Home Office looks remarkably low here, with reported annual funding of only £200,000 to higher education. This clearly does not cover the entirety of Home Office funding of external research, but it might chime with comments made by one former insider that having ‘hundreds of Home Office researchers running round the place spending millions of pounds on research is complete nonsense’.

Figure 3.1: Expenditure by government departments on research and development and 'Science, Engineering and Technology' overall expenditure, by type of recipient

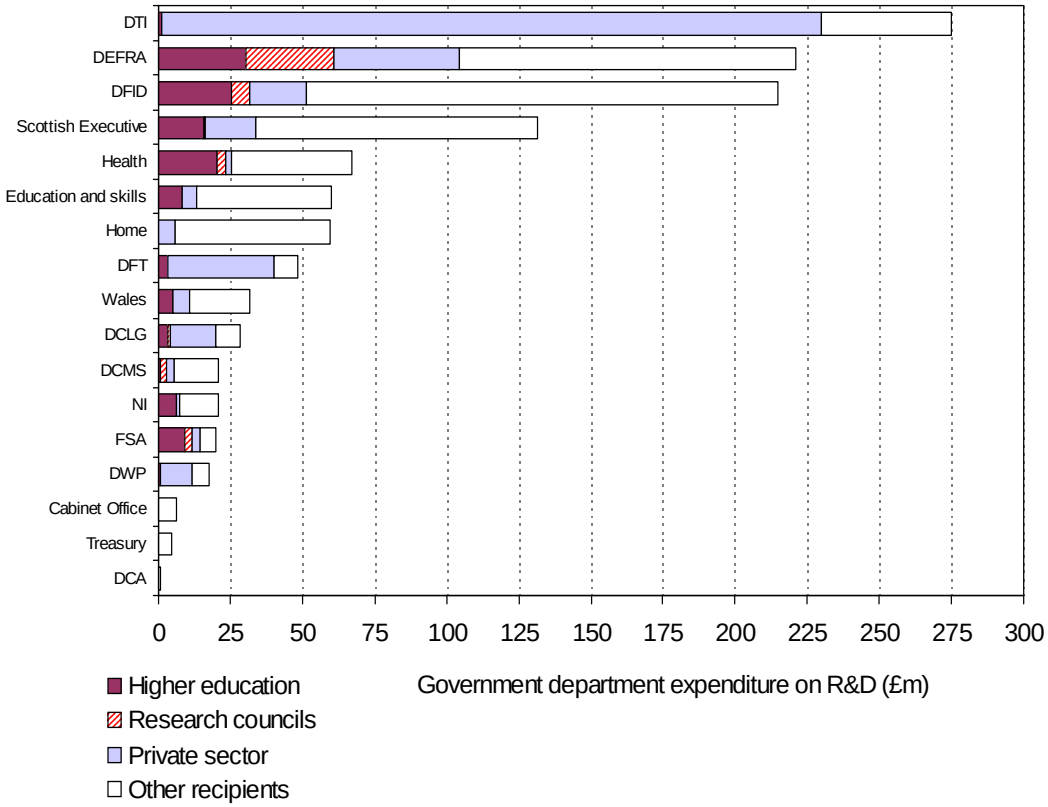
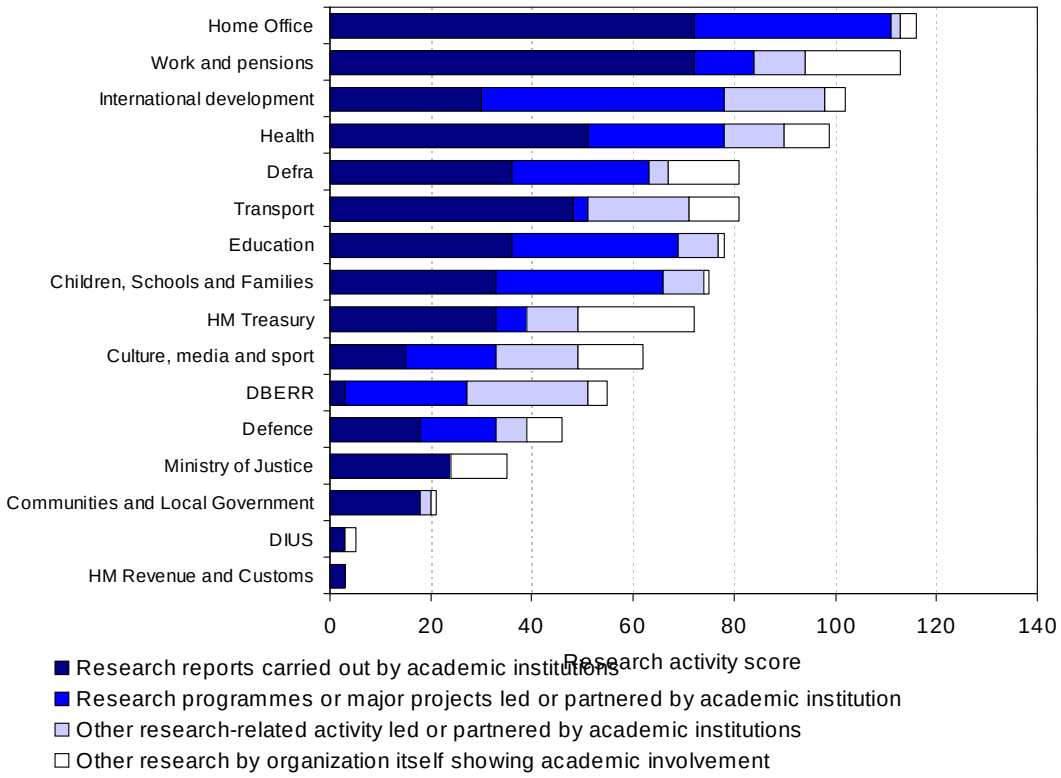


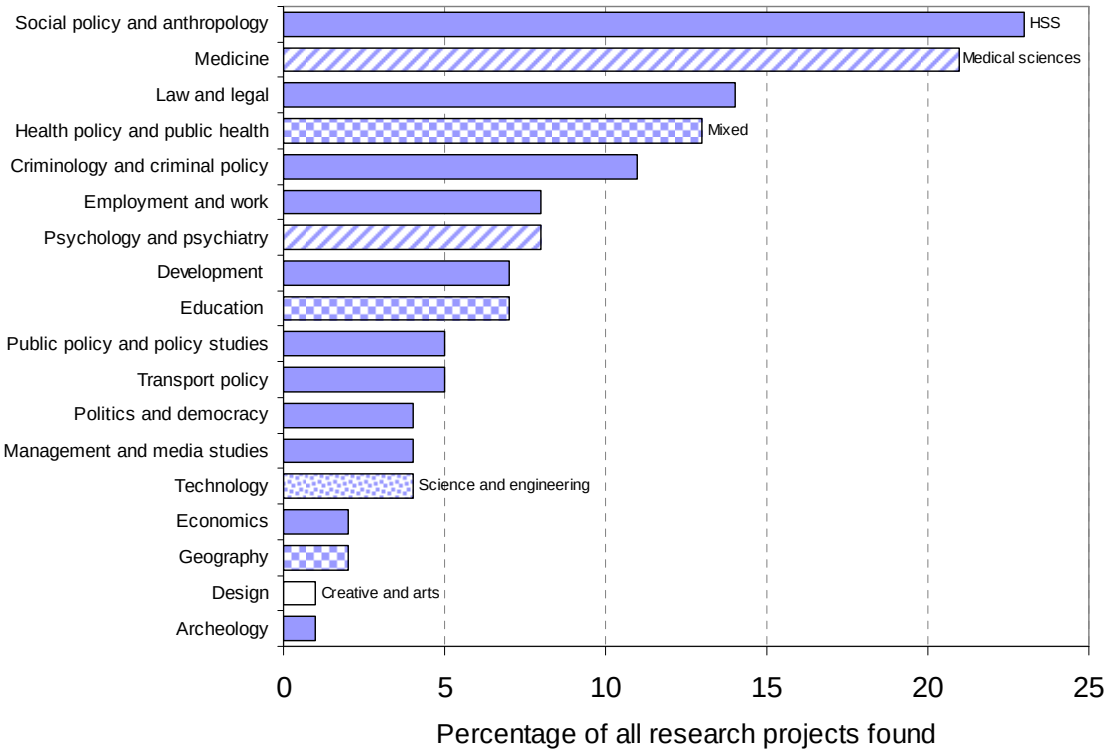
Figure 3.2: The visibility of academic research material on government department websites



3.12 The low reported expenditure on commissioned research in the Home Office stands in striking contrast with findings on visible research output in Figure 3.2 above. In order to build up a picture of the research intensity in government departments, we carried out a systematic search of department websites using Google for academic research reports or material relating to joint programmes or projects led by academic researchers. We developed a reasonably effective 'research visibility score' for each department (see Annex 1 in the main report for further details). Figure 3.2 show that the Home Office, despite comparatively low funding, scored top in terms of making its academic research visible online. Other departments scoring highly were Work and Pensions, International Development, and Health. Interestingly, on the DfID search we found a high incidence of research programmes, and in subsequent interviews, people have told us that this would confirm DfID's international reputation as an organization that is highly linked into collaborative research projects. Some newer organizations, such as the Ministry of Justice, will score lower on this scale because they have not had time to build up research archives in their web domains.

3.13 The departmental websites on which we found the most academic research material tend to dominate in terms of the distribution of the type of research we found. Figure 3.3 below shows that by far the most dominant discipline areas for research were in the areas of social policy, criminology, medical and clinical research, public health, and law and legal studies. Our review of the substantive content of research suggested that major departments such as Department of Work and Pensions, Department for Health, and indeed the Home Office are highly active and experienced commissioners of research work. The major share of research, however, consisted of quite straightforward evaluation and impact studies commissioned from independent academic sources. Government official interviewees told us that evaluation studies were almost always commissioned externally. The Home Office, for example, estimated that around three quarters of its published research is commissioned externally. Despite a strong showing for this kind of bread and butter policy evaluation work, we did find evidence of some innovative and more creative research work. Criminology studies incorporated some innovative research on crime prevention. And a small but significant proportion of studies involved quite innovative social psychology approaches.

Figure 3.3: The subject areas of academic research found on government department websites



HSS academics express a mix of confidence and scepticism about their impacts on policy making, but generally see this as an important area for achieving greater impact

3.14 In the area of policy making, HSS academics reveal diverging views when thinking about their own impacts, shown in Figure 3.4. In our open-access e-survey (responded to by 455 HSS academics) we explored attitudes towards their discipline's existing and potential impacts on policy-making. Social scientists were much more confident of their current impact, rating it at 4.6 on a scale from 1 (low) to 7 (high). But they still saw scope for improvement and rated their potential impact as high as 6 (the highest average potential impact score across all categories in our survey). By contrast humanities staff rated current impacts low at 2.5, but they were optimistic that it could be improved (to 4.4). Interestingly, humanities academics scored relatively low on actual impact (2.5), but saw comparatively more room for improvement than social sciences (at 1.9).

Figure 3.4: Perceived scores given by HSS academics on the impact of their discipline in public policy and practice, and the potential impact that their discipline could have

	[1] All HSS	[2] Humanities	[3] Social sciences	[4] Mixed or both
Public policy				
Actual impact	3.4	2.5	4.6	3.6
Potential impact	5.1	4.4	6.0	5.5
diff.	**1.7**	**1.9**	**1.4**	**1.9**

3.15 In the supplementary free text comments made by 163 survey respondents, views of academic contributions were more polarized than for business. Figure 9 in the main report shows that a quarter of respondents were generally pessimistic about their influence with government, while a further one in ten backed up their pessimism with specific examples of potential impacts being thwarted by government or civil service disinterest. However, among the half of respondents who took an optimistic view there were also many more mentions of specific examples of influence than was the case for economic impacts. Only a small number of comments suggested that things are currently fine as they are. The interesting shift here, compared to responses in the economy and business section, is that more respondents felt that other stakeholders had to make changes or improvements (mostly in this case, government). Half of the 182 comments focused on how the civil service and government could be more open, receptive and sophisticated about academic research. Fewer HSS respondents also saw a need for their own discipline to change its approach (a third, as compared with a half on economic impacts).

3.16 Figure 9(b) in the main report shows that the most cited examples of influence were reports feeding into policy-making, followed by specific consultations or Commissions. Government commissioning of research or programmes was mentioned by a small number of respondents, but conferences and seminars hardly at all. A more detailed breakdown of HSS staff responses in Figure 6(c) in the main report shows concrete suggestions for changes focus extensively on improving the understanding and education of civil servants, who are widely seen as overly generalist and 'amateur' in their policy areas; improving government listening and what government tells academic researchers (so that research can be more usefully focused); and prioritizing the systematic use of information in decisions. The Figure also shows in detail comments taking a more self-critical stance, with respondents seeing a need for academics to gear research more to policy-makers' needs, be more collaborative and link up more, and be more upbeat in disseminating results and public debates.

Current trends and future developments in HSS disciplines' impacts on government and public policy-making

3.17 The advent of 'digital era governance' opens up sizeable prospects for changes in how government makes use of and interacts with the social sciences (and perhaps some of the humanities) than was the case for these disciplines' links to economic power-holders (Dunleavy et al, 2006). Digitization, the accumulation of transactional data, the growth of data warehousing, the analytic expansion of capacity and transition from 'intuitive management' to technically informed management based on pervasive information – all these transitions in government are badly lagging behind the leading edge private companies in the UK. Repeated National Audit Office 'value for money' reports have stressed the general poverty of the internal information within central government about the biggest organizational systems (such as the complex tax and benefits systems) and about the operations of lengthy public service 'delivery chains' by means of which policy is implemented. Cost data in government are particularly poor and hard to relate to output and outcome data. Specifying policy delivery in terms of outcomes is fashionably central in the UK's public budgeting targets, but it is notoriously difficult to control for or measure changes in the quality of outputs. Knowledge of government and public sector productivity levels is still rudimentary and has been little studied by comparison with private sector productivity changes, even though the UK spends 25 per cent of final output in the public sector (National Audit Office, 2006).

3.18 Thus, if the main threat faced by the social sciences in economic areas is that 'knowing capitalism' will outperform academia in understanding much larger volumes of real-time transactional data, the challenge for HSS professions in dealing with government is to help policy-makers and senior civil servants to appreciate that 'pervasive information' and evidence-based decision-making should be as realizable an ideal within the public sector as it is for large, dynamic companies. Persuading decision-makers to make the large-scale investments needed to create and grow systematic digital evidence bases in intelligent ways that provide for better policy formulation and more agile trialling and implementation of innovations is a potentially vital role for a range of HSS disciplines – especially policy analysis and public management, economics and social policy.

3.19 The emphasis of humanities academics is to improve government's heretofore limited appreciation of the historic, cultural and philosophic bases of responses to far-reaching social changes – such as large-scale immigration, differential growth amongst ethnic and religious

groupings and how national identity is defined and involved. In this latter area the wider impacts of the HSS disciplines on civil society are important, to which we now turn.

Chapter 4: The impacts of HSS research on civil society organizations, the media and cultural development

4.1 In this Chapter we give more detail on how the HSS disciplines contribute to first public debates and social information networks, and second how they feed into civil society organizations (beyond business and government).

HSS academic disciplines are highly 'visible' in UK mainstream media

4.2 Following on from material in the main report (see paragraphs 4.8 to 4.10 in the main report), we now look at how important the HSS disciplines are in influencing public debates and media coverage in the UK. We compiled a comprehensive database analysis of press coverage in six major sets of UK 'quality' papers for the whole of May 2007. Each item surfaced was checked for its relevance, the academic disciplines it covered, and the type of research discussed. Non-relevant items were excluded. We then classified in detail the articles included (there is no perfect way of guaranteeing that all academic-related items are covered). After piloting a number of different approaches, we settled on two different search profiles, the first search using the words 'professor' or 'academic research', which provides good coverage (as we shall see) of the humanities and social sciences; and the second using the words 'Dr.' or 'new findings', which was designed to cover findings in medical research. We found that almost one third of results under the 'professor' search returned relevant references to HSS disciplines, around twice the number of references to non-HSS disciplines (see Figure 4.1). Perhaps not surprisingly the search for 'Dr' or 'new findings' returned more references to non-HSS disciplines (mainly STEM disciplines); however HSS disciplines still surfaced on average around 1 in every 6 returns.

Figure 4.1: Press mentions for academic research using two different search terms across a range of national daily newspapers

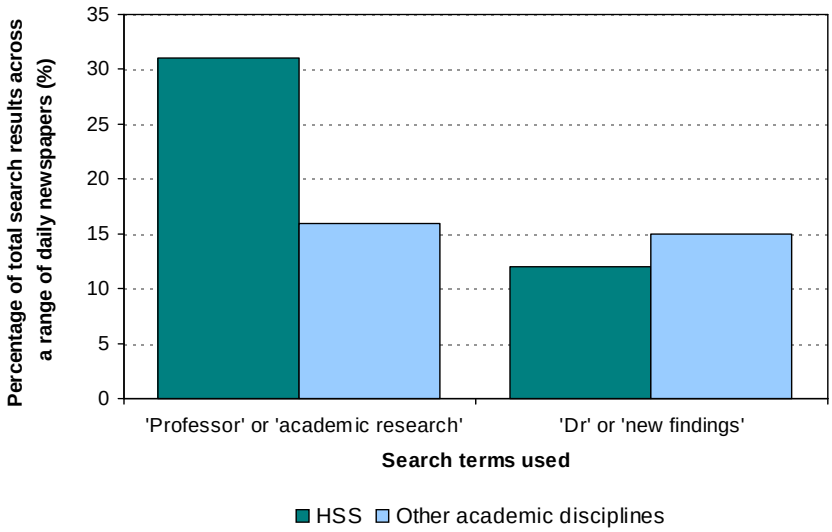
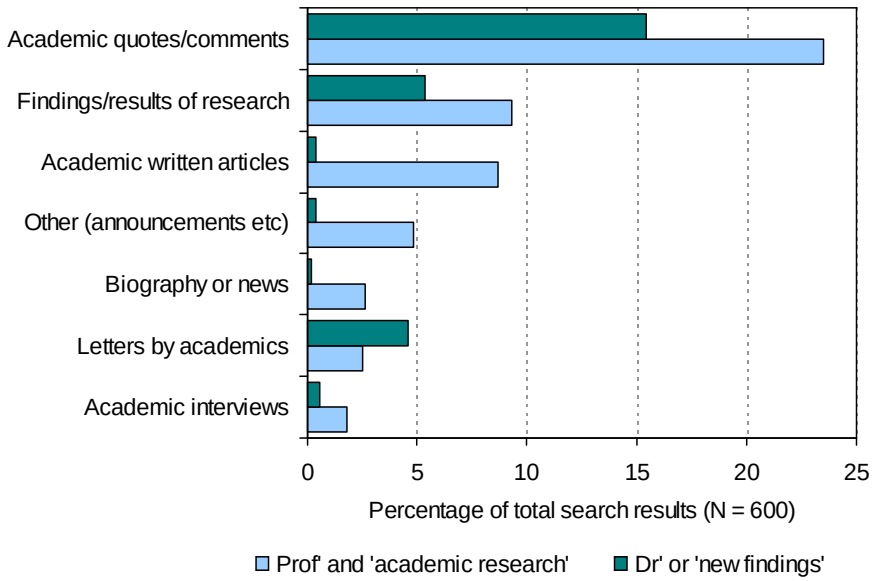


Figure 4.2: The type of references to academic research that we found in our two different searches



***Method Note*:** Using the Nexus publications database, we searched six groups of UK national newspapers (*Financial Times*, *Times and Sunday Times*, *Guardian*, *Independent and Independent on Sunday*, *Daily Telegraph and Sunday Telegraph*, *Daily Mail and Mail on Sunday*) for all references to the two sets of search terms during May 2007 (N = 600 for both searches). For each group of newspapers we looked at the top 100 results and for each result we coded the university mentioned, the subject area, the type of reference, and the academic discipline covered.

4.3 The type of items covered in Figure 4.2 above shows how academic inputs occur. In both searches the main source of coverage comes from reporters interviewing academics about developments (especially political and international relations developments) and including their comments or reactions as quotes in stories. If a newspaper is interested in covering new social research findings (such as polls or survey data), or an interest group campaign or published study, it is common practice to get verifying or checking comments from academics, seen as disinterested and able to help readers position the story in a wider context. Our interviews with civil society organizations confirmed this important 'dial-a-quote' function that HSS academics frequently provide. The second most common type of coverage for both searches occurs when papers cover new academic research itself. In the 'professor' search whole articles written by academics are the third most common type of coverage, but in the 'Dr.' search they are only a very small item. Letters written by academics to newspapers was the only area where 'Dr' searches which surfaced more references than 'Professor' searches.

4.4 In terms of subject backgrounds, both search approaches show the large discipline groups for medicine and health studies and then physical sciences and technology in the top two slots – we have not further disaggregated these somewhat omnibus categories because they are not our focus here (so inevitably they will have bigger scores than more disaggregated HSS disciplines). Individual HSS disciplines dominate the rest of the subjects (as can be seen in Figure 12 in the main report), with the first search putting the rank order as politics and international relations, then economics, business and management, psychology, law and history, followed by a large range of subjects with at least some coverage. The second search agrees in placing politics and international relations third, followed by psychology, then business and management and a shorter tail of low-scoring HSS disciplines.

4.5 This brief exploratory analysis suggests that there is a clear objective basis to HSS academics' contention that a broad range of their disciplines play a part in contributing to public debates. In many ways the strength of the coverage compared with that for the physical sciences is surprising, especially given the recent emphasis on enhancing the public understanding of science, the growth of 'pop sciences' as a literary form, the existence of well-developed specialist magazines mediating scientific and medical research to a wider public, and the presence of specialists science and medicine correspondents in all the newspapers we covered. Similar resources are rare and much more scattered in the HSS disciplines, although history has intermediating magazines and of course literature is a large staple of quality press book reviews. Does the strong performance of the HSS subjects relative to the STEM group highlight the latter's difficulties in disseminating findings more

widely because of the importance of maths as the 'language' of science, a language inaccessible to ordinary people? If this were the only factor at work we should expect to see humanities disciplines doing well, but in fact it is the social sciences - most relevant for public policy and economic growth (or most cognate to medicine in the case of psychology) - that seem to secure most coverage.

HSS academics seem relatively content with their impact role vis-à-vis general public, but acknowledge that more can be done to improve public understanding and culture

4.6 Media and cultural sector stakeholders interviewed for this study generally fell into two camps. Some executives mirrored more moderately the general critiques voiced by some business leaders of academic research as overly siloed and obscurely presented. However, practicing journalists and other 'operators' in the cultural sector (such as museum officials) generally have more specific expertise in particular aspects of the HSS disciplines and take a more open and tolerant view, recognizing the potentially functional features of university researchers' ways of doing things.

4.7 Humanities academics were buoyant in our e-survey about their public and cultural impacts, rating them as 4.7 (out of 7), with a potential impact score of 5.7. Social science academics concur on the potential but give a lower actual rating of 3.9.

Figure 4.3: Perceived scores given by HSS academics on the impact of their discipline in public debates and cultural enrichment, and the potential impact that their discipline could have

	[1] All HSS	[2] Humanities	[3] Social sciences	[4] Mixed or both
Public and culture				
Actual impact	4.6	4.7	3.9	5.0
Potential impact	5.6	5.7	5.4	5.9
diff.	**1.0**	**1.0**	**1.5**	**0.9**

4.8 Comments received in our e-survey suggest that HSS academics feel comparatively 'comfortable' with their impacts in the area of public debate and cultural enrichment. Figure 4.4 below shows that one fifth of the 146 academics writing comments implied directly that things were going well or were fine as they are. Only 1% of academics expressed any scepticism or rejection of the relevance of impact discussion in this area (easily the least cynical of the five impact areas assessed). Two in every five academics acknowledged that their own discipline could do more to

impact on the public, and one in every five pointed to weaknesses elsewhere, commonly in this case the funding support provided by government and lack of incentives for academics to do more outreach work.

Figure 4.4: How HSS academics evaluated their discipline's contribution to cultural enrichment and public debate

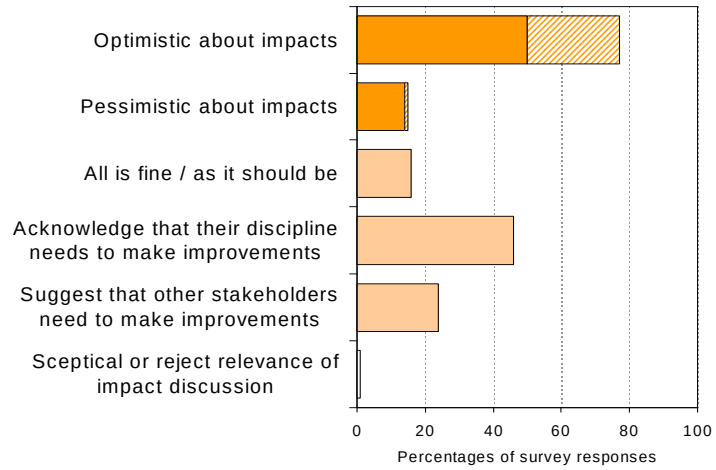


Figure 4.5: Main types of impact mentioned

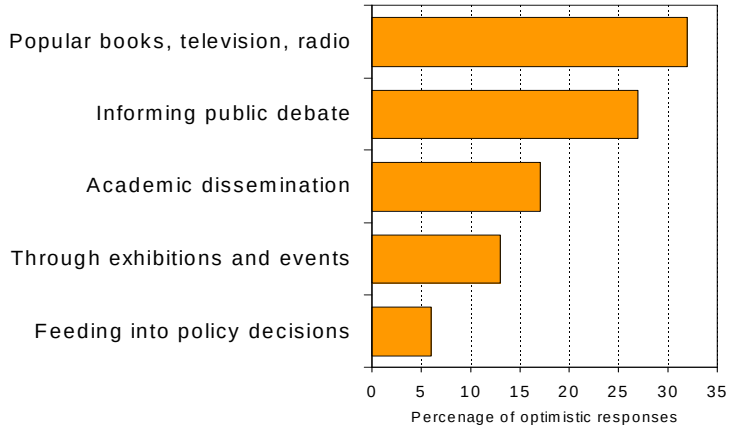
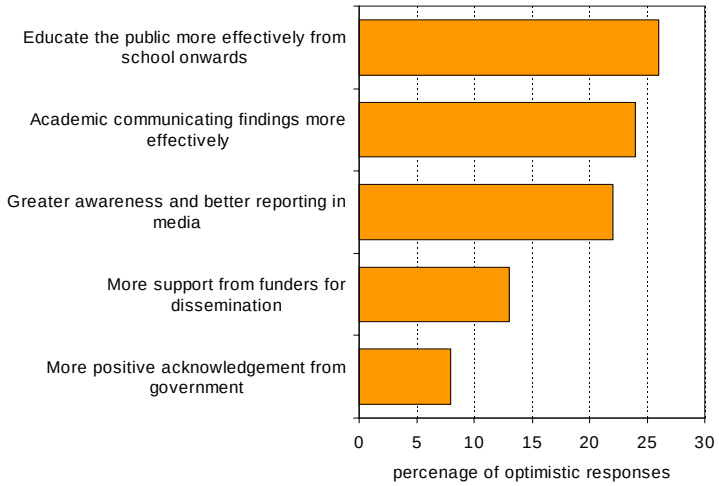


Figure 4.6: Main types of improvements mentioned



4.9 We asked for examples of impacts in the area of public debate and cultural enrichment. Figure 4.5 shows that almost a third of the 113 respondents commenting mentioned widely read books or broadcasting originated by academics, and a further one in six (almost all from the humanities) pointed to exhibitions or events as important foci for debate or cultural change. Other examples were more general, stressing conventional academic dissemination being mediated into public debates by journalists or think tanks. Around one third of academics gave relatively specific examples of impact. However, quite often academics were either reticent to overstate impacts or unable to discern causal processes. Comments such as the following were somewhat illustrative of the kinds of statement in this area: 'Apparently my textbook about Japanese Society is used by some, probably very few business people going to work in Japan'. This cautious testimony was confirmed by interviews, where academics were commonly unable to give figures on the number of books they had sold, and when pressed on assessing the actual impact of their book, could only give anecdotal stories of interest.

4.10 We coded academics' comments on improvements which could be made for HSS research to have a greater impact in the area of public debate and cultural enrichment (Figure 4.6). Many commenters saw a need for improvements in primary and secondary school education, particularly in certain humanities such as modern languages and history. This was connected to improved financial backing from research funders to encourage more outreach work, and more acknowledgement by government of how HSS research contributes. A further one fifth saw a need for the media to improve their awareness of academic issues and to report them more professionally. As balance to this, less than one quarter of respondents saw the weakness lying with academic disciplines, and a need for academics to find more effective ways of communicating research.

HSS academics cooperate with civil society organizations in a wide variety of ways. However, we found signs that communication and needs could be far better understood across academic and civil society interface

4.11 In the late nineteenth century British social theorists were some of the key founders of the modern doctrine of 'pluralism', which stresses that behind public debates, cultural change and the development of societal, economic and political competences that mark a distinctively modern society there lies the activities of a huge mosaic of associations – especially functional interests, such as occupational groups, professions and trade unions; spatially organized communities at local, regional, national and trans-national levels; and communities created by religion, ethnicity,

language, political and social orientations, and personal interests, such as churches, charities, and other non-government organizations (NGOs). Only the maintenance and development of social pluralism can provide the necessary checks on the large-scale accretion of power by major corporations, economic power-holders and governments and public agencies. Social diversity helps ensure that a climate of open public debate is maintained and that there are many sources of social stability, values and norms on the one hand, and of social entrepreneurship, innovation and change on the other.

4.12 Academics in the humanities and social sciences seek to influence or to link with more than just the big battalions of the business world and government policy-makers. They also extensively co-operate with NGOs, charities, unions, local communities and other forms of social organizations, seeking their help in their research (for instance, in achieving successful large-scale surveys or reaching social elites for qualitative interviews). Many academics are associated with NGOs over long periods of time, contributing their expertise and research time either free or at highly reduced 'pro bono' rates, and advising charities and NGOs on the development of their own research work and efforts to influence public policy-makers. These efforts are hard to quantify, partly because the scale of operations of very significant NGOs may not be easily captured in terms of money, staff or other tangible indicators, especially where they draw upon various forms of donations in-kind – in the form of time or expertise.

4.13 Compared with business and government leaders, people in civil society organizations are far less overtly critical of the limits of HSS disciplines. The stakeholders we interviewed are generally very grateful for the existing levels of involvement by academics and researchers and for their general willingness to give their research and time freely. However, charities, NGOs, trade unions and think tanks also sometimes voice in a much milder way some of the business and government criticisms, especially about universities' low valuation of applied research and the tendency for social science research to be overly siloed on discipline lines and for academic work to verge towards overly esoteric formulations or impenetrable expression.

Academic staff are generally positive about their impacts in civil society, but envisage improvements in the way that their research is communicated

4.14 Figure 4.7 shows that the 448 academics in both the humanities and social sciences who responded to our e-survey are overwhelmingly optimistic about their actual impacts on civil society organizations – rating their actual impact between 3.7 and 4.5 on a scale from 1 to 7, and their

potential impact at 4.8 to 5.6. Social scientists are as positive here as they are for public policy impacts, and humanities respondents are more positive.

Figure 4.7: Perceived scores given by HSS academics on the impact of their discipline on civil society organizations, and the potential impact that their discipline could have

	[1] All HSS	[2] Humanities	[3] Social sciences	[4] Mixed or both
Civil society				
Actual impact	4.1	3.7	4.5	4.1
Potential impact	5.1	4.8	5.6	5.3
diff.	**1.0**	**1.1**	**1.1**	**1.2**

4.15 Figure 4.8 shows that four fifths of the 146 academics contributing comments on impacts on civil society were optimistic, albeit in rather vague ways, while only one in ten respondents commenting were pessimistic. Around one in ten academics expressed the view (in one way or another) that things are fine as they are, and around the same proportion expressed some degree of scepticism concerning the relevance of achieving impact in civil society. Academics respondents show little (if any) scepticism about the idea of impact on public debate and culture; however an ever-resistant ten per cent reappear when the focus is on civil society. A solid two fifths of respondents acknowledge that their own discipline can make improvements in terms of having impacts on civil society organizations.

Figure 4.8: How HSS academics evaluated their discipline's contribution to civil society

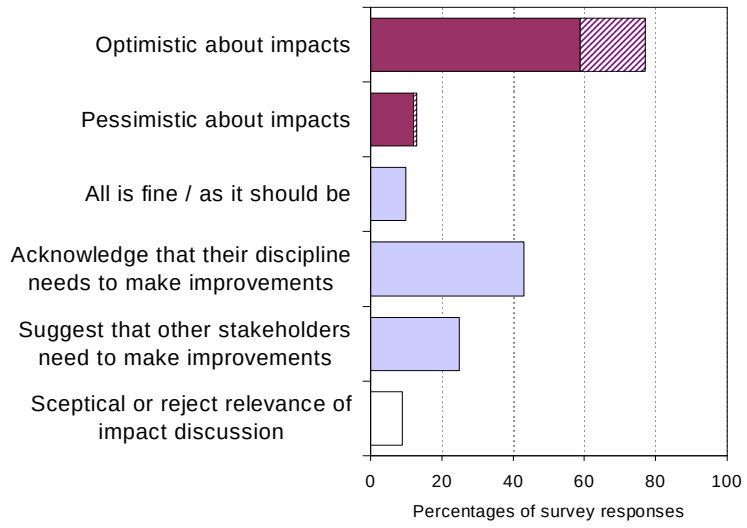


Figure 4.9: Main types of impact mentioned

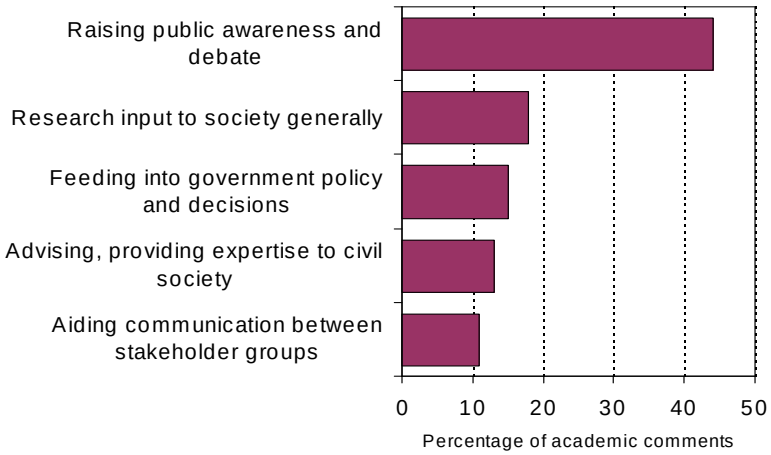
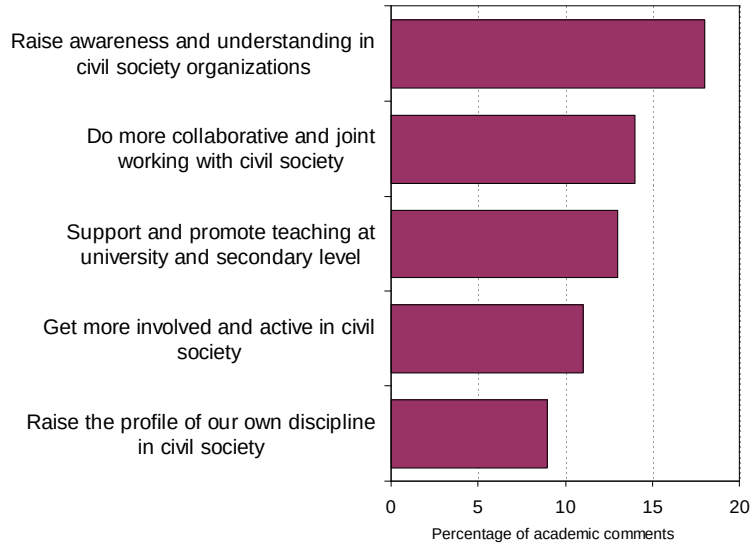


Figure 4.10 Main types of improvements mentioned



4.16 Looking now at the type of impacts mentioned in Figure 4.9, nearly three quarters of the academics citing 113 specific examples said that their research contributed to raising public awareness and improving debate, and filtered into society more generally. Most of these comments were without specifics, again with respondents showing a certain reticence and uncertainty about how to link their own research to tangible or discernible outcomes. Feeding into government decision-making was mentioned by one in six people commenting. A further one fifth, argued that academic research facilitated communication between different social groups (for instance, across religious or ethnic divides). Figure 4.10 shows that the 125 suggestions for accomplishing improvements are spread very evenly across multiple headings, but mainly concentrate on things that HSS disciplines can do to make their research more relevant to and better understood by NGOs.

Current trends and future developments in HSS disciplines' impacts on public debates, cultural development and civil society organizations

4.17 The rapid changes in 'digital era' patterns noted in the business and government sectors have strong corollaries and implications for the HSS disciplines in relation to civil society also. Changes in major media have significantly increased the demand for and opportunities for HSS disciplines' expertise. For example, the advent of 24 hours TV news and more specialist political and business news channels has increased demand for interviews. The growth of more focused TV channels and the diversification of broadcasting has increased the demand for programming relevant to particular humanities subjects (notably history, literature studies, cultural studies and philosophy) and to a lesser degree in the more accessible social sciences (such as psychology).

4.18 The full implications of these developments for cultural change and social development are still the subject of vigorous debate and speculation, and there is as yet no consensus on what they will be. But there is agreement that advanced industrial societies are shifting towards faster (and perhaps more complex) cycles of innovation, in which the abilities to identify and characterize changes quickly are increasingly at a premium. The distributed capacity of many individuals across our society to contribute to economic change, public policy formulation and implementation, and social entrepreneurship has ushered in a period of 'democratizing innovation' (von Hippel, 2005) in which users, consumers, and ordinary citizens increasingly play vital roles. In informing these processes humanities and social science disciplines already play a key role and look well-adapted to continue to do so.

Chapter 5: HSS research and its interface with the physical sciences

5.1 In the modern period the future of higher education and perhaps of human societies as a whole on a 'resource-shrinking' and increasingly globalized planet, are strongly bound up in fostering better co-operation amongst academic disciplines. In this Chapter we briefly survey an updated view of the 'two cultures' problem and look at some examples of the links between the HSS and science, technology, engineering and maths (STEM) discipline groups. We then consider our e-survey evidence on how HSS academics more widely see the issues here.

The 'two cultures' problematic now seems out-of-date, given challenges of inherently joined-up research issues. However we still find signs of an ongoing cultural divide

5.2 As in many other organizational contexts, the fragmentation of academic knowledge and the efforts of universities into different departmental and disciplinary silos have long been recognized as a key problem of UK (and overseas) higher education. In the 1950s C. P. Snow's key phrase 'the two cultures' captured the strong divorce between the physical sciences way of doing things, based on a 'language' of mathematics and formal reasoning, and that of all other (at that time mainly 'arts') disciplines and of ordinary knowledge/common sense ways of thinking and reasoning. In fact, some areas of science, such as those dealing with medicine and the 'natural world', have always evoked wide public and media interest, and consequently attracted the attention of mediators who try to encapsulate and break down scientific knowledge in more accessible ways. More recently the strong push to improve the dissemination of scientific research and to develop better 'public understanding of science' have also blurred the 'two cultures' divide. And the recent growth of 'popular science' books, many written with a historical slant, also attests to a widespread public interest in better understanding how the physical and mathematical sciences work.

5.3 In the modern period, however, there is a widespread trend towards the 'technicalization' of more of the social sciences, which also noticeably affects one or two of the humanities and some specific sub-fields in more humanities areas. The changes here are seen especially in the increased prevalence and development of formal models expressed in mathematical and statistical terms and the use of large volumes of quantitative data across the social sciences. This was evident in the public policy domain where we found growing support among government social researchers for the use of 'scaled down' versions of randomized control trials in policy evaluation work. These developments might perhaps suggest that the fracture lines of Snow's 'two cultures' increasingly

run *within* the HSS group, between the formal/quantitative fields on the one hand and the more or solely qualitative methods areas on the other, rather than between the physical sciences and the rest.

5.4 There are some rich interchanges between the physical sciences and HSS disciplines. A number of observers with long-run experience in academia and the private sector agreed that the institutional and research links between the STEM disciplines and the humanities were vitally important in ensuring a more rounded approach to scientific application, for example in fields such as international health development, neuroscience, and robotics. The same observers were concerned that these links had become generally weaker in the last decade or so. The physical science and medical model of how to develop a cumulative knowledge base has been a highly influential one in the social sciences, among whose practitioners some commentators have detected a 'physics envy'. (Critics from the qualitative fields of these disciplines see this stance as reflected in implausible or premature efforts at the 'mathematization' of some social science disciplines.) In fact a succession of different physical science theories and approaches have provided powerful and highly influential analogies, triggering developments in social science theories. These include the original impetus of Newton physics (with an analogous 'field' concept strongly embodied in the assumptions of neo-classical economics), evolutionary theories and debates that have influenced sociology and fields like evolutionary economics, and more recently the different broad pictures of scientific endeavour suggested by developments like chaos theory or genome research. Of course, there are some reverse flows from HSS disciplines into physical sciences, from fields like the philosophy of science, the sociology of science and the professions, and empirical studies of the public understanding or cultural implications of science – although for many physical scientists these 'reverse' interventions are still seen as controversial. Finally, there are some instances where much more complex cross-fertilizations occur. A key area concerns the way that developments in social science statistics and other methods have transformed medical research and the testing of treatments in the post-war period. At the same time, medical researchers have developed very strong and articulated models for evidence-based research and ways of looking across a wide range of studies with different methods, data sources and findings – approaches that have been highly influential in again changing social sciences methods to incorporate the medical studies' innovations.

5.5 The origins of these increasing convergences between the HSS and STEM discipline groups are not hard to find. The increasing salience of information and IT systems mean that all modern organizations are complex 'socio-technical' systems in which information-engineering plays critical roles. User innovations in industry, services and social life typically involve an appreciation of how

machinery or technical systems, along with social uses of them, combine to bring about particular results, a level of insight that is often unavailable to the initial designers of machinery, services or products. Our interviews with a number of leading telephony and data corporations reveal intensive research focus on the latest ways in which young people are using mobile and web technologies. Similarly in medicine virtually all treatment regimes are highly influenced by cultural and social behaviours and by patient understandings of the processes they are involved in. The stakeholders we interviewed told us repeatedly that for businesses and for government the inputs that they would most value from higher education are those that offer 'joined-up solutions' to closely integrated, multi-causal problems. This kind of solutions would bring together STEM and HSS disciplines' knowledge, instead of separating it into different academic cultures, or worse still fragmenting it across many different disciplines in ways that businesses and government find hard to reconcile or fit together. A 'reality check' that discussion around interdisciplinary issues may largely be a preoccupation of the university classes came during an interview with a major UK think tank: 'The concept of interdisciplinarity is hard to get your head round [...] We are working in the real world and don't visualize issues in separate disciplines or fields. This is probably more of a relevant concept for university departments'.

HSS academics have relatively low estimation of the impacts of their work in the science and technology spheres. However both HSS and STEM academics recognise a potential for more 'rounded' integration

5.7 The 448 respondents from the humanities and social sciences to our e-survey are generally reserved about their discipline's actual impacts in connecting with the physical sciences, medicine or technology in the recent period (see Figure 5.1 below). Overall, influence on the physical sciences and medicine scored lowest of all five our categories in terms of actual perceived impact (2.9 - on a scale from 1 to 7) and only marginally above the category of economy and business in terms of potential impact (3.9). Humanities academics rated their disciplines' actual impact at 2.6 and potential influence at 3.3. Social scientists were slightly more optimistic at 3.1 for the actual impacts score, and then envisaged a slightly larger jump to 4.5 for potential impact.

Figure 5.1: Perceived scores given by HSS academics on the impact of their discipline in physical sciences, technology and medicine, and the potential impact that their discipline could have

	[1] All HSS	[2] Humanities	[3] Social sciences	[4] Mixed or both
Science and technology				
Actual impact	2.9	2.6	3.1	3.1
Potential impact	3.9	3.3	4.5	4.0
diff.	**1.0**	**0.7**	**1.4**	**0.9**

5.8 Although these are low scores vis-à-vis other impact areas, the comments provided by academics to our survey were generally optimistic. Figure 5.2 shows that a fifth of the 130 respondents who commented in our e-survey were generally pessimistic about the impact of their discipline in science and technology fields, but that none gave any specific illustrations or justifications for this pessimism. Three fifths, however, were generally optimistic, although only one in 20 offered specific examples to back up their optimism (largely following patterns in other areas).

5.9 Asked what suggestions they would make to foster more connections with the physical sciences, Figure 5.2 shows that only one in ten HSS respondents commenting were sceptical or deprecating about such links. (Looking at the equivalent range of scepticism across our other four areas reveals quite an interesting picture about where HSS academics feel impact discussions should be taking place. Ten per cent are sceptical on science and technology (and civil society), compared to a much higher 25 per cent on economy and business, and a much lower 1 per cent on public and cultural enrichment.) Again in Figure 5.2, nearly half of HSS academics suggested that changes needed to be made by other stakeholders (largely scientific research communities and government). Nearly a third saw a need for their discipline to change.

Figure 5.2 How HSS academics evaluated their discipline's contribution to science and technology

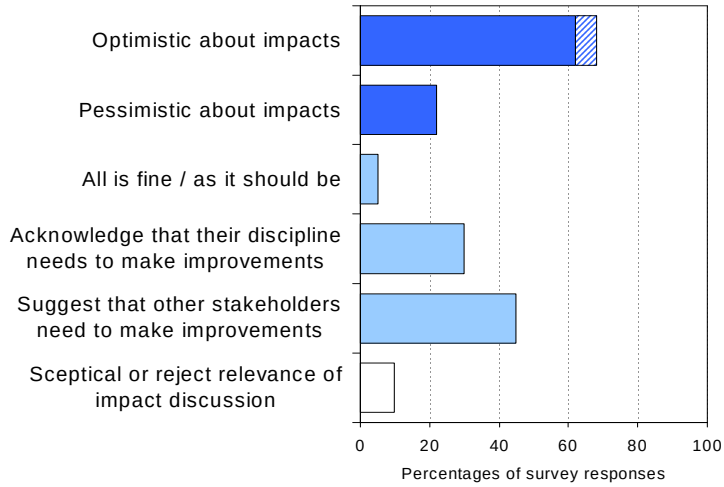


Figure 5.3: Main types of impact mentioned

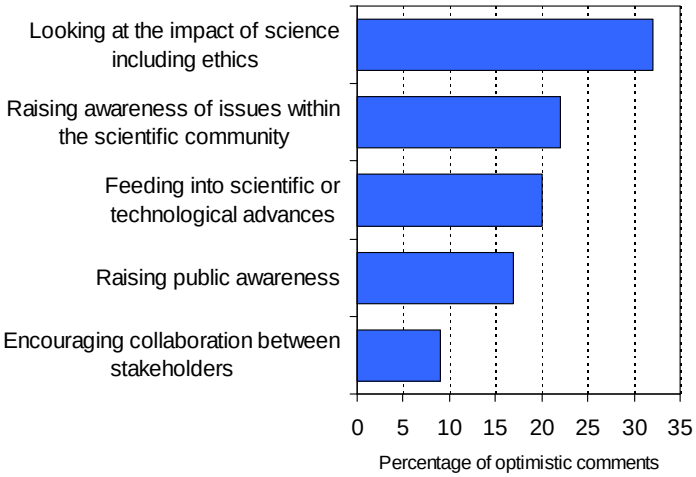
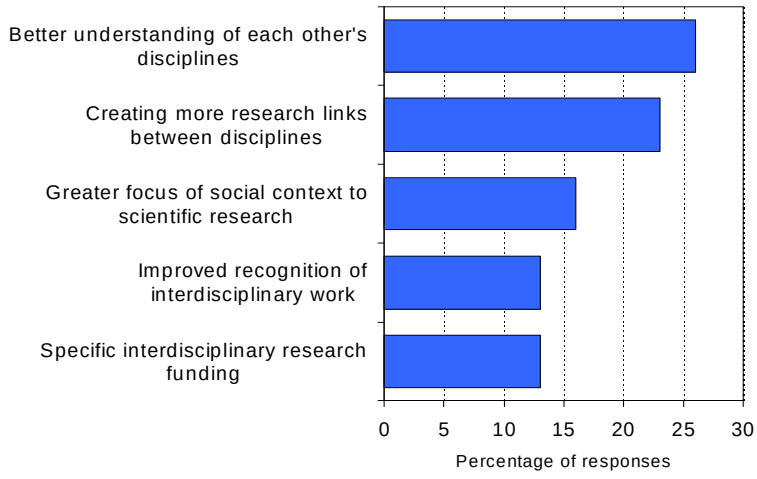


Figure 5.4: Most commonly cited suggestions for improving impact



5.9 Turning to the 88 instances of connections cited, Figure 5.3 shows that over a third involved looking at the ethics or impact of physical science work. Many of these examples lay in the area of medical humanities and bio-medical ethics, and other areas such as philosophical approaches to cognitive neuroscience. A further third involved feeding into scientific or technical advances or encouraging collaboration. And a number of academics referenced 'bridging' programmes funded by research councils as an important lever for impact spanning STEM and HSS disciplines. For example, the AHRC's 'Heritage and Science' initiative was mentioned positively a number of times independently in the survey returns and by major public institutions such as the British Museum. The remaining suggestions involved awareness-raising, either among scientists or the public at large.

5.10 Thus a spirit of cooperation still burns, with one half of HSS academics advocating either better understanding across the discipline groups or the creation of more or better research links between the disciplines, shown in Figure 5.4. Around one sixth of responses focused on the need for greater focus on the social and philosophical context of science research (largely by physical science disciplines). Interestingly many of our interviewees from STEM disciplines felt strongly that undergraduate and graduate STEM courses could and should do much more to integrate related HSS modules or options. One interviewee said: 'It should be mandatory that all sciences do at least two years of this history and philosophy of their subject […] It has to be seen as integral to the understanding of the subject'. Getting more recognition of inter-disciplinary work in status or funding terms figured moderately as a general theme. Some universities were mentioned specifically as having made some progress in building in external impact considerations into professional promotions (see for example University College, London and HEFCE's Beacon of Engagement Scheme).

Appendix: Case Study Examples

A. Introducing tuition fees into UK higher education

B. The growth of research into happiness and well-being

C. Explaining and interpreting new human rights legislation in the UK

D. Scientific breakthrough and new challenges for HSS disciplines

E. Public engagement in the culture sector and the role of academic research

F. Climate change and environmental sustainability

G. Academic history and the impact of historical narratives

H. Modern languages research and teaching in the UK

I. Research culture and networks in international development

J. Third sector organizations as champions of academic research

K: The impact of philosophy and philosophers

Figure 1: Case study matrix indicating major areas of subject coverage of case studies

		Case study number *(as above)*										
		A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**
Social sciences	Politics and public policy	X	X	X	X		X	X	X	X	X	X
	Social studies	X	X	X			X				X	
	Economics	X	X		X		X					
	Human and social geography						X		X	X	X	
	Business and management				X	X	X		X			X
	Anthropology					X				X		
	Education	X							X			
	Media and communications					X						
	Social psychology		X									
	Finance and accounting											
Humanities	History and art history				X	X		X	X	X		
	Law			X	X					X	X	
	Modern languages					X		X	X			
	Philosophy		X	X	X							X
	Culture studies					X			X			
	Archaeology					X						
	Theology					X						
	English language and linguistics											
Non-HSS	Physical science					X	X			X	X	
	Medical science				X			X		X		X
	Natural science		X		X		X					
	Arts and creative					X		X				

About these short case studies

a. The following ten short case studies are designed to provide more detailed and illustrative information to supplement the main report alongside this research report. Of course we cannot provide full coverage of all humanities and social science disciplines. However, we wanted these case examples to highlight some of the interdisciplinary characteristics that are so clearly an increasing feature of academic teaching and research today. They also give a flavour of the types of work currently underway in academic departments across the UK that are achieving positive social impacts.

b. The cases were developed using data that came from the full range of methods that we used for this report. Some information came via interviews with senior policy-makers, academic staff, private sector employees, third sector organizations, and funding and charitable bodies. Some data came from the online survey of academic members of the humanities and social sciences professions. Lastly, some came via non-reactive measures such as press archive searches, Google searches, and other systematic review of corporate documents.

Case example A: Introducing tuition fees into UK higher education

A1. In July 2004 the Higher Education Act instituted major reforms to higher education funding involving the introduction of variable tuition fees to be paid by students and set at the discretion of universities, up to a maximum threshold of £3,000. This measure was accompanied by the introduction of programmes increasing access to financial aid and bursaries, and by continuation of the deferred and income-contingent repayment of fees through the existing student loans system. A 2003 higher education White Paper introduced the outline of a variable fee scheme. The £3,000 fees cap was based on average cost calculations from two countries that had already implemented variable fees, Australia and New Zealand.

A2. Our interviews revealed strong and varied influences (and views) from economists, social scientists, campaigning organizations and unions, and educationalists in the lifespan of these policies and their implementation. We have found general agreement that LSE economist Nick Barr and his colleague Ian Crawford were integral in setting out and campaigning for the specific combination of measures. As one experienced commentator put it unprompted: ‘There is no question that Nick Barr had an influence on final policy outcomes of the higher education reforms in 2004’. Their work over 16 years leading up to the 2004 Act involved a mix of academic research,

information provision, and targeted and persistent lobbying (at times at the very heart of government) to push through these changes. In fact all the interviewees we spoke to in relation to this case, including officials from the Department for Education and Skills (DfES) and academics from other universities advocating alternative funding models, confirmed to varying degrees that the combined influence of Barr and Crawford provided a blueprint for the current system.

Quotes on reform to the higher education system…

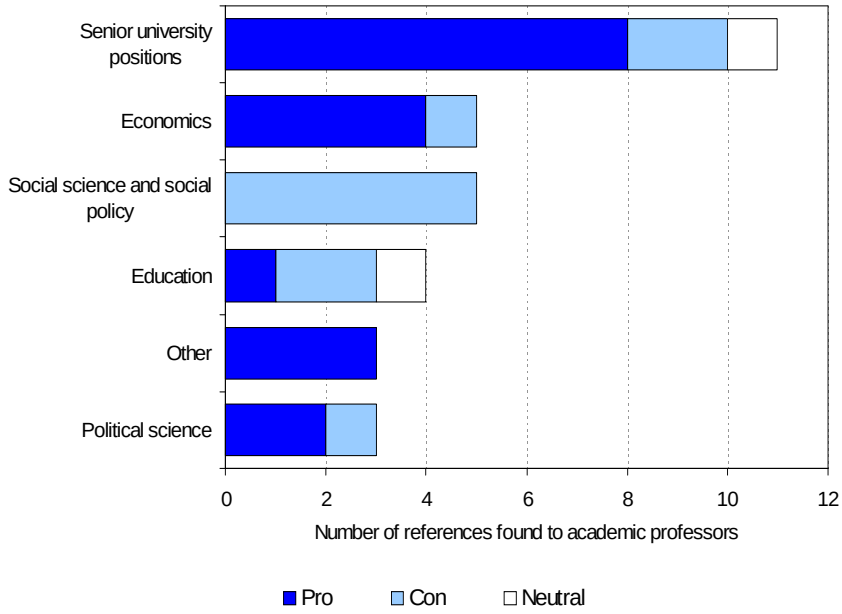
'I'll give you a killer fact. In the 2003 White Paper there was only one academic reference in the footnotes and that was about the relationship between teaching and research.'

'All the research was telling us that tuition fees would put students off…When you look at the entry figures for 2007 it hasn't deterred people at all, in fact the number has increased.'

'There was nothing "rounded" about the way in which research informed policy changes in 2004.'

A3. It would be misleading and incorrect however to imply that this research alone shaped the 2004 Act. Barr himself acknowledges that there had been a growing consensus among leading economists by the late 1990s that a funding crisis in the higher education system would be inevitable without some form of adjustment to the revenue mechanism. It is not within our remit here to delineate on the relative merits and drawbacks of the new tuition fee system. However, we did scan press and media to try to determine the extent to which the reforms were underpinned by informed academic research and the extent to which evaluation of the research has been effective. We carried out a Google search of references to 'tuition fees' and 'professor' in order to get a picture of range of academic commentary on the reforms. Figure A1 below shows that from 200 results we found at least 30 academics from a range of disciplines that had commented or produced relevant research in this area. Interestingly, a high proportion of economists and those in senior university positions seemed to be commenting in favour of the reforms, while strikingly all the other social scientists were expressing either concern or criticism.

Figure A1: Number of positive and negative references found in a Google search for 'tuition fees' and 'professor'



Note: We searched Google using the terms 'tuition fees' and 'professor' and looked at the top 200 results. We reviewed each result and coded up any relevant information about academics giving views on the introduction of tuition fees in the UK higher education system. This graph shows the discipline in which the academic is working and whether their reference is generally positive, negative or neutral about tuition fees.

A4. Other researchers in the field of social science and education provided important evidence to the DfES during the mid to late 1990s on the consequences of reform to the funding system. Social scientists and researchers from South Bank University carried out work for the DfES on the potential regressive effects of the abolition of grants and the extent to which debt may deter students from going to university. These academics have conducted three iterations of the influential and very valuable Student Income and Expenditure Survey, commissioned by the DfES every other year. It has formed an important tool for benchmarking the impacts of higher education finance reforms. Students unions represented by the National Union of Students (NUS) were active participants in the consultation and evaluation process. The NUS told us that it commissioned academic research from Sussex University on top-up fees and recently worked with the Institute of Fiscal Studies on issues around the economy of education. Research plays a major part in their campaigning and policy work.

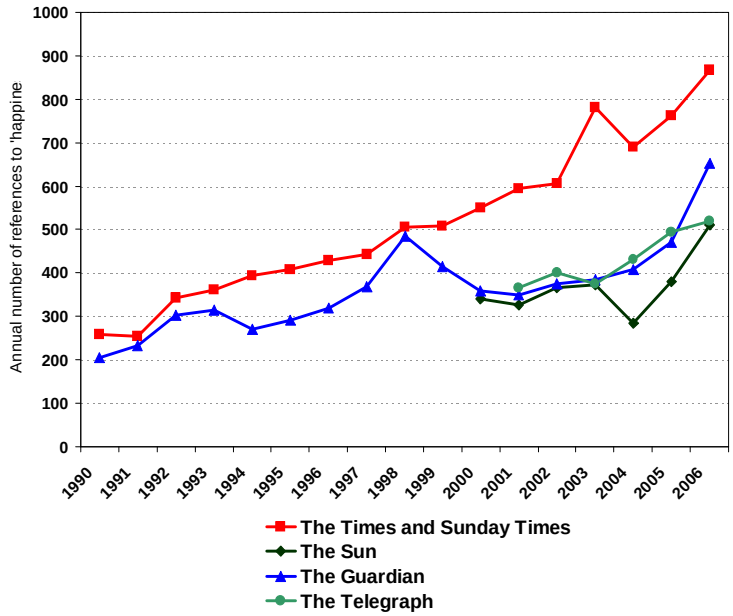
A5. Predictably with such a divisive policy issue, we found that other academic research has observed the implementation of the tuition fees system closely and raised questions about the extent to which it has been successful. Research by the Institute of Education suggests that the top-up system has not worked and has led to new transaction costs involving graduate contributions and advance payments by the Treasury. Interviewees suggested that we do not have the 'market' that everybody envisaged: 'There is a sense of unrealism about the whole debate […] and the quality of

the overall research environment is questionable'. These different views lead back to the way in which policies are fashioned at senior political level and the extent to which research will necessarily have only a limited influence in the context of achieving decisive political objectives. Academic researchers were generally sanguine and realistic about the impact of political imperatives on the extent to which policy makers use research findings. Numerous commentators warned against variations of the 'silver bullet syndrome', in other words short term solutions to the problem of the higher education funding drain. As one interviewee put it: 'You take a decision to charge a market rate of interest, and the problem is solved overnight'.

Case example B: The growth of research into happiness and well-being

B1. In the last twenty years academic research at the interface between economics, psychology and neuroscience has undermined the assertion that material living standards alone or principally determine the happiness or well-being of people in developed countries. Once developed countries reach a certain level of economic prosperity, the relationship between any further increase in prosperity and overall reported happiness becomes tenuous. The theme of happiness and well-being has grown into an important sub-strand of research economics. As one of the leading economists in this area Andrew Oswald suggests, Gross National Happiness (GNH) has become as important as GNP in measuring wealth in developed societies. A simple search of the UK mainstream press shows that references to 'happiness' have increased three or fourfold since the early 1990s, shown in Figure B1 below. More people are talking about the concept of happiness (even if aggregate levels of happiness show signs of having fallen).

Figure B1: Growth in the annual number of references made to 'happiness' in UK mainstream newspapers since 1990



B2. Happiness and well-being research has had a wide range of impacts in drawing together different academic disciplines, policy development, and society at large. In academic journals, papers on happiness are increasingly highly cited. Oswald published an article with David Blanchflower in 2004 in the highly-regarded *Journal of Public Economics*. 'Well-being over time in Britain and the US' became the second most cited academic article in the world according to ISI Highly Cited at the time. Researchers estimate that in the pre-2000 period, academic articles on well-being were published at a rate of around one every two months whereas in the period post-2000 this rate averages around one per week (Clark, 2007). We found evidence that happiness research has provided strong foundation for innovative policy development at the heart of UK government. In December 2002 the Prime Minister's Strategy Unit published a high profile and well-received report exploring the relevance of happiness discourse in modern-day policy making. The Conservative party in recent years has also drawn heavily on the discourse of well-being. MORI launched a new survey in 2004 'Life satisfaction and trust in other people' exploring what makes people happy. Best selling books such as Richard Layard's *Happiness* (2006) and Oliver James' *Affluenza* (2007) have raised the profile of the theme in terms of popular culture and discussion. In April 2006 the BBC screened a six-part series called 'The Happiness Formula' on human happiness which included academic contributions from Ed Diener, Dylan Evans, Daniel Kahneman, Richard Layard, Andrew Oswald, Martin Seligman, and Ruut Veerhoven. Perhaps not surprisingly, private sector firms have also shown interest in the ingredients of human happiness. For example, Cadbury commissioned a large study with the evolutionary psychologist Dylan Evans in 2003 to research factors which increase people's feelings of happiness.

Quotes on research into happiness and well-being . . .

'The UK is flourishing in terms of academic research on happiness.'

'It is still hazardous for an economist to submit papers to journals outside of the discipline. So what happens is that disciplines submit to their own journals, establish a discipline-led literature, and then all plough in together at conferences on happiness.'

'We are now in a period where happiness research has become very popular, even trendy. The early signs were there in mid-1990s . . . probably a bit of luck and timing.'

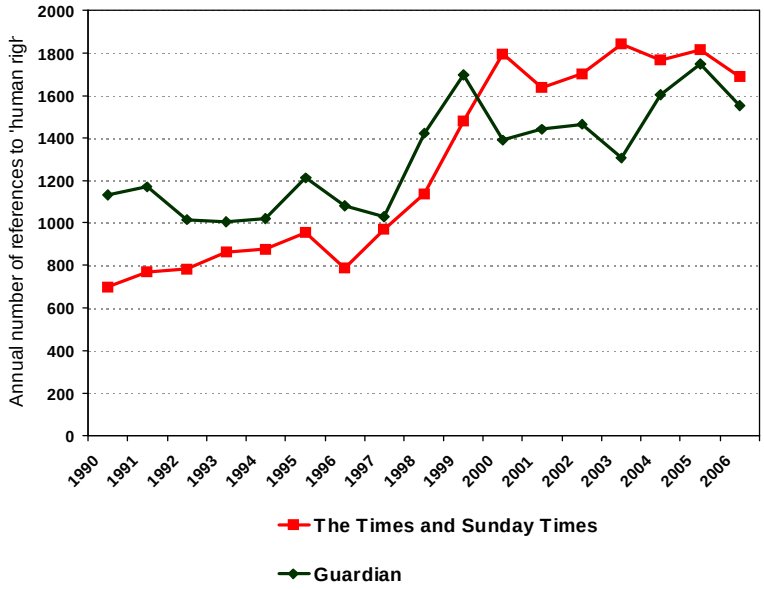
B3. Our interviewees raised a number of questions about the impact of happiness research in general. One or two more sceptical discussants agreed that there has been 'astonishing' improvement in hard evidence on happiness but argued that this has not filtered through to policy and public debate. Despite ongoing development of more practically based tools such as the World

Happiness Database at Erasmus University, we find very few specific examples of happiness research being applied to policy change. There are exceptions, such as the Department of Work and Pensions and Department of Health's recent research on health, work and well-being. A further concern relates to the extent to which happiness has matured as a truly interdisciplinary subject. Leading economists generally felt that although it is common for researchers to range across disciplines, there was still an element of territoriality about the subject. Some suggested that it can be dangerous for academics in one discipline to publish in journals that are not established in their field. This limits the extent to which different disciplines are contributing to a unified source of expertise, such as the *Journal of Happiness Studies*.

Case example C: Explaining and interpreting new human rights legislation in the UK

C1. The Human Rights Act 1998 introduced into the UK courts a statutory remedy for breaches of the European Convention on Human Rights (ECHR). In particular the Act made it unlawful for any public body to act in a way which is in breach of the ECHR. The profile of human rights discourse and debate undoubtedly increased as a result of preparation for and implementation of the Act. It has led to the fast development of what is effectively an interdisciplinary field of study into human rights involving law, social science, philosophy, history and public policy. The coverage of human rights stories in the UK national press has broadly doubled since the beginning of the 1990s, as shown in Figure C1 below. We searched for references to 'human rights' in the *Times* and *Sunday Times*, and found just under 700 references per year in 1990 had increased to over 1,800 by 2006. A similar search in the *Guardian* showed an increase from just over 1,000 in 1990 to under 1,700 in 2006.

Figure C1: Growth in the annual number of references made to 'human rights' in UK mainstream newspapers since 1990



C2. Law academics and social scientists in particular have had a major impact in laying the groundwork for and in explaining and interpreting new human rights legislation in the UK over the last ten years. During the mid-1990s the British Labour party were proactive in tapping the views of leading academics across a variety of disciplines in order to lay out an agenda for government. In 1995 the Party convened a meeting at King's College London designed to engage leading academics. One of the items on the agenda was human rights and the development of human rights legislation. By 1997 academics and barristers were involved in drafting the White Paper that would ultimately become the 1998 Act. Between 1998 and 2000 the need for academic legal expertise 'came to the fore' as judges, legal professionals, and other members of the judiciary required training and guidance on the Act's legal detail. The senior judiciary set up a training scheme through the office of the Lord Chief Justice, involving briefings by leading law academics. Interviewees suggested that these years directly after the introduction of the Act formed a 'period of transition', involving systematic interaction between senior judges and law academics that had been 'largely unprecedented'. Leading law academics found themselves in a position of influence. As one interviewee described it: 'Academics became gurus of the new knowledge'.

C3. One interesting consequence of this 'new dawn' environment was that law academics found that their journal papers were having a legal precedent-setting effect – in other words, being referenced or used by judges to formulate or underpin judicial decisions in court. Law review articles had a direct impact on the way in which cases were framed and decisions made, either through direct reference in the judgement to academic articles or more indirectly via signs that academic articles had a guiding effect on judges in their deliberations. As one interviewee

suggested: ‘Judges were basing assessment of law on articles in weighty journals’. Another major area for academic impact in the years following the introduction of the Act has been in advice and interpretation of its requirements for government departments. Section 19, the only section of the Act not to be delayed, obliged departments to ensure that all legislation and regulation produced should be compatible with the Act. As one expert told us: ‘Departments scrambled about wanting to know whether their legislation was human rights proof’. Our interviewees have all worked with a range of major departments in this capacity. Academics have also had strong impact through the parliamentary process, particularly as legal advisors and expert witnesses to the Joint Committee on Human Rights and the Home Affairs Select Committee. Some academics suggested that their profession could have done more to ‘demystify’ the Human Rights Act and remove some of the ambiguity that arises from politicisation of the legislation.

C4. Increasing awareness and relevance of the social, economic and political implications of human rights legislation (and discourse) has been largely responsible for the rapid growth of human rights as an interdisciplinary field of academic study. The last ten years have seen a burgeoning number of new integrated human rights departments at universities such as University College London, London School of Economics, Nottingham and Essex, and the discipline has become an extremely attractive field of study for graduate students coming from a wide range of backgrounds.

Quotes on the usefulness of the academic study of human rights . . .

‘Human rights are complicated because they essentially involve moral and policy issues, and lawyers feel ill-equipped to address these directly.’

‘The judiciary still look to academia for advice, and there are quite fluid boundaries between the judiciary, barristers and academia. There is a continuing flow of information across these boundaries.’

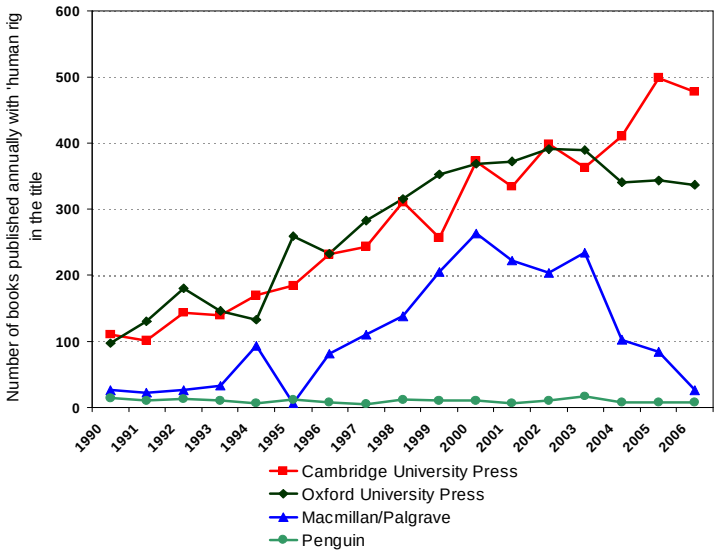
‘The Home Office employs country experts to give background information on countries in asylum claims. . . . There is potential here to use academics, set up links with academics, and have them play an independent and systematic role in giving evidence in claims cases.’

C5. A similar profile increase can be seen in the third sector as organizations such as Justice and Liberty have positioned themselves at the centre of public debate and policy development. Justice, an organization of just eight full time staff, view their role as advising and promoting respect for human rights in all spheres of society, particular policy development, and they place a high value on research and expert analysis, including academic work:

> Much of our work is translating work done by lawyers and law academics into a more accessible format for consumption in policy making communities. […] There are of course economic and social implications of human rights legislation, but there does tend to be institutional resistance which means that academics tend to stick to their area of competence. This means that rounded studies are quite rare, and there is definitely demand for more extensive cross-disciplinary work.

Lastly, there has also been an increase in interest in this subject area within public debate, as can be seen from the numbers of books published annually that discuss human rights over the last decade (see Figure C2 below).

Figure C2: The number of books published annually by a range of academic and non-academic publishers with the term 'human rights' in the main title or sub-title, by year



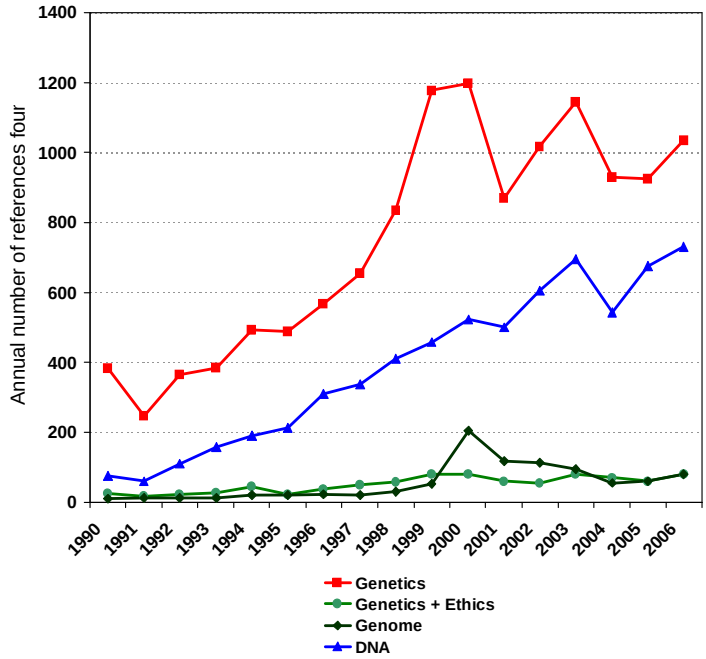
Case example D: Scientific breakthroughs and new challenges for HSS disciplines

D1. Breakthrough discoveries in the physical and biological sciences in the last decade – such as the Human Genome project, stem cell techniques, IVF, or the remarkable improvements in neural non-invasive imaging technology – have raised a whole range of new research challenges for HSS disciplines. This conceivably involves philosophy, ethics, social science and public policy, psychology, history and law, along with potentially many others. Huge research questions beckon. What is the relationship between physical brain functions and cognitive perception and workings of the mind? What are the moral and philosophical implications of artificial duplication of human life? What are the economic and legal implications of this change, when genetic discoveries become proprietary knowledge? And what human and personal implications are there when humans are dealt a bad hand, for example, in terms of their genetic make-up? At a very prosaic level, recent

serious personal data losses by government departments make the prospect of genetic data collection and storage within the public sector a very worrying prospect indeed. Many physical scientists are blindly positive about these advances, or they are dismissive of the 'sticky' social and ethical implications of their work. Other scientists along with HSS academics already working on some of these issues believe that there is a vital role to be played by greater discussions and interactions.

D2. There has been growth in recent years in the resources available for the study of biomedical ethics and university capacity-building for applied research and teaching. Concepts of 'informed consent' have become more complicated with the breakthroughs in genetics. As one interviewer put it: 'We require more sophisticated ethical and moral toolkits, particularly as genetics has moved into agriculture and food industries'. The Wellcome Trust, the leading UK biomedical research charity, has doubled its funding of research into biomedical ethics in the last year and plans much more intensive funding of academic research in the next five years. Research units, such as the Centre for Professional Ethics at Keele University, one of the first academic institutions to offer masters and doctoral courses in biomedical ethics (from 2002), have seen growth in their teaching capacity and the number of research students in recent years. Other centres such as the Centre for Biomedicine and Society at Kings College, London have integrated graduate programmes into their development, for example the MSc in Medicine, Science and Society. Interviewees told us that the number of specific university chairs in the field of medical humanities has significantly increased in recent years. The ESRC is currently funding a research centre (called CESAgen) focusing on the economic and social aspects of genetics. Figure D1 shows a clear increase in the profile of genetics issues in the mainstream UK press.

Figure D1: Growth in the number of annual references made to 'genetics', 'genome' and 'DNA' in the Times and Sunday Times since 1990



D3. Interviewees generally agreed that the reputation of the UK is strong as a growing centre for bioethical research and that it is an attractive option for academics from other countries working in this field. We found an impressive range of interactions between academics and professionals, policy makers and practical stakeholders. Research academics are represented at the very sharpest point of genetic innovation and research; for example, Professor Ruth Chadwick at Cardiff University chairs the Human Genome Organization's (HUGO) Ethics committee. Other interviewees confirmed that statements and research from this Committee have had considerable impact in the wider work of the HUGO and are regularly cited in HUGO publications. One example is the statement made on 'benefit sharing', particularly the benefits of sharing HUGO research with communities in the public and private sector.

Quotes on science breakthroughs and the challenge for HSS disciplines…

'In theory, bioethics has quite a strong influence on the range of policy options government can take in regulating and promoting the life sciences and medicine: in affecting public understanding of, engagement with and perception of the life sciences and medicine; and in training and informing scientists in the ethical, legal and social aspects of their work […] I have seen little or no evidence which evaluates how far any of these influences are real in practice.'

'Academic research in HSS . . is often seen as hugely valuable for framing issues…Just not resolving them.'

'When you think that one in ten R&D projects have any impact, you have to be realistic about what research is going to do for you.'

D4. Researchers at a biomedicine centre at a London university receive significant grants from the funding bodies to investigate social and ethical issues relating to IVF and stem cell research. This work has a 'strong practitioner focus', as both co-Directors came from research in the nursing profession prior to setting up the Centre around 6 years ago. Interviewees told us that often the most satisfying impacts were quite subtle and localised, particularly changing the way that health professionals prioritise ethical considerations and make operational ethical issues into their day-to-day work at an interpersonal level. One interviewee told us that 'a colleague working on ante-natal screening for sickle cell had minor-ish impacts in influencing the way in which hospitals discussed ethical issues with patients'. Researchers from the School of Applied Social Sciences at Durham University have carried out research funded by the Wellcome Trust into the ethical, political and public administrative implications of the UK National DNA database. As a result of this research the National DNA Database Board was set up.

D5. Commercial corporations are showing an increasing interest in the ethical aspects of new bio-science. They are increasingly setting up ethics advisory boards. However academics told us that it is often difficult to gauge the impact and motivation behind these boards. Some of our interviewees told us that they worked with large and well-know bioscience corporations to advise them on 'informed consent' forms and surrounding issues. In recent years, the development of 'pharmaco-genetics', techniques which allows scientists to make links between drug effectiveness and the particular genetic and protein make-up of human individuals, led to a new challenge for modernising informed consent concepts and tools. A former expert from a major pharmaceutical company told us that the Nuffield Council guidelines produced in 2004 were 'simply excellent' practical guidelines and recommendations which have been adopted by the industry as the unofficial industry standard. These were produced by a broad range of HSS academics, including philosophers, lawyers, ethicists and geographers. Private sector experts generally agreed that although pharmaco-genetics offered great potential for treating patients more effectively, it also posed research and development costs and risks to major drug companies, which has slightly stymied progress in this area. 'Pharmacos tend to have very sophisticated in-house economist expertise for thinking about these kinds of risks. But they do pay attention to academic work on innovation and drug development'.

D6. One objective indication of this distance is shown in our press survey above in the ratio between the number of articles citing 'genetics' and the number of articles citing a combination of 'genetics and moral' or 'genetics and ethics / moral'. Around one in ten articles referencing

'genetics' in some way in the Times and Sunday Times also referenced the words 'moral' or 'ethical'. Academic interviewees agreed that a rough one in ten ratio seemed fair. Some academics suggested that there was still room for greater profiling of bioethical implications of genetic research, and we found one or two who expressed disappointment that the humanities had not so far made more of a mark in this area. It was generally agreed amongst HSS academics however that the research field is still expanding and relearning its identity in the face of rapid technological progress. Some academics also suggested that its methodology is still in development, and that there was definitely scope for more empirical work on the subject.

Case example E: Public engagement in the culture sector and the role of academic research

E1. In June 2006 leading cultural organizations in the UK published a joint report that showed the UK ranked comparatively low in terms of public expenditure on culture but increasingly progressive in terms of the introduction of measures to raise access to culture and the increase in numbers of people visiting cultural institutions such as museums and galleries. In 2006 the UK spent on average €50 per capita on culture compared to €100 in Germany, €160 in the Netherlands, and €180 in France. Government-funded museums and galleries in the UK are now largely free to enter (excluding one-off shows) and figures from a report by Tony Travers at the LSE show signs of significant increases in interest and attendance over recent years, see Figure E1 below (Travers, 2006). Visitor numbers have increased by around two thirds since 1999, compared to an increase of one third in funding during the same period. Introducing free access has been partly responsible for tapping into a considerable extant demand among British people for access to popular and high culture. The Tate Modern has become the most popular modern art museum in the world with over 6 million visitors in 2005. Major shows in recent years (such as the 2002 Matisse Picasso show) attracted 1.5 million visitors.

Figure E1: Increase in expenditure and visitor numbers in UK museums and galleries since 1999

(Figures in Thousands)	2005-06	Percentage change since 1998-99
Total expenditure *(£)*	678,820	30
Donation and sponsorship *(£)*	71,290	-8
Admissions income (£)	21,740	1
Visitor numbers	38,110	64
Overseas visitors	10,620	163

Source: From the report 'Museums and Galleries in Britain: Economic, social and creative impacts' by Tony Travers (2006) commissioned by the National Museum Directors' Conference (NMDC) and the Museums, Libraries and Archives Council (MLA).

E2. The impact of humanities and social science academics, particularly historians, archaeologists, art and cultural historians, linguists and sociologists, in curating and advising on major exhibitions and collections has been considerable. Academics involved in curating or advising on major shows described the impact of shows and related publications as 'huge', 'vast' and 'very very important'. One leading twentieth century art historian told us: 'People don't ask me any more what an art historian is […] Big shows make art far more accessible and mainstream'. Interviewees generally agreed that the process of presenting works of art (either thematically or in narrative) leads to other very important externality effects, which 'tell you things you didn't know about your own area of research', often influencing the way that other experts view their own work. Historians suggested that the experience of an exhibition can have 'quite explosive or immediate effects' on people's lives, quickly increasing demand for related books, which have much 'slower burn' impacts.

Quotes on culture sector and HSS disciplines

'Research into history is one of the motors of the heritage industry.'

'Archaeological research feeds closely into the heritage and tourism industries. It is difficult to determine the precise impact of specific archaeological research against a general interest in archaeology amongst the public.'

'We [museums] have become very skilled at putting together snapshots of current thinking in academia. The Gothic show, Art Nouveau, First Emperor, all involved distilling a much wider body of knowledge down and showing it through a different lens.'

E3. World-renowned institutions such as the British Museum (BM) and the Victoria and Albert (V&A) Museum both told us that the academic research culture is now closely linked to curatorial work and public engagement activities. The BM for example has a total research budget of around £1 million, including external funding from funding councils and charitable trusts. Links with academic researchers are manifold and provide vital support and expert knowledge for around 150 in-house curatorial and conservation staff (most of whom are qualified to doctoral level). The V&A also have one of the longest established research traditions in the UK museum sector, and describe their links with academics as 'very fluid', comprising close working relationships with around 12 universities. Both institutions feed into and support post-graduate teaching courses. Major shows almost always involve close cooperation with relevant academic experts such as the current First Emperor exhibition at the BM or the recent Swinging Sixties exhibition at the V&A. The latter

grew out of a jointly funded ESRC-AHRC project on cultures of consumption, and the show itself contributed to the introduction of a module on 1960s popular culture into the national curriculum.

E4. Both the BM and the V&A strongly agree that the establishment of the Arts and Humanities Research Council (AHRC) and their own accreditation as independent research organizations (able to apply for AHRC funding) has radically transformed their research activity and aspirations. The BM is part of the AHRC Heritage and Science Initiative which aims to bridge funding objectives and programmes with other science-based research councils. Much of the subject areas covered by the BM research span the humanities and physical sciences, particularly archaeological research, and so 'this programme fits us well'. Increased funding at the BM has led to an expansion of joint research projects around the world. There are usually around 20 archaeological fieldwork projects underway (which can be quite expensive). There are also projects in Tehran cataloguing the Iranian coin collection, in Africa on the monetary history of continent, and in the Nile Delta on the influence of Egyptian culture on the Greeks. This array of research draws on a wide range of UK academic expertise.

E5. As well as applied research both institutions are intimately hooked in to academic teaching and publishing. In-house researchers regularly publish in peer-reviewed journals and other professional publications. The Head of Research at the BM, for example, sits on the AHRC panel for Religion and Society. The BM currently run a collaborative doctoral awards scheme for eight PhD students in partnership with designated universities. This extension into graduate training is linked to the problem that teaching in key specialisms (so-called 'orchid subjects') is 'withering away' in the university sector, particularly knowledge of ancient languages and scripts. So the BM has had to source academics either from the United States or Germany, and consider how to maintain and encourage this kind of very specific scholarly expertise in-house. Interviewees agreed that the pressure on museums to maintain 'orchid' expertise may well grow in the near future.

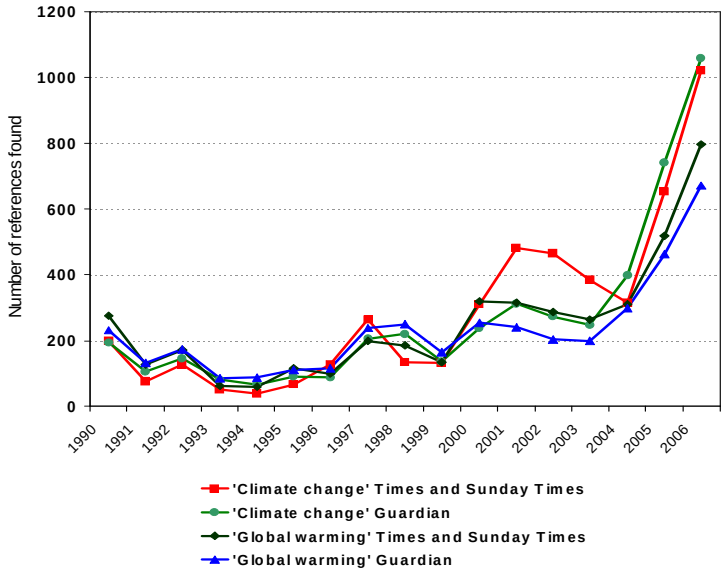
E6. The BM and the V&A have also had to learn how to effectively engage with the public: 'We have many of the characteristics of university culture. But we also have had to develop a very clear idea of our public role and what the public want […] not least in response to financial pressure'. One or two academics raised the issue of corporate commercialisation of art, suggesting that big, high-profile shows sponsored by large corporations could be equally as corrosive as beneficial to public at large. Nevertheless major shows give institutions an opportunity to 'provide a snapshot of existing research' from a new or original angle. The V&A appears to reflect similar views across other major culture institutions when it says that 'our website and hard publications have an

absolutely vital impact'. The V&A for example is in the process of setting up an online Directory of British Sculptors in partnership with art historians from Glasgow University.

Case example F: Climate change and environmental sustainability

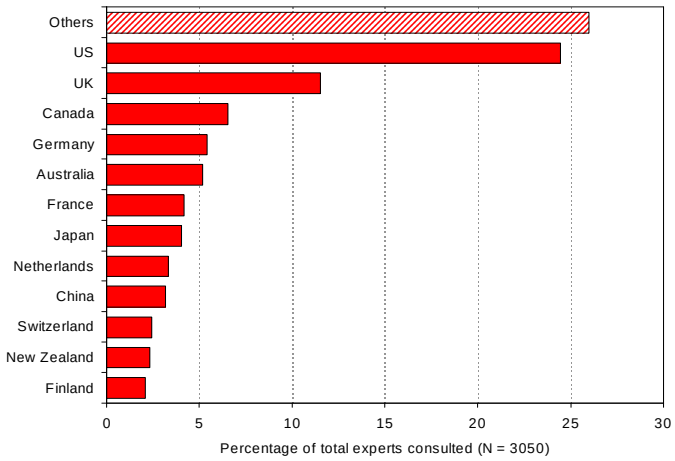
F1. The issue of climate change or global warming has arguably become one of the most pressing and discussed policy issues both internationally and within the UK, in the last few years. In our interviews with policy makers, think tanks, and interest associations, climate change ranked in the top three research issues facing humanities and social sciences. Some senior government research staff suggested that much of the push to widen the scope of and investment in UK government R&D could be explained by issues such as climate change presenting 'real' questions and challenges requiring a coherent programme of research into the planet's ecological and environmental future. The Stern Review published in August 2006 has had the effect of galvanising discussion of evidence and has done much to transfer the issue from the realms of physical science to centre stage within the humanities and social sciences. For example, the Stern Report along with the Intergovernmental Panel on Climate Change (IPCC) , the world's leading authority on the science of climate change and its impact, report sharply increased the pattern of annual references to 'climate change' and 'global warming' in the UK press (see Figure F1 below). This shows a rather shallow growth up to 2000 and then a kind of explosion in references since then, especially from 2006 onwards.

Figure F1: Growth in the annual number of references made to 'climate change' in mainstream UK newspapers since 1990



F2. With strong environmental science institutes the UK is widely seen as a world-leader in modelling climate change. Looking at research used by the IPCC suggests that UK-based scientists have been at the heart of scientific research over the last decade. Figure F2 shows that the UK comes second only to the US in terms of the number of climate change experts consulted for the Fourth Assessment Report published in late 2007. This view was confirmed by interviewees at leading UK institutions. And particularly in IPCC working groups 2 and 3, there are signs that social science researchers have begun to firm up some of the major research questions.

Figure F2: Geographical location of experts consulted during the IPCC Fourth Assessment Report 2007



Note: We reviewed the names and geographical locations of 3,050 climate change experts (from over 100 countries) consulted as part of the research carried out by the Intergovernmental Panel for Climate Change (IPCC) for the Fourth Assessment Report (published November 2007).

F3. Looking in more detail at the UK institutions involved, the Hadley Centre based in the Met Office accounts for around one quarter of all UK experts. Its recent research using highly sophisticated mathematical modelling predicts that by the year 2100 one third of the globe will be experiencing drought conditions. Sixteen out the 20 UK organizations most consulted are universities or research units located in universities. Oxford University and the University of East Anglia are the most active, with Reading, Southampton, Kings College London, and Bristol also active participants. The Hadley Centre told us that they have very close links with Exeter, Reading and Imperial College: 'These have all set up specialist centres for the study of climate change […] everybody recognises that cross-cutting research on the impact of climate change is going to be important'. Part of this challenge will be to ensure that research centres are adequately funded to retain this world-leading position. Hadley for example had the fifth largest supercomputer in the world in1998, but in 2007 is no longer in the Top 500. It is difficult to gauge the extent to which the Stern Review consulted UK academics, as it does not provide detailed lists of those consulted.

Quotes on climate change and HSS disciplines

'We know that climate change is happening. There are hardly scientists in the world who would dispute this now. The Hadley mission is on the physical side but we are beginning to work more closely with social sciences and humanities.'

'Work in environment and climate change has clearly had a major impact on all aspects of thinking about the future of the economy: many of the key innovations were pioneered by geographers.'

'[The global research community] have demonstrated that climate change is happening. The questions now must focus on understanding more about the economic and social consequences. What are they? And how do we deal with them? This is a global research challenge which involves physical, social sciences and humanities.'

F4. The recent sharp increase in press coverage of climate change raises questions about why longer-term trends have been so flat previously. And here a neglect of the issue by social scientists may also have played a role. Recent research at the Warwick Business School shows that climate change and global warming does not figure highly in papers published in leading journals in the field of economics, sociology, and political science (Goodall, 2007). 'Under-cooking' of these issues in more established social science disciplines reflects a pattern where these issues play out in more technical or more joined-up research environments (for example, the Tyndall Centre), and in more issue-specific journals and other press. Interviewees strongly suggested that building the profile of environmental policy across more established HSS disciplines should be a priority.

Case example G: Academic history and the impact of historical narratives

G1. In the last five years in the UK there has been a marked increase in the public's appetite for accessible history, in particular historical television drama and documentary. In 2002 the academic historian David Starkey reportedly became Britain's highest paid television presenter, and his series on Elizabeth I, Henry VIII, and the Monarchy attracted viewing figures to rival some of the most popular reality TV shows. Our interviews with leading academic historians have confirmed that popular history is on the rise in the UK. Academics generally see personalities such as Starkey and Simon Schama as 'forces for the good' in making 'good' history more accessible to more people (though some did express concern about the quality of much popular history on television). Interviewees also pointed to the huge growth in interest in family history in recent years, and bodies such as the National Archives and Family History Centre have responded by providing high quality and accessible sources.

G2. Although academics generally accepted this popular trend, most told us that the picture for professional and academic historians has been less rosy in recent years. In much the same way as modern languages, for many a 'natural ally' for the study of history, historians (and to a lesser extent related areas such as art and architectural history) have had to fight to stem a tide of 'de-prioritisation' in schools and universities (at least in policy terms) particularly vis-à-vis physical and natural science disciplines. The trend was not helped by statements from Tony Blair to the 2003 Labour Party conference: 'There has never been a time when ... the study of history provides so little instruction for our present day'. However, historians were by far the largest discipline group responding to our survey and it is clear from the data in Figure G1 below that the disparity between their perceptions of current impact and potential impact are greatest in the area of public policy (*differential* 2.3). The figures suggest that historians feel they have most ground to make up in having impact on policy. This is confirmed by interviews with leading historians and from comments in our survey.

Figure G1: How historians responding to our survey rated the actual and potential impact of their discipline on different areas of society

	Public policy	Civil society	Public debate and culture	Science and technology	Economy and business
How do you score your discipline's current impact?	2.2	3.9	5.1	2.2	2.1
What score can or should your discipline achieve?	4.5	5.2	6.0	2.9	2.7
Differential	*2.3*	*1.3*	*0.9*	*0.7*	*0.6*

Notes: We asked survey respondents to give a score from 1 to 7 to rate the 'actual current impact' of their discipline in different areas and the 'potential impact' of their discipline (where 1 = Very low impact and 7 = Very high impact). This table presents averaged scores for historians only. The 'differential' row shows [Potential impact minus actual impact].

G3. The History and Policy Group (at www.historyandpolicygroup.org) is an example of collaborative action taken by historians to enhance the profile and use of history and more specifically the historical method as an analytical policy tool. The group also seeks to encourage more 'real-time' intervention and advice from historians at the heart of policy decision making. It has been set up by researchers from the London School of Hygiene and Tropical Medicine, Cambridge University and the Institute of Historical Research specifically to bring together policy makers and historians in a more systematic ways. It is funded by the Wellcome Trust, ESRC, Joseph Rowntree Foundation, and the Unilever Centre. Other examples of efforts to raise the profile of history include lobbying by senior UK historians (such as David Carradine) to improve the

professional status of historians inside government (alongside economists, lawyers, statisticians and social researchers) by introducing a Chief Historical Adviser to government.

Quotes on the diverse value of history teaching and method…

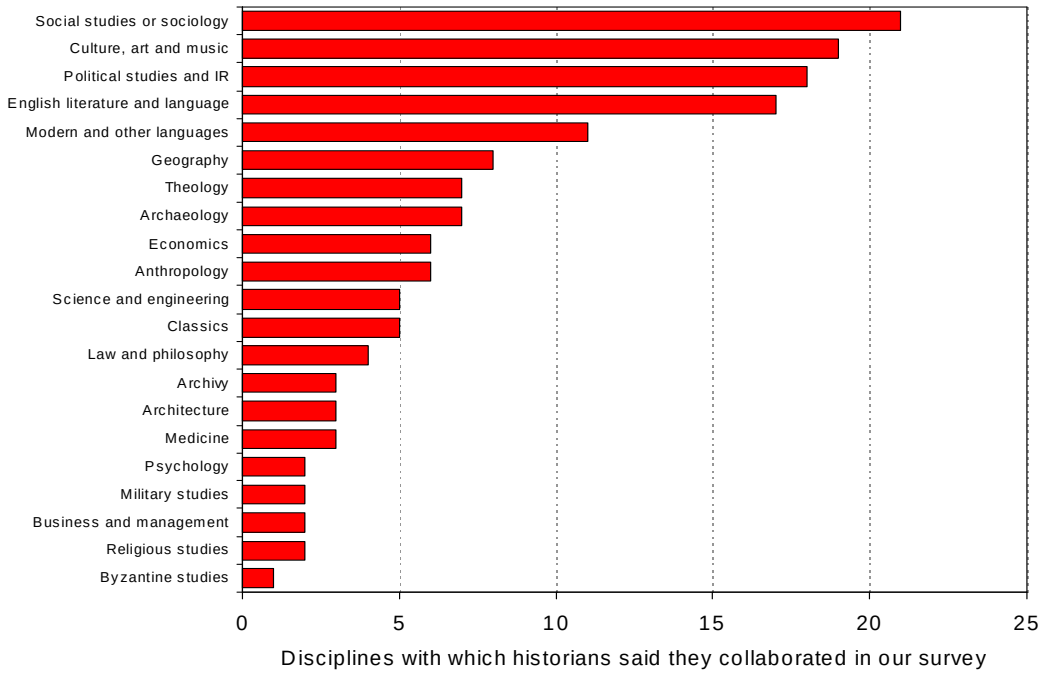
'The trouble is that policymakers are woefully unaware of the historical circumstances that should shape their policies […] The History and Policy initiative is starting to raise the profile of historians-in-general in the corridors of power and influence.'

'The policy process needs to find ways of creating space to look at the last time we tried this.'

'People with history degrees still hold an incredibly high percentage of top posts in successful companies (allegedly they are much more successful as managers and directors than economists, accountants, lawyers, which is not actually very surprising).'

Interviewees gave specific examples of historians who had made a difference at policy level in recent years, a number of them citing the work of Abigail Evans during the foot and mouth crisis, which drew on historical evidence to question any justification for slaughter policies. Numerous historians in interviews and the survey cited opportunities that they had had to present work at Whitehall departments, but they were not confident about the actual impact of this activity. A number of government researchers we spoke to said that they could use historical approaches much more, one from a major Department told us that she saw her research role partly as a 'narrative storytelling' one.

Figure G2: Different subject disciplines with which academic historians said they collaborated most frequently



G4. Like many other HSS subjects, history involves a method and approach which can be applied across all manner of disciplines. 'Philosophy of…', 'Sociology of…', and 'Economics of…' are commonly encountered title prefixes. 'History of…' seems no exception. Among the 100 or so historians who completed a survey return we found an impressive mix of subjects with which they most frequently collaborated (see Figure G2 above). Modern languages rank highly and interviewees argued strongly for the critical importance of at least a reading knowledge of foreign languages for academic historians working on European or world history. Christopher Clark's book on the history of Prussia was cited as an example, which was translated into German, reviewed in *Der Spiegel*, and led to an invitation to the author to visit the Federal president and discuss the book (Clark, 2006). Examples of cross-disciplinary history include research by architectural historians to understand more about the relationship between neurological processing of data and the inbuilt ways that humans perceive form and shape.

G5. Near the top of Figure G2 is the collaboration between history, art, culture and music. Art and architectural historians we interviewed generally agreed that their discipline is healthy, with numbers of students increasing, more diversification in the way that art history links in with other disciplines, and strongly joined-up research units and programmes at key institutions, such as the School of Arts, Culture and Environment at Edinburgh University. The research of UK-based art historians is regularly published in the top US art history journals and most interviewees agreed that the teaching and research profile of UK art history is 'very strong'. Social sciences, law, economics,

psychology, even neuroscience have been increasingly applied to the study of art objects. Art historians generally agree that this creates a multiplicity of approaches that helps keep the profession 'fresh and vibrant'. The popularity of courses in non-western art and culture has also risen at major universities in recent years (although numbers are still relatively small). Twentieth century and even post war research has become increasingly popular in recent years for graduate study. One art historian made the point that the art history community perhaps does not make enough of its own ventures: 'We tend to accept the fact that public impact is built into the structure of the art world'.

G6. Published scholarly monographs and edited books have vital impact on society in a whole range of different ways. Historians with acclaimed monographs we spoke to mostly did not know how many copies these publications have sold. Most agreed that once a book is out there, it is difficult to know what its impact will be ('assuming that your publisher does a competent job in marketing it'). A leading historian said: 'Over a long period one finds that one's books do gain exposure […] [This particular book] has been reviewed over and over again, and it has certainly exceeded expectations. I wanted it to be a long seller, I made very few concessions to the popular market'. An art historian expressed this idea of unexpected impacts neatly: 'It's a leaky world…You find that if you write a book and speak out in an accessible way, your ideas get picked up and come back to you in modified form'.

Case example H: Teaching and research in modern languages and culture

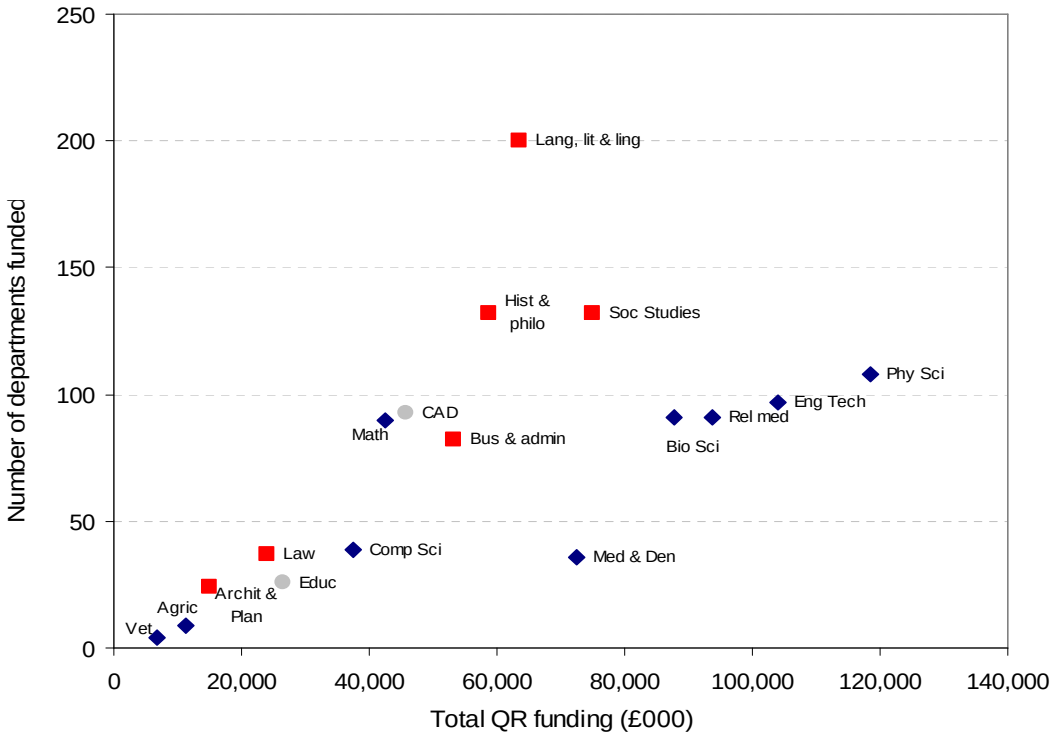
H1. Since the mid-1990s the number of students studying single or joint honours modern language degrees in UK universities has slowly declined. HESA data suggests only a 2 per cent increase in the number of students since 2002, compared to increases of at least 10 per cent in other major HSS disciplines. We found general agreement among our interviewees that the picture has looked relatively bleak for modern languages until the last few years.

H2. Concerted and more coordinated lobbying by modern language departments (see for example the LLAS document *700 reasons for studying languages*, 2006) appears to have had a slow but significant effect, and recent government commitments to the 'strategic importance' of languages has shifted the balance. Academics told us that it has been 'backs against the wall stuff' particularly since the decision eight years ago to abolish the compulsory Key Stage 4 language requirement in secondary schools. The 2002 National Language Strategy re-emphasizes the importance of language learning at primary school and introduces measures and, more significantly, £53 million

of funding to strengthen the links between schools and universities. These steps also raise the profile of modern languages as both a specialist area of study and as a supplementary element to link with other courses.

H3. The numbers of students studying languages in Russell Group universities have held up well and in some cases flourished in recent years, largely due to healthy numbers in the independent school sector. As Figure H1 below shows, language and literature departments were by far the largest discipline funded by HEFCE in 2006 in terms of the number of departments. Our interviews suggest that there is a clear trend towards consolidation across individual languages as specific departments are brought into more encompassing modern language faculties. Academics agreed that there is much more collaboration across departments than there was ten years ago and that this is a

Figure H1: Departments funded by HEFCE in 2006, by subject groups



positive development. Interesting joined-up innovations also come in the form of new links with other departments such as cultural studies, film, and area studies. Interviewees told us that this has led to a kind of 'language diaspora' and has in turn brought about some new teaching synergies and innovative research collaborations. Southampton University for example has a Language, Linguistics and Area Studies centre (LLAS) designed to recognise and develop the obvious links

between language, culture and geography. In 2006 Queen Mary and Westfield modern languages departments merged into the Department for Language, Linguistics and Film.

H4. Academics in the field argue strongly that learning a foreign language at undergraduate or graduate level undoubtedly enhances 'foundational' skills in reasoning, problem solving, communication, as well as increasing sensitivity to cultural differences and processes of cultural change. As one academic suggested, language learning 'just helps [you] get your mind around different ways of thinking […] And surely that is one of the first steps in being creative?'. Our survey responses from modern language academics suggested that teaching is an integral aspect of their wider impacts. However, our interviews suggested that there is a potential risk that any decline in the number of students opting for specialist modern language degrees outside of Russell Group universities will lead to an increasing dearth of highly skilled linguists of the kind required for translation and interpreting. A report by Philida Schellekens for CILT (the National Centre for Languages) addresses this issue of core competence in the discipline (2005).

Quotes on the value of modern language teaching and research…

'We do a lot of work with employers to train staff in modern languages – there is a developed sense in the private sector that cultural sensitivity and languages are part of the same issue and having employees with good language skills is seen as important.'

'Modern languages degrees are a bit like finishing schools, they are a doorway to a huge range of professions, . . . it is almost unpredictable where language students will end up. This is a strength.'

'Some aspects of research in German studies inform government policy while others are equally important but virtually impossible to measure. Research in German studies is very broad and interdisciplinary, and it is essential to sustaining an academic interest in Germany, German culture and German history. This interest is in turn essential to sustaining the teaching and learning of German, and the teaching and learning of German is essential to Britain's economic success in Germany, a very major business partner and facilitator of business with Eastern Europe.'

H5. A wide range of research is currently underway in modern languages departments across the UK, suggesting that research into language and culture can have direct implications for current day policy making. For example, researchers from Reading University and Southampton University are collaborating with the Imperial War Museum through an AHRC grant to study the relationship between formal language policy and military strategy and outcomes 'on the ground' in territories under military occupation. Understanding the way in which occupying forces and regimes of occupation use local language and are characterised in language terms by local populations has

immediate relevance for organizations such as NATO, the Ministry of Defence or the Foreign and Commonwealth Office. The Imperial War Museum has a vast wealth of documentary evidence written by citizens under occupation and this collaborative project allows them to analyse their archives in new ways. The links with the museum greatly enhance the potential for disseminating findings through exposition and public engagement.

H6. A major area of impact for modern language academics is the publication of monographs and edited books. Some pointed to a disparity in the kinds of books popular with professional peers and with the UK public. For example, literary criticism tends to be far less popular than biographies and more thematic texts which view the work of the author against a particular social history of the time. Most authors were happy with the standard of book reviewing in the professional and intellectual press (such as the Times Literary Supplement). But some suggested that often publishers could have quite a strong determining effect on levels of popularity according to distribution and marketing policies. An extension of this important area of impact is that often historians and social scientists will research and write books about foreign cultures or in foreign languages. Our interviewees agreed that core language learning at university is an absolutely vital stepping stone to supporting high quality historical research about foreign countries. Many interviewees pointed to examples of books written about foreign countries that had more of an impact in that country than domestically in the UK market. There was general agreement that cultural and linguistic institutions such as the Goethe Institut and the Academie Francaise do a good job with limited resources.

Case example I: Research culture and networks in international development

I1. The Department for International Development (DfID) appears to have a very distinctive research culture and approach when compared across other major Whitehall departments. Looking first at the profile of research expenditure as a proportion of total administrative expenditure (see Figure I1 below), over 90 per cent of department administrative expenditure appears to be consumed by some kind of R&D, either as intramural or transfer payment, or in the form of funding flowing to research councils, HE institutions, or the private sector. More than a fifth of this R&D expenditure is allocated to external organizations. (This perhaps presents a more accurate picture of expenditure on research as it does not include intramural and other transfer payments.) In terms of R&D pounds spent on average per one member of staff, DfID ranks easily top with an average of £28,000 for every one member of staff.

Figure I1: Departmental expenditure on R&D as a proportion of overall administrative expenditure and number of staff, by departmental clusters (2004-05)

Department cluster	Gross R&D expenditure as a compared with total department administrative expenditure *(%)*	R&D expenditure flowing to RCs, higher education and private sector as a percentage of total department administrative expenditure *(%)*	£ in R&D expenditure flowing to RCs, higher education and private sector per one member of staff *(£)*
International development	93.5	22	28,820
DEFRA	70.3	33	3,300
Trade and industry	69.7	0.4	30
Culture, Media and Sport	52.6	9	70
Transport	21.9	18	2,200
Health	21.4	8	790
Home Office	9.0	0.9	80
Communities and local government	9.0	6	*No data*
Education and skills	2.0	0.4	830
Work and pensions	0.3	0.2	90
Constitutional affairs	0.2	*No data*	*Negligible*
HM Treasury (includes IR)	0.1	*No data*	*Negligible*

Source: Science, Engineering and Technology indicator statistics (SET) and HM Treasury PESA statistics, both 2004-05. Most recent data available broken down by areas of R&D is from 2004-05 SET statistics.

I2. Senior science officials told us that the DfID research budget is currently at around £110 million, having increased from around £35 million in the last five years and set to reach £220 million by 2010. The increase is predominantly funding for physical and natural science research in support of the Millennium Development Goals. There is also a separate DfID policy development function, whose research is largely social science. We found an impressive array of academic research on the DfID website during our systematic Google searches of major Whitehall department websites (see Chapter 3 in the main report for more discussion here). Figures 3.1 and 3.2 in the main report show comparatively high incidence of joint research programmes at DfID, many of which involved interesting collaborations across HSS and PSTM disciplines. When we recorded the number of research partners involved in each programme or activity and which sector they were in, DfID ranked top of all Whitehall departments in terms of the number of research partners identified (over three quarters of which were universities and third sector organizations). Clearly then research and research partnerships form an integral part of DfID's *modus operandi*.

I3. In a search of the top 100 Google results for DfID we found specific reference to research carried out by at least 15 major UK universities. These included Sussex, the London School of Hygiene and Tropical Medicine, Bath, Birmingham, East Anglia and the London School of Economics. Subject areas ranged across development studies, education, health economics, psychiatry, human and social geography, anthropology, conflict regulation, and public health. The

geographical focus of specific research outputs included work on HIV in Botswana, information and communication technologies in Sri Lanka, conflict in Sudan, and the Rwandan budget reform. We found 16 jointly held programmes, involving partnerships with third sector bodies and universities in over 22 developing countries. Most of the research outputs were in social science disciplines. Senior science officials confirmed that DfID commissions almost no humanities research whatsoever: 'There is a lack of investment in humanities research, particularly in relation to cultural sensitivity in developing programmes and institutions in developing countries […] The really important link is between the hard sciences and humanities, and this is currently very weak'. This might involve history and language research most immediately, and a number of commentators told us that a perceived decline in languages as 'part of the problem'. Cross-over subjects would also have a strong part to play, such as cultural studies, anthropology, and even archaeology and theology.

Quotes on current state of international development research . . .

' . . . research is more integrated and joined up. Multi-authored, multi-institutions, multi-country papers are definitely on the up.'

'The concept of interdisciplinary is difficult to get your head round […] we are working in the real world and don't tend to visualize issues in separate disciplines or fields. This is probably more of relevant concept for university departments.'

'There is also a lack of investment in humanities research, particularly in relation cultural sensitivity in developing programmes and institutions in developing countries.'

I4. Anthropologists responding in our survey including some detailed illustrations of impact, some of which we followed up. For example, researchers at the Institute of Development Studies at Sussex University managed a team evaluating the African Development Bank's (ADB) development fund looking at strategic objectives and effectiveness. Recommendations made by the study team were adopted by the ADB. Sussex University also currently runs five interdisciplinary research centres. The ESRC-funded Centre for Social, Technological and Environmental Pathways to Sustainability (www.steps-centre.org) carries out research into technological innovation which help the poor in Kenya, India and in Latin America. DfID also funds a number of programmes such as the Development Research Centre on Globalization, Migration and Poverty (www.migrationdrc.org) also based at Sussex. This Centre examines child migration and the effectiveness of policies addressing this increasing global problem. In our survey a number of anthropologists referenced a number of influential bodies of evidence given to Parliamentary Select Committee on Science and Technology, for example to the inquiry into the role of science in the

UK's international development aid. Some highly networked forms of intermediation underpin impact. For instance some respondents argued that a pamphlet entitled 'The Slow Race' (2006), commissioned by Demos and based on a book by Professor Melissa Leach, formed part of the basis for the latest DfID science and innovation strategy. Interestingly, although anthropologists do much of the core work in international development, there is a feeling among the discipline that anthropology is not always given profile and credit. One senior anthropologist at a leading institute told us: 'Our discipline needs to project itself as a brand, to profile its centrality in policy worlds'.

I5. Independent think tanks play a vital role in disseminating latest thinking and making a difference on the ground. The Overseas Development Institute (ODI) told us that they are there to 'lock together high quality applied research, practical policy advice, and policy-focused dissemination'. Although they have a strong in-house research capacity, they do commission academic research, monitor developments in the research community, and award student fellowships to talented graduates. ODI spends around one fifth of its annual £12 million expenditure on communications, and a quick review of their website confirms that developing good practice guidance and applied research is indeed a key priority (see http://www.odi.org.uk/RAPID/). Many successful North American international development foundations spend up to 40 per cent of their budget on communications. Some interviewees argued that there was scope for increasing investment in this area up to and around these sorts of levels (particularly on measuring and disseminating evidence of impact and value). Large UK-based think tanks and research organizations are integrated in the heart of policy making in this area. For example, one half of the ODI's current budget flows from DfID funding alone. ODI told us that most of their research falls in the social sciences, and that they do very little with the physical science or the humanities. Again, although there are some highly renowned organizations based in the UK, most work predominantly in either STEM disciplines or the social sciences, but rarely both.

Case example J: Third sector organizations as champions of academic research

J1. Third sector organizations such as charities and issue-specific campaigning bodies play an important role as intermediaries and champions for academic research in HSS disciplines. Many third sector organizations have very limited staff resources and relatively small research budgets, but they can pack quite a punch either unilaterally or working in 'advocacy coalitions' in policy development and practical application. Liberty, for example, has established itself as a leading human rights and civil liberties campaigning body, with a high-profile and media-friendly director, with an annual expenditure of around £1 million and a full time staff of under 30. Third sector organizations are also closely integrated into policy networks involving major Whitehall

departments, devolved administrations, and local authorities. Barnardos is an example of an organization with a ‘strong partnership approach to research’. Two illustrations are its contribution to the ongoing evaluation of the £20 million Sure Start programme being run by the Institute for the Study of Children, Families at Social Issues at Birkbeck College; and Barnardos forms part of the ‘evidence network’ on cognitive behaviour therapy which involves York University and City University.

J2. We found numerous examples of research commissioned from academics for specific programmes of campaigning. Friends of the Earth (FoE), a campaigning body with annual research expenditure of around £150,000, told us: ‘It is important that campaigns are thoughtful, factually accurate and based on good analysis. Commissioned research is an important part of this’. FoE are currently working with the influential Tyndall Centre (based at the University of East Anglia) to model CO2 emissions up to 2050 and to link this to changes required to the energy sector. They are also working with the Science and Technology Policy Research Unit (SPRU) at Sussex University to evaluate the performance of UK government on climate change and biodiversity.

J3. Often research is conjoined with grants from funding bodies. For example, the Joseph Rowntree Foundation is currently funding academic research in partnership with Barnardos to produce a report for 2009 on parents living in poverty. The membership organization Homeless Link has about projects in place to develop the research base across the homelessness sector, with innovations such as their Research Forum. They are in the process of applying for ESRC ‘match funding’ in partnership with Shelter and other large agencies and government bodies such as the Department for Communities and Local Government and the Department of Health. This role is an important stepping stone between policy and practice work on the ground and ongoing academic research. Homeless Link coordinate a £600,000 longitudinal study carried out by the Sheffield Institute on the social and economic effects of ageing. They also have a resident ‘academic in post’ from the Centre for Housing Policy at York University. Other examples of academic researchers in post include Barnardos who have awarded five doctoral studentships in recent years for £10,000 each.

J4. For organizations with smaller budgets, the links with academics are often just as intensive but they rely more on pro bono and voluntary interventions that tend to be short term and very focused around a brief. For example, Liberty told us that they tend not to commission pieces of research from academics on a regular basis but rather rely on existing networks and contacts with legal professionals and UK law academics: ‘We work very quickly and in a very responsive way. We have very few bureaucratic structures’. Their research needs have increased, however, as they

require more social science perspectives rather than solely legal advice. For example, on the consultation of the domestic Bill of Rights, it is difficult to find legal mechanisms to enforce duties as these are essentially non-legal questions rooted in social science and social psychology. Liberty recently commissioned comparative work on systems of detention around the world to underpin a consultation on plans in the new Terrorism Bill to raise the 28-day pre-charge detention limit.

J5. A major area of activity for NGOs is contributing to government consultations and expert committees. 'Rarely a week goes by without a request for a consultation' said one well-known campaigning body: 'And although we submit information from our own specific angle, the whole process involves reviewing and packaging all the secondary information and research we can get our hands on'. Small budget heritage bodies such as SAVE Britain's Heritage are extremely experienced in running campaigns through 'official' channels such as local authority planning systems and public consultations. Successful SAVE campaigns in recent years have included conservation of a part of the shed roof in Paddington station and part of the historical Royal Aircraft Establishment at Farnborough. SAVE told us: 'We use the media strongly […] but we also use official channels […] And we find that liaising with developers can also be quite fruitful, once you explain the situation and offer viable alternatives'. SAVE have a full time staff of two and so forging relations with external academics and experts is vital: 'We work with very limited funds and are held together by experts and enthusiasts. Sometimes our impact can be very satisfying'.

Quotes on use of academic research by third sector organisations . . .

'Not many [third sector organisations] are very good at doing humanities-based research. There is a tremendous role for academics to look more broadly at historical change and likely future patterns.'

'There are barriers on the practitioner side – we need to understand academics better.'

'The academic process can be quite long and the final product is not always accessible or useful to us as a campaigning organization.'

J6. A longer term mechanism for impact involves picking up big ideas or major themes from academic research and 'weaving these into the strategic goals of the organization'. Barnardos cited the example of the Nottingham University professor Richard Wilkinson's work on the relationship between income, perceptions of social status, and health. Over time this body of work carried great weight for the organization. After Wilkinson wrote a paper for Barnardos 'Unfair Shares' in 1996, he recently returned to the organization to give a talk (funded by the Treasury) to a group of policy makers and practitioners (including Jack Straw) on developments over the last decade. This provides a neat example of how organizations with expertise in impact and communication can act

as champions for a body of academic research. Barnardos told us: 'Childcare is a very crowded field…You need to stick with campaigning themes for some time to see any real impact'. This work has had tangible impacts in the areas of sexual exploitation of children, particularly with the development of a risk analysis scale for local authorities.

J7. Some third sector organizations acknowledged that they often did not use humanities research enough to take a broader perspective on their particular issues.

> Like a lot of campaigners, we are up to our neck in thinking about government…[and] latest findings…And we're not fantastically successful at stepping back. There is a tremendous potential role for academics to look more broadly at historical change [...] We could do a lot more story telling and relate to people in terms of values.

We also found some surprising examples where lack of communication or misaligned interests severely limit the extent to which academic work gets picked up and used by third sector bodies. One or two large and well-known public bodies told us that they rarely use academic research and had a vague idea which institutions would even be suited to their research needs. For example, in the field of planning one interviewee said: 'We are currently commissioning a manual for sustainable cities and the only shortlisted applicants are urban practitioners. There are no academic institutions on the shortlist'. Asked whether this was typical, the response was an emphatic yes.

Case example K: The impact of philosophy and philosophers

K1. Philosophers in the UK contribute in a wide variety of ways to the social, economic and intellectual welfare of the country. As a 'pure' academic discipline in its own right and as a discipline which feeds into and elucidates other disciplines, philosophy looks to be in very good shape.

K2. The number of philosophy graduates has more than doubled between 2001 and 2006. UK universities produced 895 graduates in 2001 compared to 2,040 in 2006. The number of philosophy graduates in full-time and part-time work six months after graduation has risen by 13 per cent between 2002-03 and 2005-06 (compared to an overall average of 9 per cent). The Higher Education Careers Service Unit agrees that philosophers are finding it easier to find work. In 2001 9.3 per cent of philosophy graduates were in business and finance roles six months after graduation. In 2006 this increased to over 12 per cent. There have been similar rises in marketing and advertising over the same period: one interviewee told us 'Philosophers have come in handy in the workplace with their grounding in analytical thinking'. There have also been endorsements on the importance of philosophy from a wide range of organizations, for example Serco, the Management

Consultancies Association and the NHS. This may be a result of an increase in the number of students studying philosophy within higher education with a practical or applied aspect. Some academics we spoke to said that even areas within philosophy that appeared to be slightly esoteric and without practical application could be relevant: 'There is very little political philosophy and moral philosophy that is disengaged from people's actual moral problems.'

K3. We also found some interesting interdisciplinary work being undertaken between philosophy and the economic and business fields. One example is the Forum for Philosophy in Business at Cambridge University. The Forum is an example of a small group of academics taking an entrepreneurial approach to broadening the scope and impact of their discipline. Established in 2002, the Forum has worked successfully with major private sector corporations such as IBM and Pfizer to examine philosophical issues in a corporate setting, including themes such as trust, intellectual property, and corporate governance.

K4. We found a wide range of specific examples of academic philosophers contributing to public policy making. Philosophers sit on leading research organizations and public sector committees such as the Nuffield Council on Bioethics, Human Fertilization and Embryology Authority, Food Ethics Council, Gene Therapy Advisory Committee, and the Human Genetics Commission. Philosophers also produce research which feeds directly into policy making environments, for example research produced by academics on behalf of Philosophy of Education Society of Great Britain on 'What schools are for and why?' was launched in February 2007 at a panel event attended by the Shadow Secretary of State for Education and Head of Curriculum at the Qualification and Curriculum Authority (QCA). We also found many specific examples of philosophers acting as consultants or giving evidence to Parliamentary committees, including the House of Commons Science and Technology committee and House of Lords Select Committee. Respondents to the survey mentioned high profile parliamentary investigations such as the Warnock Report on human fertility and embryology, chaired by Mary Warnock among others.

K5. The area that academic respondents to our survey felt their impact was greatest was that of public engagement and culture. We found numerous specific examples of philosophers doing radio and television work, particularly Radio 4 programmes such as 'In our time', 'Start the Week', 'Moral Maze' and the Today Programme. There is an online archive on the Radio 4 website which testifies to the popularity of philosophical issues amongst the general public. Philosophers regularly write for or are interviewed in the national press and generalist magazine publications. User-friendly books on philosophy include Simon Blackburn's *Think* (described in Time Magazine as

'the one book every smart person should read'). Nigel Warburton's *Philosophy: The Basics* is in its fourth edition and has been translated into 12 languages, and Stephen Law's *The Philosophy Files* aimed particularly at children has been translated into 14 languages. Philosophers also run successful podcasts such as Philosophy Bites (www.philosophybites.com) which has been listed in the US top 100 of all podcasts. The podcast of Nigel Warburton's *Philosophy: The Classics* has made it to fourteenth place in the iTunes ranking of all UK podcasts.

K6. An area mentioned extensively in our survey was the growing importance of philosophy running alongside developments in medical technology. For example in the field of neuroscience, where scanning technologies and physiological studies of the brain are making significant new insights into the relationship between brain, mind and language. We talked to a handful of leading philosophers and neuroscientists, and they confirmed that increasing knowledge about the brain function will lead to all sorts of questions which have traditionally been the domain of HSS disciplines. For example, how to define a vegetative state if there are still signs of brain function? And how to treat mental health conditions particularly as an increasing proportion of society suffer from some kind of diagnosed clinical depression? Some academics have made the case that much more systematic collaboration and 'careful experimentation' between philosophy and neuroscience is required to ensure that the ever-growing field of cognitive neuroscience does not 'get carried away with itself and turn out 'uncritical' work'. Overall, all interviewees agreed that there is a very clear role for systematic work by the humanities: 'It should be mandatory that all science [students] do at least two years humanities and philosophy of their subject'.

Bibliography

Ayres, Ian (2007) *Super crunchers: why thinking-by-numbers is the new way to be smart*. New York: Bantam Books.

Barr, N. and Crawford, I. (2002) 'A way to make universities universal', *Financial Times*, 22 November.

Barr, N. and Crawford, I. (2003) 'Myth or magic', *The Guardian*, 2 December.

Barr, N. and Crawford, I. (2004) 'Variable fees are the fairer route to quality', *Financial Times*, 30 March.

Barr, N. and Crawford, I. (2005) *Financing Higher Education: Answers from the UK*. London: Routledge.

Behrens, Teresa R. and Gray, Denis O. (2001) 'Unintended consequences of cooperative research: impact of industry sponsorship on climate for academic freedom and other graduate student outcome', *Research Policy*, 30: 179–199.

Berridge, V. (2007) 'Past opportunities', *The Guardian*, 20 June.

Blanchflower, David G. and Oswald Andrew J. (2005) '*Happiness and human development index: The paradox of Australia'*, IZA Discussion Paper No. 1601.

Bourke, Paul and Butler, Linda (1998) 'Institutions and the map of science: matching university departments and fields of research', *Research Policy*, 26: 711-718.

Bower, Jane (2003) 'Business model fashion and the academic spinout firm', *R & D Management*, 33 (2): 97-106.

Boyne, George A. (2006) 'Strategies For Public Service Turnaround: Lessons From The Private Sector?', *Administration & Society*, 38 (3): 365-388.

Brinkley, Ian (2006) *Defining the Knowledge Economy: Knowledge economy programme report*. London: The Work Foundation.

Brinkley, Ian (2007) *Trading in Ideas and Knowledge: A report prepared for the Knowledge Economy Programme*. London: The Work Foundation.

Brinkley, Ian and Lee, Neil (2006) *The Knowledge Economy in Europe: A report prepared for the 2007 EU Spring Council*. London: The Work Foundation.

British Academy (2007) *Peer Review: the challenges for the humanities and social sciences.* London: The British Academy.

British International Studies Association (2007) *International Benchmarking Review of UK Politics and International Studies*. Aberystwyth: BISA.

CABE (2006) *Commission for the Built Environment Annual Review 2006/07*. London: CABE.

CILT (the National Centre for Languages) (2005) *Talking World Class: The impact of language skills on the UK economy*. London: CILT.

Clark, Andrew (2007) 'Happiness, Habits and High Rank: Comparisons in Economic and Social Life'. Seminar Paper from the 'Beyond *Homo Economicus*' conference, University of Bristol.

Clark, Christopher (2006) *Iron Kingdom: The Rise and Downfall of Prussia, 1600-1947*. London: Harvard University Press.

Debray, R. (1981) *Teachers, Writers, Celebrities: The Intellectuals of Modern France*. London: New Left Books.

Demeritt, David (2000)'The new social contract for science: Accountability, relevance, and value in US and UK science and research policy', *Antipode*, 32 (3): 308-329.

Department for Education and Skills (2002) *Languages for All: Languages for Life A Strategy for England*. London: The Stationary Office.

Department for Education and Skills (2003) *The Future of Higher Education*. London: The Stationary Office.

Dobbins, Maureen, Rosenbaum, Peter, Plews, Nancy, Law, Mary and Fysh, Adam (2007) 'Information transfer: what do decision makers want and need from researchers?' *Implementation Science*, 2: 20.

Dunleavy, Patrick, Margetts, Helen, Bastow, Simon and Tinkler, Jane (2006) *Digital Era Governance: IT Corporations, the State and e-Government*. Oxford: Oxford University Press.

Economic and Social Research Council (2007) *An International Assessment of UK Politics and International Studies Research*. Commissioned by the ESRC in partnership with the British International Studies Association and the Political Studies Association.

Economic and Social Research Council (2007) *International Benchmarking Review of UK Social Anthropology: An International Assessment of UK Social Anthropology Research*. Commissioned by the ESRC in partnership with the Association of Social Anthropologists and the Royal Anthropological Institute.

Economic and Social Research Council (2007) *Final report of the Families and Social Capital Research Group*. Swindeon: ESRC.

Fuller, Steve (2006) 'The Public Intellectual as Agent of Justice: In Search of a Regime', *Philosophy and Rhetoric*, 39 (2): 147-156.

Garcia, C.E. and Sanz-Menendez, L. (2005) 'Competition for funding as an indicator of research competitiveness', *Scientometrics*, 64 (3): 271-300.

Gallagher-Brett, Angela (2006) *Seven hundred reasons for studying languages*. Southampton: LLAS.

Garicano, Luis and Heaton, Paul (2007) *Information Technology, Organization, and Productivity in the Public Sector: Evidence from Police Departments*. CEP Working Paper No' CEPDP0826, October.

Ginsburgh, VA. (2001) 'The Economics of Art and Culture', in Smelser, N. and Baltes, P. (eds), *International Encyclopaedia of the Social and Behavioural Sciences*, Amsterdam: Elsevier.

Goodall, Amanda (2007) *Why Have the Leading Journals in Management (and Other Social Sciences) Failed to Respond to Climate Change*. Unpublished paper, Warwick University.

Grant, KR (1999) '*Integrating the Social Sciences and Humanities in the Canadian Institutes of Health Research'*, conducted on behalf of the Social Sciences and Humanities and Research Council and The Canadian Health Services Research Foundation.

Grayson, Lesley and Gomersall, A. (2003) *A difficult business: finding the evidence for social science reviews*. ESRC Centre for Evidence Based Policy and Practice: Working paper 19.

Hicks, D. (1999) 'The Difficulty of Achieving Full Coverage of International Social Science Literature and The Bibliometric Consequences', *Scientometrics*, 44 (2): 193-215.

History and Policy (2007) 'Call for government to appoint a Chief Historical Adviser', *History and Policy*, 4 December.

Homeless Link (2006), 'A8 nationals in London homelessness services' www.homeless.org.uk.

Hughes, Mike, McNeish, Diana, Newman, Tony, Roberts, Helen, Sachsev, Darshan (2000) *Methods and Tools – Making connections: linking research and practice*. A review by Barnardos commissioned by the Joseph Rowntree Foundation.

International Panel on Climate Change (2007) *Fourth Assessment Report: Climate Change 2007*. Switzerland: IPCC.

James, Oliver (2007) *Affluenza: How to Be Successful and Stay Sane*. London: Vermillion.

Jones, Phil and Macdonald, Neil (2007) 'Getting it wrong first time: building an interdisciplinary research relationship', *Area*, 39 (4): 490-498.

Langford, Paul (2004) *'That full complement of riches': the contributions of the arts, humanities and social sciences to the nation's wealth*. London: The British Academy.

Larivière, V., Archambault, E., Gingras, Y. and Vignola-Gagné, E. (2006) 'The Place of Serials in Referencing Practices: Comparing Natural Sciences and Engineering with Social Sciences and Humanities', *Journal of The American Society For Information Science And Technology* 57 (8): 997–1004.

Layard, Richard (2006) *Happiness: Lessons from a New Science*. London: Penguin.

Lewis, Janet (2000) 'Funding Social Science Research in Academia', *Social Policy and Administration*, 34 (4): 365-376.

Lindblom, Charles E. and Cohen, David K. (1979) *Usable Knowledge: Social Science and Social Problem Solving*. New Haven CA: Yale University Press.

Ministry of Justice (2007) *Satellite Tracking of Offenders: A study of the pilots in England and Wales*. London: MoJ.

National Audit Office (2003) *Getting the Evidence: Using Research in Policy-Making*. Volume I. *An international review on governments' research procurement strategies*. Volume II. HC 586 Session 2002-03. London: The Stationary Office.

National Audit Office (2006) *Achieving Innovation in Central Government Organisations*. HC 1447 Session 2005-2006. London: The Stationary Office.

Natural Environment Research Council (2006) Press release '*Stern review on the economics of climate change*', 30 October 2006.

Nederhof, Anton J. (2006) 'Bibliometric monitoring of research performance in the Social Sciences and the Humanities: A review', *Scientometrics*, 66 (1): 81–100.

Neuhaus, Chris, Neuhaus, Ellen, Asher, Alan and Wrede, Clint (2006) 'The Depth and Breadth of Google Scholar: An Empirical Study', *portal: Libraries and the Academy*, 6 (2): 127–141.

Newell, Sue, Swan, Jacky and Kautz, Karlheinz (2001) 'The Role of Funding Bodies in the Creation and Diffusion of Management Fads and Fashions', *Organization*, 8 (1): 97-120.

Oswald, Andrew (2006) *Rewarding Thinkers*, Independent, June.

Oswald, Andrew (2007a) 'Human well-being and causality in social epidemiology', *International Journal of Epidemiology*, 36 (6):1253-1254.

Oswald, Andrew (2007b) 'An Examination of the Reliability of Prestigious Scholarly Journals: Evidence and Implications for Decision-Makers', *Economica*, 74: 21–31.

Oswald, Andrew and Blanchflower, Daniel (2007) *Hypertension and Happiness across nations*, Warwick University Working Paper, February.

Paasi, Anssi (2005) 'Globalisation, academic capitalism, and the uneven geographies of international journal publishing spaces', *Environment and Planning A*, 37: 769-789.

Perkins, Nicholas (2006) *Programme Summary Report*. Interim findings from the ICD (Information and Communication for Development) Knowledge Sharing and Learning programme for DFID. Available: www.healthlink.org.uk/PDFs/icd.pdf.

Rappert, B. (1997) 'Users and Social Science Research: Policy, Problems and Possibilities', *Sociological Research Online* 2 (3): www.socresonline.org.uk/socresonline/2/3/10.html

Royal College of Physicians (Faculty of Occupational Medicine) (2007) Briefing note '*Is work good for your health and wellbeing?*' London: RCP.

Schellekens, Philida (2004) *Interpreting and Translation: Key findings and recommendations*. London: CILT.

Spears-Meers, E. (2007) 'High Art Lite in the Darkest Hour', *Oxonian Review*, Spring 6 (2). Available from: http://www.oxonianreview.org/issues/6-2/6-2spears-meers.htm.

Stallabrass, J. (2006) '*Spectacle and Terror*', *New Left Review*, 37, January. Available from: http://www.newleftreview.org/?view=2600.

Thelwall, Mike and Price, Liz (2003) 'Disciplinary Differences in Academic Web Presence: A Statistical Study of the UK', *Libri*, 53: 242–253.

Thrift, Nigel (2005) *Knowing Capitalism*. London: Sage.

Travers, Tony (2006) *Museums and Galleries in Britain: Economic, Social and Creative Impacts*. A report for the National Museum Directors' Conference. London: NMDC.

Tol, S.J. and Yohe, G.W. (2006), 'A review of the Stern Review', *World Economics*, 7 (4): 233-248.

UK Grad Programme (2003) *Destinations of all PhD graduates*. www.grad.ac.uk.

Universities UK (2006) *The economic impact of UK higher education institutions*. A report by Strathclyde University on behalf of Universities UK. London: Universities UK.

Universities UK (2007a) *Monitoring Research Diversity: changes between 2000 and 2005*. London: Universities UK.

Universities UK (2007b) *The Changing Academic Profession in the UK: setting the scene*. London: Universities UK.

von Hippel, Eric (2005) *Democratizing Innovation*. Cambridge MA: MIT Press.

Wellcome Trust Strategic Plan (2005-06), *2005-2010 Making a difference.* London: Wellcome Trust.

Whitley, EA. Hosein, IR. Angell, IO. And Davies, S. (2006) *Reflections on the academic policy analysis process and the UK Identity Cards Scheme.* LSE working paper series, July 2006.

Wilkinson, R. (2007) *Dysfunctional Societies: Why even small differences in inequality matter*. Working Paper. London: Policy Network.

Williams-Jones, Bryn and Corrigan, Oonagh (2003) 'Rhetoric and Hype: Where's the "Ethics" in Pharmacognenomics?', *American Journal of Pharmacogenomics*, 3 (6): 1175-2203.