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

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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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Summary and Recommendations

1. The humanities and social sciences are academic disciplines dedicated to the study of society, the economy, business, governance, history and culture. Their mission is to help people and organizations in British society reflect upon themselves, so as to better understand their established behaviours and their responses to what is new. Accounting for two fifths of students in the UK's university sector, and a similar proportion of academic staff, these HSS disciplines have never been more critical than now for economic advances, government policy-making and the development of civil society. Some £75 billion of UK exports are from 'knowledge industries', many of which depend critically on the analysis of social and cultural behaviour (Work Foundation, 2006). Contemporary modes of 'knowing capitalism' and 'intelligent government' also make insatiable demands for information about society's operations and for systematic analysis. So for many reasons one might have expected HSS disciplines to be seen as increasingly salient for economic transformation and public policy-making.

2. Yet compared to the contribution of the physical sciences, engineering and medicine on the one hand, and perhaps even of the creative arts and design disciplines on the other, the wider roles of the humanities and social sciences have tended to be undervalued. In the past government ministers and civil servants have routinely discussed the knowledge economy in restrictive terms of developing the 'science base' and dedicated barely a sixth of all government research funding to the humanities and social sciences. Major UK corporations assign barely one twentieth of their R and D spending to the social sciences (even those in major consumer markets or dealing with close government regulation). And even the largest companies give chiefly token contributions to the humanities. Within the humanities and social sciences themselves, vocal voices are often raised against any suggestion that their economic, public policy or social impacts should be measured, still less form part of their assessment for research funding. Many scholars in these disciplines have seemed to outsiders either minimalistic or fatalistic about the wider implications of their work.

3. This report explores this conundrum, why the humanities and social sciences' critical contributions to a 'knowledge society' have tended to be restricted and under-appreciated. As with any complex social problem, there are multiple forces at work – some located in the wider societal environment (in the operations of business, government and the media), and others having to do with the academic disciplines themselves. But the research that we report on here also throws up multiple positive suggestions for how the contribution of the humanities and social sciences can in future be increased. We show how the HSS contribution is already extensive across the economic, policy and civil society spheres. The problem we address was summed up a leading humanities academic we interviewed who pointed to what he saw as the acute contrast between the UK having world leading universities and yet a completely under-developed culture of public intellectualism in Britain:

> 'It is interesting that UK universities are all over the Top 20 universities in the EU. There no German universities and no French universities. But do we get credit or recognition? No. If we do lead Europe and the world, then where is the role for the public intellectual in the UK and the funding for humanities?'

We hope to show that the impacts of the HSS disciplines can in future be better tracked and recognized. This in turn is the first and most essential step to ensuring that the significance of HSS research is appropriately recognized for funding support and better valued in society at large.

4. We first discuss salient features of the humanities and social sciences and then trace out how they add value in four key areas:

- Economy and business;
- Public policy and practice;
- Civil society organizations, media and culture;
- Links to science and technology research.

Our findings draw on and reflect a six month research project in which we have interviewed more than 100 senior people from business, government, civil society organizations, the media and academia on how academic work in the social sciences achieves impacts. We also systematically surveyed the available literature on influences and collated information on 10 detailed case studies of recent impacts that emerged from interviews. Finally we undertook an e-survey of academics in the humanities and social sciences which secured more than 450 responses with detailed

comments and examples of influence. A brief description of our methods is given in Annex A below (page 57) and a detailed Research Report of all our findings is also available. In addition to the tables and analysis backing up the account given here, this also includes a full description of our methods.

5. Rather than preview key findings across the whole report at this stage, only to go over them in more detail again later on, Figure 1 shows a summary index from our survey of humanities and social sciences academics of how they score their own discipline's impacts across the areas covered in this report. This is an average of 374 responses on a number scale where 1 is little impact and 7 is a very great deal of impact. (In practice then scores are likely to range between 1.5 and 6.0, when allowing for averaging effects.) In our view the judgements in this table are a very accurate reflection of the findings of the whole report, and they are confirmed by many interviewees and focus group participants. Thus HSS research is achieving high impacts already in helping civil society organizations, and in contributing to public debates and cultural development – with the humanities playing a strong role here. On public policy-making the humanities academics scored their impact at 2.5, but social scientists scored theirs at 4.6 (and also felt that their potential for impact should be scoring 6, the highest level realistically feasible as an average). Again we feel that this picture is accurately reflective of the situation charted in the rest of our report. Social scientists were more optimistic than humanities scholars about how much they can contribute to business and economic development, but they expected to have somewhat less impact here than in public policy. Finally HSS academic were most downbeat about their impacts on the physical sciences and medicine, again a rating broadly confirmed by this study. (A fuller version of Figure 1, giving the breakdown between the humanities, mixed disciplines and the social sciences is given in Annex A, on page 66.)

Figure 1: Perceived scores given by HSS academics on the impact of their discipline in different areas, and the potential impact that their discipline could have

	Overall scores from respondents
Public and culture	
Actual impact	4.6
Potential impact	5.6
Civil society	
Actual impact	4.1
Potential impact	5.1
Public policy	
Actual impact	3.4
Potential impact	5.1
Economy and business	
Actual impact	3.0
Potential impact	3.8
Science and technology	
Actual impact	2.9
Potential impact	3.9

Source: Survey of HSS academics. N = 374

RECOMMENDATIONS

6. Improving the impacts of humanities and social science research requires a range of changes in approach, principally by academics in the HSS disciplines themselves, acting at four levels:

- within their own universities and departments;
- in single disciplines, learned societies and professional bodies at national level;
- via a range of cross-disciplinary bodies and networks, including in particular the British Academy and the Academy of the Social Sciences; and
- in their interactions with government funding and policy-making bodies, including HEFCE as the RAE exercise body, the research councils, (chiefly the ESRC and AHRC), and the Department of Innovation, Universities and Skills.

7. HSS disciplines cannot strengthen their impacts in isolation or in a one-sided way. Both government and the civil service on the one hand and business on the other also need to change their perceptions and behaviours in significant ways if the welfare benefits to the UK economy and society of humanities and social sciences research are to be fully realized and further developed.

8. Many of the recommendations set out here require multiple stakeholders to make clear their commitment to change, hopefully in co-ordinated or agreed ways:

Measuring and valuing impacts

A. What gets measured gets better valued. There is a pressing need to better record how the humanities and social sciences currently achieve impacts, as the first step to systematically trying to expand those impacts in future.

A1. The current statistics for higher education should be systematically reviewed so as to record wherever possible the HSS, STEM and CAD discipline groupings.
At present most data is aggregated across higher education as a whole, and where more information is available only single individual disciplines can be distinguished.

A2. As a corollary, an agreed basis is needed for allocating parts of mixed disciplines between the humanities and social sciences grouping and the STEM and CAD groupings – one that can be followed by all higher education statistics bodies and agreed by the disciplines concerned.

A3. The economic impacts of the HSS disciplines should be separately estimated. We know that on the 2005-06 numbers UK universities as a whole contributed an economic impact of £45 billion to the UK economy, and that the HSS component of this will be between £16 billion and £22 billion. It is important to fix this number more precisely.

A4. The learned societies and individual discipline bodies across the HSS groupings should be the key actors for recording impacts on economic development, public policy, civil society and culture - within an agreed common framework of measures. The individual academic professions best understand their own discipline and they can secure most buy-in from their members.

A5. Relevant funding bodies (ESRC, AHRC, HEFC and DIUS) should work with the disciplines and the British Academy and Academy for the Social Sciences to ensure that their effort (in A4 above) is properly funded and set up, to assist discipline bodies in the piloting phase, and to achieve a permanent method of collecting the relevant information. It may also be necessary in some cases to cover disciplines where a learned society has less expertise or capacity.

B. Universities, HSS disciplines and higher education funding and assessment bodies all need to improve their ability to value and to incentivize applied research and impact-generating work by HSS academics.
Academics can only make space for undertaking more relevant research and for boosting its impacts if professional values, workload measures and monetary reward systems all recognize the value of this work. At present these supports are not fully in place and in many cases they are largely absent.

C. Impactful HSS research is usually specialized work, but it is also de-siloed and joined-up, looks over the horizon and is problem-focused, whether in business, government or civil society. How this re-focusing is achieved (e.g. whether through cross-disciplinary work, inter-disciplinary work, combined teams or effective client-side co-ordination) is less important than researchers' recognition of the need to re-focus on the problem outside the single-discipline silo, and of the gains to be made from doing so.

Boosting impacts on UK economic development

D. HSS disciplines need to be more open to approaching business to support research and be less timid on the ideological/ ethical grounds that have sometimes inhibited co-operation in the past. Universities and academics have tended to treat state funding of research as standard and OK, but corporate funding as unusual and potentially dangerous. Creating a better culture of support requires asking in a different way.

> **D1. More pooling of information and joint development of good practice across universities about how to deal successfully with business would be helpful.**
>
> **D2. There could be useful scope for national bodies (DIUS, HEFCE, and research councils) to develop a more standard code of good practice governing business funding of HSS work, taking account of HSS-specific factors, so that regulation and contracts for corporate research support are less *sui generis*.**

E. HSS disciplines urgently need to reappraise their attitudes to business and to achieving economic impacts, in ways that take account of 'digital-era' developments, especially the growth of a 'knowing capitalism' with excellent information and analysis capabilities. University researchers are used to thinking of themselves as having better data capabilities than business. This may no longer be true and universities and HSS disciplines will need to 'raise their game' to stay relevant for advanced business sectors' needs.

> **E1. For the UK economy to remain at the forefront of economic change, ways must be found to enhance the ability of the empirical social sciences to exploit new forms of digital data for research, especially transactional information.** Gaining more access to business-held data for research (with strong and appropriate data safeguards); better understanding the scale and scope of new transactional databases; and being able to train students in methods of analysis appropriate to them – all these require major changes in empirical and quantitative social sciences. They will not be achieved without a

concerted effort by HSS disciplines, support from government and careful exploration with business of new bases for co-operation.

E2. Firms and business organizations (such as the CBI and trade associations) should recognize that universities and the HSS disciplines need additional help and active co-operation to better meet their needs. Researchers and educators cannot look ahead to meet business needs for trained personnel, new methods of analysing 'pervasive information' about corporate issues and social trends and patterns without gaining better access and support.

Boosting impacts on government and public policy-making

F. HSS disciplines need to radically improve the ways in which higher degree students are trained, to better fit the contemporary needs of government - especially by cutting across discipline boundaries, incorporating more group-working and group-assessment, and improving quantitative skills.

G. Standards of professional communication of research to external audiences need to be radically improved across many HSS disciplines. The formalization of many social sciences creates barriers to accessibility, which some economists have begun to systematically address. 'Public understanding of the social sciences' is a topic that needs investment. In the humanities, showing the applicability of knowledge and the usefulness of theories is important.

H. HSS disciplines should seek to play key roles in understanding and assisting 'digital era' developments within government, which are just as important as those discussed in E above for the humanities.

H1. For UK public management to remain amongst the best-regarded in the world, the empirical social sciences must improve their capabilities to exploit new forms of digital data for research, especially government-held transactional information. Again a concerted effort by HSS disciplines and much more forward-looking support from government will be needed to ensure that HSS researchers can gain more access to government-held data within strong and appropriate safeguards; can develop methods attuned to the

huge scale of many government information-processing tasks; and can better train students to understand and exploit new data capabilities.

H2. The civil service and government bodies need to be more open to and supportive of HSS research, in forward-looking ways. HSS researchers need positive assistance to understand how public policy problems are structured, to keep abreast of where solutions are heading, and to develop courses and methods that can be helpful for government. Public policy already benefits hugely from HSS inputs, and our survey shows that HSS academics are keen to expand their inputs. But they are far more critical of the conservatism and restrictiveness of civil service and government practices than they are of business.

H3. Civil service training in the UK and professional skills in government still lag in the area of supporting post-graduate education and encouraging ambition and innovation in evidence-based policy-making. UK officials' appreciation of how systematic research can contribute to policy-making and to more effective service delivery and implementation is restricted by: the generalist culture of the civil service; the fact that post-graduate training is not routinely or even regularly undertaken by policy-level civil servants rising up the career ladder; and perhaps the relative shutting out of universities from training and educating roles in favour of a protected internal supplier. More co-operative work between universities and the civil service and other public sector bodies on higher-level training would improve the relevance of HSS courses and help seed future research co-operation. And because the UK civil service, NHS and local government are highly regarded internationally, it could help boost university exports also.

I. The humanities and social sciences disciplines need to radically improve their own organization and communications, particularly for informing and lobbying government and policy-makers and communicating research findings. Government decision-makers have to maintain '360 degree' surveillance and can make misjudgements or mistakes where information is not effectively communicated to them. In the humanities disciplines the campaign to restore languages teaching has shown the importance of a common lexicon for communicating less tangible benefits and feeding memorable phrases into policy discussions (see the LLAS report '700

Reasons to Study Modern Languages'). But currently across the HSS canvass there are rather weakly organized networks for lobbying government, especially at the top (cross-disciplinary) level.

Further boosting impacts on civil society, culture and public debate

J. By better capturing HSS disciplines' already strong roles here, universities, learned societies and funding bodies can all improve the valuation they put on applied work for societal stakeholders and encourage better dissemination and explanation of research results.

> **J1. Funding bodies' impact assessments of research should better recognize the importance of civil society organizations, intermediary bodies and the media in improving social learning**. HSS academics do a great deal here already and are keen to do more. But they receive little 'official' encouragement at present, compared with achieving impacts with business or government.

Improving linkages with science and technology research

K. The research councils and DIUS should review the support and encouragement being given to joint research between HSS and STEM disciplines set against the contemporary importance of key policy areas where they interact. HSS researchers are keen to do more here in areas such as climate change, ageing populations and the introduction of new technologies. In the humanities, the progress of the sciences continues to raise new and interesting issues about the appropriate ethical, legal and cultural limits on scientific endeavour and how they can and should change.

> **K1. Universities, discipline bodies and funding agencies need to ensure that academics in established disciplines are not disadvantaged by working in interdisciplinary centres.** The structure of the RAE is a particular concern, but itself reflects strong and unhelpful discipline-siloing within academic professions and in university governance.
>
> **K2. More joined-up work within HSS disciplines themselves may better engage the attention of physical science and medical researchers**.

K1. Government bodies and top-level organizations in the HSS disciplines should work to improve the incentives for academics to publish major research findings in interdisciplinary journals as well as established discipline journals. For instance, is there a need for the funding councils to be able to financially support inter-disciplinary journals to better pool key information and boost knowledge transfer, both between the HSS disciplines themselves and between the HSS and STEM discipline groupings?

Chapter 1:
The character and contribution of the humanities and social science disciplines

1.1 Between them the HSS disciplines cover a wide range of academic subjects (including business and management, and education, and some disciplines shared between the physical and social sciences, like psychology, information systems, geography and archaeology). Figure 2 shows our definition used here, covering 19 social sciences, eight core humanities disciplines, and four disciplines that span the boundary between these two groupings. Collectively the HSS disciplines produce:

- more than two in every five graduating first degree students;
- two thirds of successful masters degree students;
- nearly a third of new doctorates.

Figure 3 shows the relative sizes of the different HSS disciplines. It also demonstrates that most of the HSS disciplines have grown their numbers strongly in recent years, except for modern languages where numbers have basically been static. Masters degrees in HSS disciplines have particularly expanded.

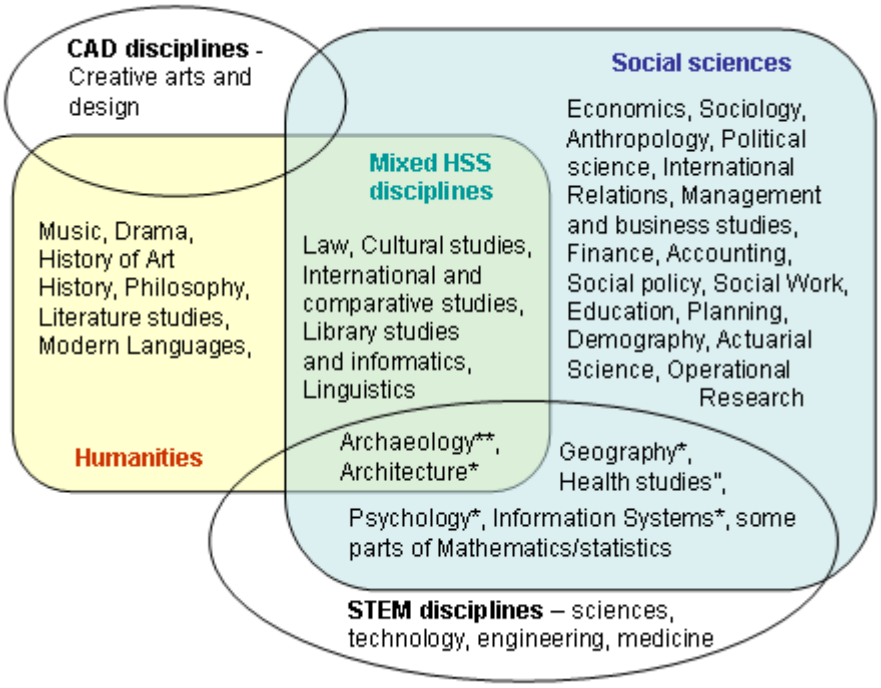
1.2 Recent estimates of the economic significance of UK universities suggest that in 2003-04 their direct outputs amounted to £16.9 billion, and that they generated secondary outputs of just over £28 billion through the normal economic multiplier effects (UUK, 2007, p. 30). The overall higher education multiplier is just over 2.5 for output, and just under 2.0 for employment. A detailed analysis of economic impacts across the different discipline groups remains to be undertaken. But the HSS disciplines contribute a large share of the higher education sector's £45 billion economic impact, accounting as they do for 54 per cent of all qualifications achieved each year, around 50 per cent of all students and 37 per cent of academic staff employment.

1.3 In terms of government support, the HSS disciplines now receive:

- 8 per cent of research council funding (mainly from the Economic and Social Research Council and the Arts and Humanities Research Council). This is less than a tenth of the amount for STEM disciplines, which of course have higher costs.

- 28 per cent of general government (HEFCE) funding for research purposes, less than a third of that for STEM disciplines.

Figure 2: What are the Humanities and Social Sciences disciplines?



Notes:
* Assumed 25 per cent in social sciences and 75 per cent in STEM disciplines grouping.
** Assumed 50 per cent in humanities and social sciences and 50 per cent in STEM disciplines.

Overall 18 per cent of government funding for university research taken as a whole goes to HSS disciplines. On average this amounts to £3,400 per head annually across all academic personnel in HSS disciplines, compared to an average of £24,800 per head for staff in STEM disciplines. (For more discussion on this, see Chapter 1 in the research report.)

Figure 3: The number of students qualifying in humanities and social science (HSS) subjects in 2005-06, and the percentage change since 2002-03

	Total qualifications obtained in 2005-06	Percentage change since 2002-03
Business and management	81,900	10
Education	70,400	31
Social work, social studies and anthropology*	34,300	24
Law	29,800	21
History, philosophy and archaeology	23,500	21
Language, literature and linguistics	20,100	14
Finance and accounting	14,600	32
Modern languages	11,900	2
Media studies and communications**	10,800	25
Economics	10,500	20
Politics and public policy	10,300	43
Psychology***	9,100	41
Human and social geography	4,200	14
Information systems and computing ***	3,900	1
Architecture, building and planning***	3,400	26
Total humanities and social sciences	**338,700**	**20**

Data source: HESA statistics for 2005-06 and 2002-03.
Notes: *Media studies and communications data do not include journalism and publishing qualifications (counted as CAD disciplines).
**Social work, social studies and anthropology includes around 15,000 qualifications in the field of social work.
*** The numbers included here for psychology, information systems, and architecture and planning data are *pro rata estimated proportions* of the overall numbers of students qualifying in these subjects whose courses are closer to HSS disciplines than to natural or physical sciences.

1.4 The research funding and development models across the HSS disciplines are radically different from those in STEM disciplines. In HSS areas the financial support for academic staff is primarily teaching-led, a model that has declined in the physical sciences. Researchers funded solely by non-government monies make up no more than a tenth of staff numbers in the HSS disciplines, compared with 35 per cent in the STEM disciplines.

1.5 In 2004 the British Academy's report, *That Full Complement of Riches: the contributions of the arts, humanities and social sciences to the nation's wealth* (chaired by Professor Paul Langford), called for government policy to move away from a narrowly-defined but historically entrenched concern with the 'science base' (construed in physical science or technology terms) and towards a broader view of the 'research base' needed for an advanced industrial society. Partly due to the recent establishment of the Arts and Humanities Research Council, the share of research funding going to HSS disciplines has risen somewhat in recent years. This improvement may also partly reflect a still-fragile shift of attitudes amongst policy-makers. Within the UK's now firmly established economic pattern, dominated by service industries and with most growth coming from the expansion of high-value activities, most observers agree that the roles of the social science and humanities disciplines will tend to increase.

The impacts of research in the HSS disciplines

1.6 The key mode of change in the humanities and social sciences is a broad-front advance in knowledge, with cumulative impacts occurring in a relatively diffuse way across many researchers. 'Breakthroughs' that are easily credited to individual researchers or research teams are harder to identify. HSS disciplines constantly add to *a dynamic knowledge inventory*, an ever-changing stock of ideas about how society and culture work and about possible innovations and reforms. The dynamic knowledge inventory changes all the time, because people and organizations in UK society and outside are constantly modifying their behaviour, not least responding to new information about how society or culture are working. So research and ideas have an inherently limited usefulness and must be constantly updated. For example, Case Box 1 below shows one example of how social scientists' concepts were applied to an auction bandwidth for mobile telephones. In Britain the government made billions of extra revenue using a distinctive new approach to auctions. But just a few months later other European governments failed to make the same gains, not least because the economic climate had also sharply worsened for technology projects.

Case Box 1: Auctioning mobile phone bandwidths

In 2000 the UK government conducted an auction of newly available bandwidth for 3G (third generation) mobile phone services using a set of 'open' auction techniques developed originally over many years work and adapted for this specific application by a UK economist and game theorist, Ken Binmore at University College London, and by Paul Klemperer from Oxford University. Each available slot was bid for by all the companies interested, and their bids were then made public, before another round of bids were invited. This process was open-ended and was continued across several rounds, terminating only when a single bidder remained.

The Treasury consulted City of London consultants before embarking on this approach and was advised that using conventional means they could look to raise around £4.5 billion from the bandwidth sale. However, with the new techniques above the government was actually able to raise £22 billion from the 3G sales.

How far was the government's 'bonus' receipts of £17.5 billion due to the auction technique it used? This method was at this time very new and hence unfamiliar to companies and so they may have bid more than planned in the heat of the competition and in order to thwart competitors. But the sales also took place at the height of the dot.com boom, when prices for a wide range of new technology companies and investments reached high levels that subsequently could not be sustained. Similar bandwidth auctions conducted by other European governments within a few months showed rapidly reducing levels of success in raising finance, coinciding with the growth of 'dot.bomb' sentiment in financial markets.

Was the government's bonus anyway a good thing? Critics (including some of the successful bidders) argued that by over-valuing the bandwidth itself the high auction prices starved the successful companies of investment funds for developing the necessary networks, and raised 3G prices for consumers, both effects slowing the growth of the 3G market.

1.7 Business, government and civil society also constantly add knowledge and ideas to this knowledge inventory, and HSS work achieves influence where these actors also draw down and implement ideas from the inventory in a timely and relevant fashion. These processes often occur in diffuse and often indirect ways, alongside multiple other causes. In the modern period, academic knowledge contributed by HSS subjects is also often 're-aggregated' by a wide range of intermediating institutions – especially the media industries, professions close to the humanities or social sciences, the consultancy industry, major financial and industrial corporations, think tanks, political parties and interest groups.

1.8 Because of these broad-front, diffuse and indirect effects, HSS disciplines themselves have also not been very good at identifying (let alone measuring) where, when and how they have influence on business, government and other social actors. Systematic work to trace these impacts is only just beginning. Some HSS academics have also been quick to complain that a concern with achieving applied 'impacts' could seriously distort the pure pursuit of knowledge. But we show in this report that this position is now a minority view – in our survey only around a fifth of HSS academics reject the idea that their discipline should pursue economic, public policy or civil society impacts. The large majority of HSS academics now support the idea of maximizing their disciplines' positive impacts for social development and are optimistic that they are already achieving worthwhile effects and can do more in future.

Chapter 2:
How HSS research fosters business and economic development

2.1 A key way in which HSS disciplines foster economic growth is by providing skilled personnel – every year over 150,000 HSS graduates enter the labour market and go on to make key contributions to economic prosperity, public services delivery and social development. Over two thirds of students with HSS degrees enter the private sector economy, chiefly in the financial and business sectors, wholesaling and retailing, and with smaller numbers in manufacturing. (By contrast, in the STEM group around half of graduates enter the public sector.)

2.2 The bulk of the 74,000 higher degrees awarded annually in the HSS disciplines are masters courses, with a strong pattern of 'post-experience' people in their later 20s or 30s taking an MSc/MA or an MBA in order to re-skill in their industry area. HSS doctoral students also have a high take-up by private sector employers.

2.3 Research in the humanities and social sciences has many impacts on economic development, although some of them are rather diffuse for the reasons discussed in Chapter 1. Figure 4 sets out some specific examples pointed to by interviewees for this research and by respondents to our e-survey of HSS academics. The keenest corporate respondents told us that:

> 'We are mainly interested in exchange of ideas and supporting interaction between people… Entrepreneurship is anchorage…start-up companies should come from universities. We work with the [Y] Business School to run courses on entrepreneurship on interesting ideas in [our sector].'

Others cited specific examples of influence from academic work:

> 'During the mid 1990s [company X] and other large pharmacos worked with academics to develop standardized 'informed consent' procedures for the pharmacogenetics research programme … The Nuffield Council on Bioethics Pharmacogenetics Practical Recommendations (2004) was excellent, and is viewed as an unofficial industry standard.' *(The Nuffield Council consists of a broad range of HSS academics drawn from disciplines including philosophy, law, medical ethics, and geography.)*

Figure 4: Examples of how HSS academic research fosters economic development

Type of influence	Examples
Long-run links from academia to economic decision-making	• Of the 9 person Monetary Policy Committee of the Bank of England, five are academic economists or business economists with strong academic connections. The MPC sets interest rates for the whole economy and its members examine a large mass of academic and business research about many aspects of the economy in reaching their monthly decisions.
Commissioned research	• In a survey of top ten UK universities we found 7 research centres or institutes out of 120 in the social sciences with support from private corporations. • Major corporations interviewed for this research spend around 5 per cent of their R and D budgets on social sciences work, as well as employing social scientists in research and advice roles.
Influence from general HSS research	• Research by economists in 1997-99 on the National Minimum Wage showed that business fears of large job losses and disincentives for business were not justified. Job losses would be relatively small at moderate levels of wage, a view confirmed by further research once the policy came into operation. • Joint research by LSE economists and McKinsey has shown the importance of management attitudes in boosting productivity, and the strong lead of US firms compared with UK companies.
Individual ideas picked up from academic HSS research	• According to sources as diverse as *The Economist* and Naomi Klein, post-modernism in the humanities has had appreciable impacts on business approaches, such as the growth of 'ironic' marketing. • Many large firms have invested in histories of their business. • Major cultural events focused on artists, writers and intellectuals have become important motors of cultural consumption in the UK, boosted by literary and historical research and museum's curating efforts.

And academics admired corporate openness to new ideas, compared to the conservatism they often encounter in government:

> 'It's not the same with business, because they are much more in tune with ideas that break the mould. Some seminars, business people will come down to see what the hackers are up to, to see if they can make this into a business opportunity.'

2.4 Nonetheless, business leaders' views of impacts often recognized conflicting views of the value of HSS research (compared with universal recognition of the value of STEM research) and also aspects that they wished were better handled by humanities or social sciences disciplines:

> 'I see the divide between humanities, arts, and sciences as completely artificial. We need all of them to be working together.'
>
> 'There are two opposing views amongst [companies in our sector] on the value of academic research in humanities and social science. Some would say it just gets in the way, while others see it as hugely valuable in framing issues…just not resolving them.'
>
> 'There is not an obvious place for companies to go to find out about what philosophy, or English or other humanities subjects can say.'

Both businesses and government interviewees saw a strong need for HSS disciplines to increase the transferable skills of students, especially by inducting them more into group-working and boosting their understanding of how complex projects are managed and how large organizations accomplish collective tasks.

2.5 The box below gives a synoptic overview of the reasons that businesses said that they already use HSS research or might use it in future. The biggest set of reasons clustered around businesses getting a competitive edge in close-fought markets, especially those around complex procurements (especially public sector procurements) and being better able to understand the ways in which political and social reactions are likely to impact on business projects. Firms also see universities and academics as offering useful sites and ways of networking more broadly, enhancing their capacity to understand and plan for emerging trends, for instance, in fostering their 'pre-competitive' research. Some firms also see a direct marketing advantage from being able to meet other players in their markets in a non-selling context. Next in importance, were factors associated with 'talent management', broadly construed as both stimulating people within firms to think more creatively and helping them to better understand and motivate their most creative people. Finally, some major companies are prepared to look at cases for them to support *pro bono* work, just because of its public interest qualities, albeit perhaps with some public relations or goodwill benefits. But they are keen that academics should not mask a bid of this kind with 'fake' claims of business advantage.

What private firms told us they need from social sciences and humanities research

GIVE US AN EDGE/ HELP US PREDICT

- If academic research can achieve impacts on our profitability or another 'bottom line' indicator, if it can give us a competitive edge, tell us about it clearly and directly.
- Give us access to independent and credible research that may enhance our organization's business edge or reputation for being informed, especially in complex contracting or project situations.
- Help us improve the effectiveness of our networks (our nodality), our links to relevant stakeholders, intermediaries and commercially-relevant communities.
- Extend our ability to predict 'political' or 'social' responses to projects that we are tendering for, including better understanding risks.

TALENT MANAGEMENT

- Provide us with sources of inspiration or new stimuli for creative and innovative thinking within our organization.
- Improve the skill sets, intellectual quality, and competitiveness of our UK graduate recruits, especially on issues like quantitative capacities, analytic rigour, languages etc.
- Help us with 'talent management', so that we can better understand, retain, motivate and inspire our best people.

DOING GOOD

- If you want us to back research for 'pro bono' and not commercial reasons, make a straightforward case.

2.6 It is important to stress that business views of the HSS disciplines were by no means unanimous. Some corporate respondents were sceptical of any role for universities beyond providing reasonably trained people. For instance, one major corporate's head of research argued that:

> 'The most important priority for UK industry should be replenishment of STEM skills – our need for philosophy and history is not great – except to have staff with the ability to write reports. Languages are important but they are a secondary priority. Where are the major industries for the UK currently? Financial services, engineering, environmental science, e-health. These are all STEM based.'

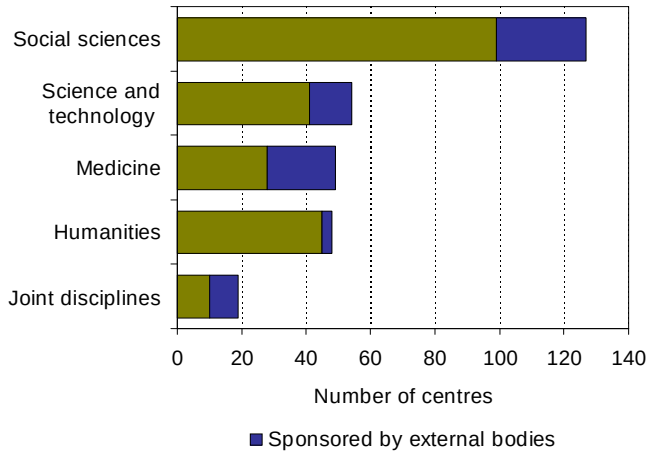
(Yet our interviewer noted that in three of the industries mentioned here, social science knowledge and research arguably has a strong role to play, especially for a consumer goods company.)

2.7 There is also still a sharp divergence between the systematic practices of large companies in linking with physical sciences and technology disciplines and the fairly scattered links between companies and the HSS disciplines. We found only one major UK corporation with a 'full spectrum' relationship with humanities and social science disciplines, which they described as follows:

> 'You name it we probably do it. We commission longer term research from academics … We sponsor doctoral students… We have programmes for students to come and work in our labs... We have short-term research fellowships… We are part of the EPSRC industrial Case awards scheme … And we have two strategic partners in [UK university X] and [US University Z].'

2.8 To get some more systematic measure of the more scattered business involvement with HSS disciplines we conducted a Web census on the websites of the top 10 UK universities. (For more on methods and results of the Web census, see paragraphs 2.18 and 2.19 and Figure 2.3 in the research report.) We identified nearly 300 formally designated institutes, centres and research programmes, whose distribution across discipline groupings is shown in Figure 5. The largest number (over 120) are in the social sciences, with 50 in the humanities, a slightly lower number than in medicine and the physical sciences. The STEM subjects may have more of an emphasis upon departmentally-organized research and hence fewer tendencies to define separate compartments within this effort than the HSS disciplines, where centres may also be smaller. In 74 cases we were able to identify a funding sponsor, of which half were government sponsored and 12 were business sponsored, 7 in the social sciences and 1 in joint disciplines with STEM subjects, a respectable showing. Our method did not take account of the size of the company sponsorship, but in some cases it was substantial, as with the five-year, £1 million EDS Innovation Research Programme at LSE funded by the IT company EDS.

Figure 5: The number of research centres and institutes across discipline groups found in our web census of the top 10 UK universities, in December 2007



2.9 A major difficulty in measuring direct impacts from HSS research on economic development particularly is that academic contributions are often re-aggregated by intermediaries. Businesses (even more than government) need useable research inputs to be provided in ways that are packaged for immediate utilization, a value-adding service provided by a wide range of discipline-related professions, consultancies, training firms, intermediaries and think tanks. So two- to multi-step patterns of communication and diffusion of ideas are characteristic in this area. Firms are also mainly interested in acquiring comparative advantage from 'breakthrough' research inputs or access to specialist university facilities, and so place a lower valuation on the 'broad front' research advances in the HSS disciplines. Finally, start-up companies originating from academic work are much less feasible and less common in HSS disciplines than in STEM subjects.

2.10 However, business schools in leading universities have long had close links to companies and their expertise is beginning to diffuse across to other HSS disciplines. The consultancy arms of leading universities such as Cambridge, Oxford and LSE have all begun to do more work in setting up applied research and consultancy projects for the social sciences and even for humanities subjects. One philosopher told us:

> 'We had a project with [major consultancy A], their tax business school via their in-house academy, looking at the subject of tax avoidance. [Company A] convened a series of groups to look at different aspects of tax avoidance, socio, political, ethical, and political and so on. So we got involved in that. We

had a bright researcher write up the report and she actually became a lead author. It was good because there were no strings attached. We could say what we liked, and actually they wanted us to be quite brutal.'

Yet other humanities scholars lament that companies can often not spare time or resources to engage more consistently with them on areas of expertise:

'We do occasionally have private sector sponsors around issues such as 'informed consent' and we do occasionally get commercial firms taking our training courses, but this should be a lot higher. The only area for commercial organizations is to train their people on [required] legal frameworks and guidelines.'

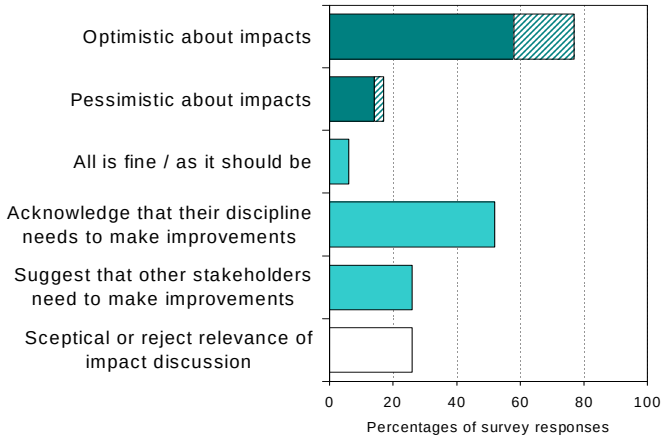
And a major university research office emphasized some of the difficulty in getting financial resources committed, when inside all major companies resources are keenly competed for:

'[Telecommunications company A] sponsor doctoral studentships in humanities and social sciences. For example, in social anthropology there was joint research into communications and cultures, a study of broadband in China, also short-term stuff on how Muslims use their mobile phones. This is really our main aim, to bring money into graduate research. But it is often difficult to get companies to put their money in and commit over a longish period…You might have a good relationship with a company but it is very difficult to find the money.'

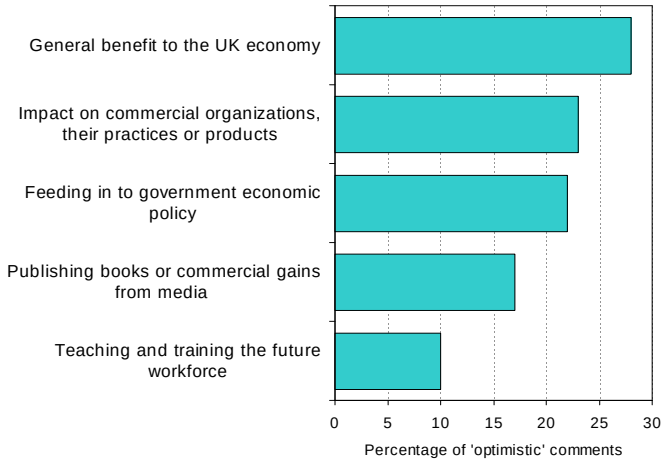
2.11 We used our e-survey of people working across the HSS disciplines to gauge how far academics themselves saw the economic impacts of their work, and Figure 6 shows the core results. Around a quarter of our 141 respondents was sceptical or rejected achieving business impacts, but three times as many gave more optimistic or positive responses. Half of the (127) academics responding with comments or suggestions saw impacts both in general terms and in direct linkages with firms, but the remainder appealed to economic policy impacts or economic benefits from media dissemination of research. Very few HSS academics expressed a need for business to change its approach but they clearly saw a need for their discipline to collaborate more and to improve its methods of training students, networking and framing research. These findings refute the still widespread view (apprehensively shared by some of our business interviewees) that most HSS academics reject a concern with achieving economic impacts from their work.

Figure 6: HSS academics views of business

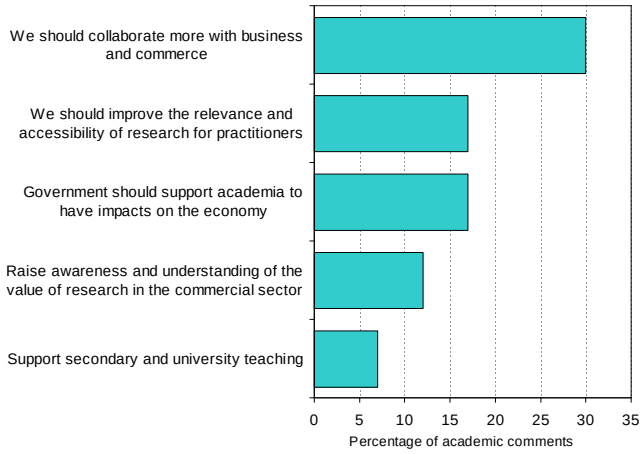
(a) How respondents in our survey evaluated their discipline's impact on economic development and business



(b) Areas of impact on economic development and business identified by HSS academics commenting in our survey



(c) Most common suggestions made by HSS academics for improving their discipline's 'positive impacts for economic growth or business?'



2.12 Both in the survey and in our interviews with senior academics there was openness to looking for economic impacts. But academics pointed out that government and Funding Council requests for economic impacts were coming on top of already substantial teaching, research and administration commitments. As one put it:

> 'If you want humanities to have effect.. you have to incentivise people to do what we did … There is no chance that I would be able to do these projects as well as full time teaching. You have to marry the incentives in some way. One minute they are asking for impacts, then the next they want teaching and research quality.'

Digital-era changes

2.13 In one increasingly important area there have so far been relatively few inputs from social science academics, namely the 'digital-era' changes which have created increasingly large stockpiles of transactional information within big companies in the advanced economic sectors. Here digitization and the cheap storage of phenomenal amounts of data, plus constantly expanding processing power following Moore's Law, have greatly changed the economics of analysing large volumes of information. As a result, massive data warehousing operations have become central processes in sectors like the financial industry, stock markets, retailing, the travel industry, telephony, ISPs and increasingly digital commerce and burgeoning digital distribution networks for text, sound, and now video products. Companies have also created new methods for analyzing the huge volumes of data created by these developments, so-called 'super-crunching', putting a new emphasis on high-end quantitative social science methods (Ayers, 2007). But these changes have also lead companies to import more algorithms and powerful techniques from mathematics and the physical sciences (e.g. in leading companies like Google and major financial institutions) and in Web-based markets to develop quasi-experimental methods of marketing. In the space of a few years, companies with pervasive information about their operations and markets have moved from the pages of science fiction towards actuality, with the growth of what Thrift (2005) calls 'knowing capitalism' – a strong concentration of societal information in the hands of the most advanced businesses. In focus groups with business executives it is also clear that at present these extensive data resources are highly unlikely to be opened up to academic researchers' access, even in terms of

being able to educate students to be tomorrow's intelligent future users of the data mountains thus collected. Exactly similar problems apply to the huge expansion of government transactional databases, especially in the aftermath of scandals about inadvertent data releases.

2.14 Academic discussions of these changes are only just beginning. A pessimistic school, such as Savage and Burrows (2007), argues strongly that an era of exceptional influence for some social sciences is ending and a new one has begun. The growth of huge transactional data-stores in company hands will trigger an inversion of past knowledge hierarchies, challenging the ability of universities to serve as knowledge pinnacles, to act as an independent source of expertise for government and the wider society, or even to train the future workforce. Responding to these challenges may require large changes and upgrading in many social sciences. Sustaining universities' leading roles in social and economic research is likely to become more expensive – with longer research 'apprenticeship' periods, more expensive and time-consuming methods requirements in many HSS disciplines, and bigger capital investment requirements (especially in university IT systems and securing access to external data-stores).

2.15 A more optimistic interpretation is taken by academics in high-end methods areas. An end to intuitive management and a shift to evidence based management have been predicted by some key observers (such as Luis Garicano, 2007) as an important consequence. Within leading edge companies the past, inescapable importance of 'ordinary knowledge' decision-making may begin to wither away, reducing the need for and value of intuitive forms of management and increasing the premium on information analysts and technical expertise. This thesis is controversial with many current senior managers. As one told us:

> 'I would say completely the opposite…There is so much data that you can't absorb it all … You have to rely on experience, emotional intelligence. Part of that is understanding the people you are dealing with…not just the white heat of technology.'

2.16 At present it seems likely that these developments may have mixed implications for the HSS discipline group. For the quantitative social sciences and more technical disciplines close to IT, business and management the commercial value of their

students' knowledge and the value of research developments fitting the current trends may both tend to increase. Yet even in the fairly quantitative social sciences, such as empirical sociology and a wider range of social sciences emphasizing sample survey-based methods of research, there may be a good deal of 'writing off' of intellectual capital in methods developed for data-poor eras. For humanities disciplines, whose students mainly go into 'generalist' business careers, perhaps specializing later on in their careers via a taught masters, the digital-era developments may be adverse, unless the content of their curricula change somewhat.

Conclusions

2.17 Overall the picture that emerges from our research is a generally encouraging one. Links between companies and the HSS disciplines are at an early stage of development, and the picture varies sharply across disciplines, with the humanities generally lagging behind the social sciences, and with business schools most advanced in their links. But there is substantial evidence of a wide range of HSS disciplines achieving positive impacts in helping economic activity and in improving UK business's competitive capabilities. And there have been pioneering collaborations in addressing applied questions in some apparently remote areas like philosophy and business. HSS academics are generally optimistic about how their discipline can contribute to economic development, and they are anxious to achieve greater impacts and are far less critical of business attitudes than they are of government. Thus the bases clearly exist for a more fruitful future co-operation in addressing applied research topics of mutual interest, and improving how HSS-trained students play their role in developing British business. One important canvass likely to be particularly critical for the UK's role as an advanced industrial economy concerns the 'digital-era' changes discussed above. It is here that new and critical relationships will play out between big business and the social sciences especially, but equally between big government and the social sciences.

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

3.1 Around a third of HSS graduates and people with higher degrees go into public administration and the education and health sectors. So although government sector destinations are less important for HSS graduates than the influx into business, the provision of a well-educated and skilled workforce is nonetheless an important aspect of these disciplines' activities.

3.2 The direct impact of HSS research is undeniably far greater in the public policy sphere, than in relation to economic development. Figure 7 shows the overall picture and there is little doubt that demands for more 'evidence-based' policy making have created a favourable conjuncture for influence, an impact that is also strongly recognized by at least social science academics in our e-survey (discussed below). Our interviewees all acknowledge a strong importance of HSS knowledge and research for government, but point to the existence of many other influences (including those that structure what government asks for research on). Government policy-makers often stress that they are interested in humanities and social sciences research that has implications for how public policies are formulated and implemented. But in interviews with chief scientific officers for central departments and major agencies it is apparent that there are not yet developed systems for assessing how impacts are achieved. Finally, as in business, the contribution made by a single piece of research always has to be made sense of within a body of 'ordinary knowledge' not itself deriving from professional social inquiry research (Lindblom and Cohen, 1979).We discuss individual policy impacts, systemic influences improving 'policy knowledge', commissioned research, and implementation-level effects.

3.3 There a number of misconceptions about how policy influence is identified, which tend to cloud discussions in this area. Our interviewees agreed that it is naïve to search for any one-to-one correspondence between research undertaken and policy changes made (or even quite specific delivery changes in public services) in the

Figure 7: Examples of how HSS academic research fosters public policy development

Type of influence	Examples
Long-run links from academia to public policy decision-making	• Some UK central departments (such as the Department for Children, Families and Schools) maintain long-run research programmes, funding major social science projects. Most major agencies have agreements with the Economic and Social Research Council to support its research – its Research Centres are influential in many policy areas, notably in economic policy-making. • Some major government sector bodies (such as the National Audit Office) have 'full spectrum' relations with university strategic partners focusing on the social sciences, extending from contracted research and long-run consultancy, through to training and regular staff secondments. • Key government professions maintain a strong scrutiny of their discipline areas, funnelling in new HSS ideas and methods, especially economists, lawyers and to lesser degree government social researchers. • We show in this report that government bodies sponsor over 20 research centres across the HSS disciplines in the top 10 UK universities alone.
Commissioned research	• Social science research commissioned by departments is extensively represented in the web domain for government (gov.uk), especially in crime prevention and health care. • Social science (and to a much lesser extent humanities) research is regularly commissioned and funded by a wide range of government and NHS bodies and local authorities – often in competition with consultancies and covering a wide range of work, especially public management studies, policy evaluation, economic analysis, political and social research, implementation studies, and social surveys.
Influence from general HSS research	• Humanities and social science research independently undertaken in HSS disciplines is widely referenced in the government web domain (.gov.uk), especially in legal services, education, health care and crime prevention.
Individual ideas picked up from academic HSS research	• Independent research frequently contributes to policy-making by being picked up by civil servants, specialist advisors, parliamentarians and journalists. • More detailed examples of specific impacts are given in our Case Boxes for this report (see pages 27, 49 and 55). (See also case studies included in the Appendix to the research report.)

manner of the ‘breakthrough’ idea in conventional R&D thinking. Because the dynamics of policy-making are crowded with many sources of influence, we should not expect to see any simple examples of one-to-one impacts (although see Case Box 1 on page 20 above). Political science studies of policy-making show that even researchers working within government, in direct proximity to senior policy-makers, and on topics directly commissioned by them, often report that much of their work cannot be shown to contribute directly to policy-making. Nonetheless space can sometimes open up in policy processes and so create openings for quite distinctively academic-originated ideas to achieve impacts, especially where leading researchers have developed ideas whose ‘time has come’, often for a range of external reasons over which they have no control. Our Case Box 2 briefly describes a concrete example of just such influence.

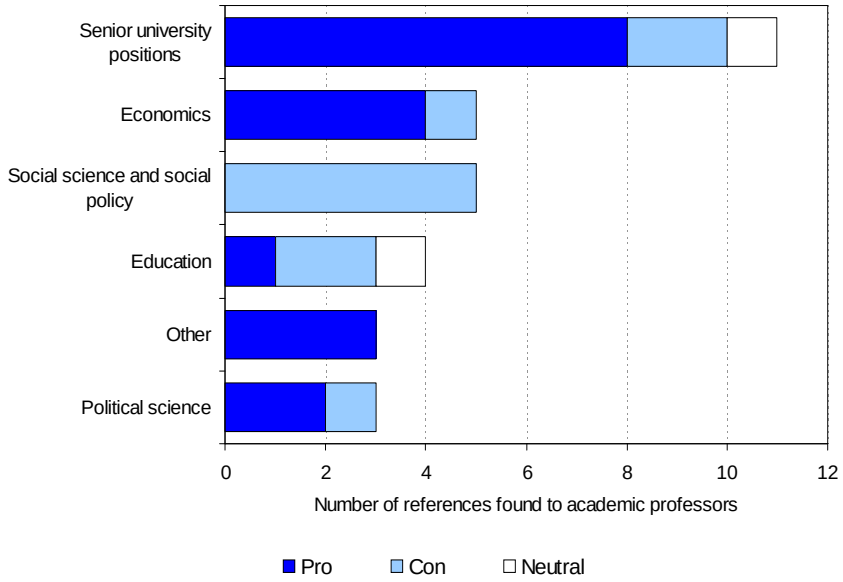
Systemic influences in improving policy knowledge

3.4 There are some well-organized professional groupings in government close to the humanities (especially law) and social sciences (especially economics). Their members are keen to maintain their knowledge at the cutting edge. For example, this is an important reason for the Government Economics Service (GES) being seen internally and externally as a mark of quality. As one senior official commented: ‘The GES standard is a recognized and transferable qualification. It’s like a badge, it’s worth something.’ Similarly in legal areas an informed outsider argued that: ‘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’. These and other government sector professionals constantly monitor their academic fields and route new methods and ideas into policy-making, as well as maintaining extensive contacts with colleagues in the university sector. One research team inside a major agency even told us: ‘As a government research unit, we aim to publish all our research in peer-reviewed journals. This, I think, is quite rare across other parts of UK government.’ And yet because professionals in government are mostly ‘embedded’ with policy teams, concerned with applied issues in complex ‘real world’ contexts, and able to contract for new work, their agencies can be leading exponents of ‘joined-up research’

Case Box 2: Introducing tuition fees into UK higher education

In July 2004 the Higher Education Act introduced major reforms to higher education funding involving the introduction of variable tuition fees to paid by students and set at the discretion of universities up to a maximum threshold of £3,000. We found signs of strong and varied influence (and views) by economists, social scientists, unions, and educationalists in the lifespan of these policies and their implementation. In particular we found general agreement that the LSE economist Nick Barr and his colleague Ian Crawford were integral in providing an academic basis for these new policies and campaigning for the specific combination of these three measures. This work was developed over the course of 16 years, and became the blueprint for government's favoured approach at a time when it was almost universally acknowledged that the UK higher education was on the verge of funding crisis.

Figure 8: Number of positive and negative references found in a Google search for 'tuition fees' and 'professor'



Note: For details of how we collected this data, please see Volume 2 Case Study A

We carried out a Google search on the terms 'tuition fees' and 'professor' to build up a picture of which academics had expressed views on the subject, whether they were positive or negative, and which disciplines they came from. Senior university academics and economists were predominantly in favour of the reforms. However social scientists and educationalists were largely negative. This corresponds quite closely with evidence from our interviews, where social scientists experienced in this area of policy tended to question the decision to move to a fee-based system and some of the new transaction costs which have resulted since. We found evidence of HSS academics playing an active part in the debate at the time, even if the final policy outcome was not universally supported. (For more details, see case study A in the Appendix of the research report.)

practices, far more than most universities. As one official put it:

> 'Being interdisciplinary is one of the great liberating factors… Our key concern is the question we face … We don't care whether the answers come from psychology, social studies, law, or whatever.'

3.5 Partly as a result of the Professional Skills in Government initiative by the Cabinet Office, the approach of fostering occupational group professionalization is now spreading and significantly eroding the previous 'cult of the generalist' once characteristic of the UK civil service. For instance, there has been a major movement towards having qualified accountancy staff as Directors of Finance and in key financial management roles across government. And new efforts are being made to improve the professionalization of the 50,000 civil service IT staffs. But elsewhere, for instance in the still early-stage development of the 1,000 strong 'social research' professional group within government, there is still a very variable pattern of professional influence across departments and sectors.

3.6 In some areas social science research is also only just beginning, even though physical science research is well-developed and the policy area lends itself to social analysis. We found several cases of organizations handling policy issues where understanding public responses is critical for policy impacts but which have no qualified social scientist roles. And three of our interviewees came from organizations where the first such person has only just been appointed. Officials commented:

> '[My organization] has been comfortable not having social scientists for quite a long time… Now, we are struggling to create a beachhead in the organization… It is really difficult. [X] is a primitive organization when understanding how to use research in the policy making process. It has a business model framed by [a traditional conception].'

> 'We are a practical organization – not much room for blue sky research … [But] our new role of managing [a resource] for public benefit has meant that we need to draw more on social science research… Managers are calling for more social science research.'

3.7 The strongest examples of systemic influence involve public sector organizations with 'full spectrum' linkages with universities. For instance, the National Audit Office (NAO) with 750 staff is the largest parliamentary agency, providing an independent scrutiny of central government spending and generating 60 performance audit reports a year covering policy implementation across the full range of

government policies at central level. NAO have a very developed pattern of relationships with major universities. It is the only 'supreme audit institution' worldwide to have all its 'value for money' reports externally audited by two academic 'strategic partners', by the LSE and Oxford, a system that has now operated for nearly ten years. The LSE assessments also involve many academics with specific expertise from other universities. Along with 6 other NAO strategic partners (chiefly major accountancy and management consultancy firms) LSE and Oxford also compete to undertake research for NAO studies. Since 1999 LSE have completed six complete value for money studies (one jointly with Oxford and four with University College, London). Oxford provides some key training for NAO professional staffs and LSE has seconded staff to NAO for six month terms and hosted NAO staff in return. NAO has also hosted MPA 'capstone' projects and interns from LSE. More broadly NAO uses the expertise from many different universities and disciplines, mostly in social science but also involving STEM disciplines, to inform its research and invites many academics to serve on advisory panels.

3.8 Some government departments also have a similarly extensive range of academic linkages. The Ministry for Defence has outsourced the running of some of its staff colleges for educating armed services officers to Kings College, London where the War Studies Department has built up extensive expertise, not just in political science, public policy studies and international relations relating to military issues, but also in philosophical and historical aspects. The Department of Health has important permanent research efforts, some of which relate to social science aspects of health studies. The Departments for Children, Families and Schools and for Innovation, Universities and Skills fund long-run permanent research projects in education areas, including an influential economics programme. The National School of Government (an agency under the Cabinet Office, which seeks to provide policy management training and research for the civil service as a whole) has begun to develop linkages with universities, after a long period of attempting to be a stand-alone operation. The recently established Sunningdale Institute is an advisory/consultancy group that brings together 35 senior people, mostly academics from HSS disciplines and retired practitioners, to advise the National School and other government bodies on public management issues.

3.9 Finally under systemic influences, we should note the extensive roles played by senior academics from humanities and social sciences disciplines that move into government service, often chairing or serving on investigations, taskforces or public inquiries, which also play roles as policy-makers. Humanities scholars have been more prominent here, for instance philosophers in the field of bio-ethics and lawyers across several public policy fields. Although UK higher education is extensively state funded, academics as a group have been strikingly successful in retaining a reputation for providing independent, professional advice to both the government and the public at large, largely taking over the role played in earlier periods by private practice professionalism.

Commissioned research

3.10 Apart from the Department of Health, most government departments' research budgets are often relatively small. Inherently the primacy of policy making means that research is directed mainly to short-run, specific projects, using consultants and professional firms on most applied projects. As with business, when government departments and local authorities invest in commissioning pure or primary research, or advise the research councils on where their priorities lie, they often do so to build up a 'dynamic knowledge inventory'. Commissioning of university researchers is chiefly on 'pure' or more basic research, expanding the policy-relevant information available or the repertoire of possible policy solutions in situations that might come in useful, given the right conjunction of political and administrative demands - which of course may not arise for any number of reasons, discussed below. Looking at the financial expenditure on government research there is evidence of significant spending across trade and industry, environment and agriculture, international development, transport, the health service and Scotland. Relatively little of this commissioned funding goes to universities, however, compared with internal government research and work contracted to private companies.

3.11 Nonetheless, we looked systematically at central government department websites and here we found a strong presence of university HSS research and a strong involvement of university researchers (across all disciplines) in the vast bulk of the work that is referenced. The clear majority of academic research reported or contained

on government websites also comes from HSS disciplines, mainly the social sciences. (See paragraphs 3.10 to 3.13 and Figures 3.1 to 3.3 in the research report.) So while the financial data suggest a rather weak HSS research presence in government, looking at objective 'unobtrusive measures' data shows a strong social science presence, especially from economics on business-related topics and from social policy/social administration departments on aspects of how the welfare state operates. Humanities research is not found very commonly, apart from extensive citations of law and socio-legal research on legal and criminology issues.

Implementation level impacts

3.12 Many public policy impacts from HSS disciplines (like social work, health studies, planning or environmental studies) also occur at very detailed implementation levels, far away from the glare of major decisions. Connections with regional and local government bodies are especially strong in university departments located in regions outside London. In the devolved administrations in Scotland, Wales and Northern Ireland, some of our interviewees noted 'small country' trends for the pooling of administrative, political and academic know-how in a way rarely achieved at the UK level or in English government.

3.13 Social scientists undertake extensive amounts of small-scale consultancy work for sub-national governments. Researchers often achieve effects in diffuse ways, often working 'against the grain' of very well established organizational systems. A humanities scholar whose work bore on NHS issues noted:

> 'I did some work on [problem A] for [a major philanthropic foundation], and tried to get practitioners involved. They talk articulately, but it is very hard to know how much gets through. There is a tendency for medical practitioners to suppress moral and ethical dilemmas in day to day work. This means that people [patients] are dealt with very badly sometimes…. Impacts are often very subtle and localised. A colleague working on [problem B] had "minorish" impacts by succeeding in influencing the way in which hospitals discussed ethical issues with parents.'

Some academic research impacts are also negative, and are seen as especially valuable in helping departments to confirm their hunches that particular political initiatives are not worthwhile. One official commented: 'Often academic research can provide powerful reinforcing evidence.'

Government bodies' difficulties in HSS influencing public policy

3.14 Despite this generally successful picture, many of our interviewees in government pointed to some important barriers that tended to restrict the influence of HSS research. Some chief scientific advisors and other officials handling research lamented their difficulties in securing enough resources for longer-term research and the multiple pressures that acted on them. Comments included: 'CSR [comprehensive spending review] settlements have put longer term longitudinal studies at threat. It is a question of surviving the next year or two.' Others felt that the push of purely customary data collection created drags that limited resources for new long-term research and the relevance of existing studies.

3.15 The internal dynamics of research within large organizations were also seen as complex, something that close-in consultants could accommodate better than more remote university researchers. One Chief Scientific Advisor admitted:

> 'Sometimes we don't ask the right questions. Often we'll start off with a good idea but get easily sidetracked particularly when other parts of the organization start to say "Can you ask about this?" and "Can you ask about that?"'

The demands of government contracting (including extensive paperwork, indemnity insurance and other tender requirements) are all recognized by civil servants as frequently too off-putting for universities, and hence tending to push them towards using private sector consultants:

> '[Our] research procurement process is tortuous. It needs to be far more flexible. Researchers have to be [given] agreed frameworks, and it is difficult to commission research from anybody else who is not on the framework.'

3.16 Research within government is also often commissioned on topics whose relevance may have faded by the time the work is completed, and senior personnel who have commissioned work may also have moved on by the time it arrives. Short time-limits also often constrain how much research can be undertaken anyway. Officials commented:

> 'Academic colleagues overestimate the extent to which research is conclusive. Policy is developed at a pace where you can't go through long winded research processes.'

> ‘Often it takes a year or 18 months for academic research to see the light of day, and that’s of little use to us… [And] when you think that [only] one in ten R&D projects has any impact, you have to be realistic about what research is going to do for you.’

> ‘We could definitely use more randomized control trials or trialling approaches. The Government Social Research network is working to encourage this […] There are some examples in current evaluations of [*sector A*] programmes. Having said that, people can’t wait for RCTs, especially Ministers. And it costs money to run them.’

> ‘Research is never where politicians want it to be … It has to be quick and dirty, snapshot opinion polls, citizen juries, that kind of thing.’

Some officials also saw the short-termism that lead to over-use of consultants as skewing research towards the social sciences, at the expense of humanities subjects:

> ‘There is also a lack of investment in humanities research, particularly in relation to cultural sensitivity in developing programmes and institutions in developing countries. The decline in modern languages is also part of this problem’.

3.17 Despite recognizing some internal problems within government and some ‘lack of fit’ difficulties that constrained the use of HSS research, senior civil servants and other policy-makers are also critical of university researchers’ operating practices – especially long response times, an apparent inability to look ‘over the horizon’, a certain methodological purism that translates into a lack of inventiveness amongst academics, and longwinded and obscure ways of writing reports. ‘The main problem is that academics tend to write for academics’, one commented, while another noted:

> ‘US academics are much better at writing for non-specialist audiences […] The US social science disciplines are much more prestigious and definitely more numerate.’

Several interviewees were critical also of a lack of quantitative skills amongst researchers in their policy areas:

> ‘Many questions require quantitative research. There is a problem in the British social science community relating to quantitative skills. Social science in the UK is not organized to be effective.’

> ‘I agree that the standard of academic quantitative analysis is quite often low. There seems to be an aversion to using quantitative techniques in a way which is accessible and useful to policy staff.’

Universities were also seen by some officials as too inward-looking and poor at projecting their capabilities externally. Our interviews threw up some instances of

government organizations commissioning extensive research that had clearly almost never been approached by university researchers. For instance, one official said:

> We are commissioning a manual for [an aspect of policy] and the only shortlisted applicants are [*mentions policy area*] practitioners [and consultancies]. There are no academic institutions on the shortlist. This may be to do with the lack of self-promotion by research teams in academic institutions... There are clearly schools or academic institutions which *could* work with us. For example, I know that [*mentions 2 regional universities*] are well thought of. But I wouldn't know who to get in touch with'.

3.18 Officials also felt that academics sometimes lacked a 'realistic' grip on how policy-making operated and the constraints that imposed on the reception of their work. Senior officials commented frankly:

> 'Policy-makers are tired... They never have time to read more than an executive summary. [Having] cross-disciplinary researchers, who can synthesise a large amount of information that ministers do not have time to synthesise, is a huge advantage.'

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

In this view academic researchers need to recognize more the inherent limits to 'evidence-based' policy-making. Other interviewees argued:

> 'Policy is no place to do new research … People in government organisations have ideas about how the world is and they commission research to back those ideas up. Most successful researchers will interview the relevant person, and find out what they see as the basis for the research. They will then write up the report with those assumptions in mind…'

> 'Any advisor to government walks in with certain givens. It is never clear exactly where political targets or objectives come from. For example, it is not clear where the 50 per cent target for university attendance came from. It is a political ambition essentially. There may never have been enough evidence on which to make [such] a decision.'

How HSS academics see their policy influence

3.19 Yet from their side of the picture senior academics experienced in policy-making also recognized many of the same barriers to their research being better incorporated or recognized within government. One interviewee commented:

> 'As someone with a background in policy and practice, a difficulty is that policy-makers, even the best ones who are intellectuals, prefer very simple,

> un-nuanced messages… If you look at Hansard for any day you will see far more politicians referring to stories rather than to research evidence… [Another] thing that has made things difficult for academics is that the civil service has changed quite a lot over the last 20 years… They now see it as their job to commission the "right answer" from academics and I do see that as a really serious problem… I don't think it's an academic's role to make policy. But I do think its academic's role to be true.'

Other senior academics criticized a reluctance by government to commit sufficient funding to long-run knowledge development (as opposed to short-run projects meeting an immediate need) and a weak orientation of many departments and agencies towards the important possibilities of advancing knowledge made feasible by the new 'pervasive information' environment, that has revolutionized private sector business practices (see page 31 above). The scope for major improvements in the information regime within government, especially in terms of assessing the costs and benefits of different administrative solutions, developing quasi-experiments, and better analysing web-site and government transactional data were all stressed by public management experts and economists.

3.20 Many humanities academics in interviews and in our e-survey made a strong case for government also to reappraise its attitude towards commissioning more research from universities, for instance on issues surrounding the interfaces between different religions or cultures. And some senior business executives also supported this case, stressing the problem of languages decline and the UK's slowly but inexorably worsening competitiveness. One remarked: 'For government, innovation has always meant science. It ignores the fact that there is much benefit in understanding culture and relating to other cultures.'

3.21 Yet our academic interviewees also recognized in their own disciplines many deficiencies highlighted by policy-makers, especially:

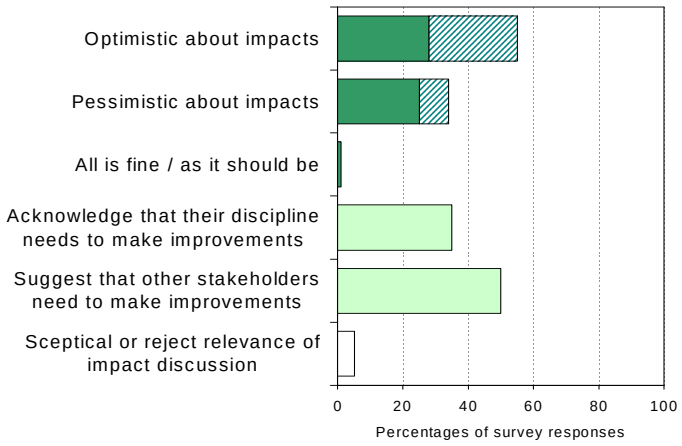
- a weak orientation of many disciplines towards training masters and PhD students with appropriate skills (especially the most current quantitative skills) for the policy-making or business environments;
- deep-rooted patterns of internal academic priorities within HSS disciplines themselves and within the RAE (research assessment exercise) process that

deny status and importance to applied research and to tracing out the contributions of HSS knowledge in ways useable by policy-makers.

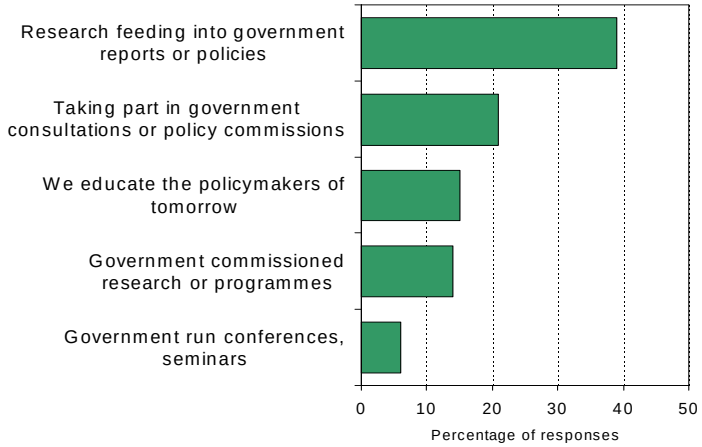
3.22 In our e-survey of HSS academics social scientists rate their actual influence on public policy-making more positively than in any other dimension. They also see the least gap here between the potential and actual influence of their discipline. However, humanities scholars are much more pessimistic about the influence they have on policy-making and see a much larger potential for their disciplines to improve the impacts that they have on government decision-making.

Figure 9: HSS academics' view of government and policy-making

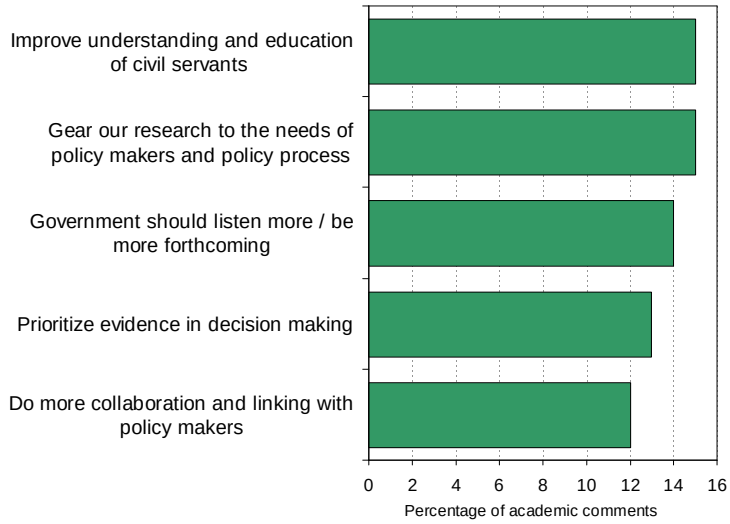
(a) How respondents in our survey evaluated their discipline's impact on government and policy-making



(b) Main types of impact mentioned



(c) Main suggestions for improvement



3.23 Overall, the picture that emerges from our research is one of a strong existing relationship, but one that could easily be further improved. A few government sector bodies have 'full spectrum' relations with the university social sciences sector, and many have substantial programmes of research and links with multiple centres. Links with humanities HSS disciplines are more commonly mediated via advisory bodies and task forces and are generally at an earlier stage of development. There is extensive evidence of a wide range of HSS disciplines achieving positive impacts in informing public policy making and in improving implementation. Social science academics are more optimistic about how their disciplines influence public policy than any other kind of impacts, but humanities researchers are more conservative.

3.24 We were struck that both government officials and senior academics identified many of the same problems in the relationship and could substantially agree on possible solutions. Both recognized that a battery of changes were still needed within government, while others were new capabilities needed within the HSS disciplines themselves – especially to work faster, look over the horizon more, be more (usefully) quantitative, disseminate research and advertise their capabilities to government better. Above all, it is clear that some of the previous limitations of an R&D approach overly orientated to the physical sciences have begun to clear away. Civil servants and policy-makers are thinking through better the implications of the UK's dependence on a knowledge economy and the potential for 'evidence-based' policy-making in

refreshing ways, although the precise form of the new relationship is still being worked through. As one senior official told us:

> ‘Government has moved quite a long way to achieve more balance between social science, traditional R&D and hard science research. Still the terminology is not clear, for example, what do we mean by the term “Science”?’

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

4.1 Outside business and government, there are a huge range of civil society organizations, not-for-profits, charities, professions, trade unions, interest and pressure groups, community associations, voluntary bodies and religious groupings. How these non-government organizations (or NGOs) operate is widely acknowledged as critical for society at large. Much of their activity seeks to influence and shape a climate of public debate and discussion, mediated largely through the internet, TV, broadcasting, newspapers and magazines that collectively define public opinion and much of social knowledge across British society. HSS research and academics already make huge contributions across both areas, with social scientists most confident of their impact on civil society organizations and humanities scholars most confident of their contributions to media debates and cultural development. We examine each area in turn.

How HSS research supports the work of civil society organizations

4.2 Researchers in HSS disciplines play a prominent role in sustaining many non-governmental organizations (NGOs) and civil society organizations, such as charities, pressure groups and interest associations. The social importance and influence of NGOs are only imperfectly measured by their expenditure or membership numbers (For example, Liberty's expenditure is a miniscule £1million a year, partly because it draws extensively on free services from lawyers and academics). Most HSS research is made freely available to relevant NGOs. And university staff often undertake extensive *pro bono* work for charities and pressure groups, whose scale and impacts are particularly hard to measure. Figure 10 gives some benchmark information.

4.3 Academic work plays a particular, rather focused role in NGOS' activities. As one organization told us: 'We don't use research for anything but targeted ends relating to our campaigns.' Another senior administrator at a leading charity explained:

> 'Research does have a specific function – it's campaigning. We use it to campaign for [themes X and Y]… We submit information from our own specific angle. This involves processing a lot of secondary information, and re-editing into our own format… Academics can have big ideas that we might use to provide a hook or motif for our own campaigns. For example, [academic A's] work on [theme Z] has been really powerful for us in recent years… This kind of strong academic work gives us something we can grab hold of for campaigning and awareness raising.'

This emphasis on the need to re-aggregate or join up aspects of phenomena separated out by academic disciplines came out many times:

> 'There are of course economics or social implications of … legislation [about theme Y]. But there is institutional resistance [in universities], which means that academics tend to stick to their area of competence. This does tend to mean that rounded studies in policy relevant areas are few and far between. There is definitely a demand for extensive cross-disciplinary work.'

Figure 10: Examples of how HSS academic research fosters the work of civil society organizations

Type of influence	Examples
Long-run links from academia to foundations, charities, NGOs and interest groups	• Many HSS academics work in a 'pro bono' way with leading NGOs and charities over long periods, serving on their boards and supporting their campaigns. • Major foundations (Nuffield, Leverhulme and various Rowntree bodies) fund some of the most innovative and timely HSS research, because of the greater flexibility of their funding arrangements and their ability to pursue applied themes more consistently over time.
Commissioned research	• NGOs commission small amounts of applied HSS research, almost always from universities.
Influence from general HSS research and individual ideas	• NGOs pick up and deploy current ideas that look helpful for their campaigns, often re-aggregating existing knowledge in cross-disciplinary ways.

4.4 Some highly engaged civil society organizations tend to use big research centres 'because they can provide interdisciplinary expertise … and you know the quality of work you are going to get.' But they also recognize that humanities resources have been under-utilized, as the same interviewee commented:

> 'Not many NGOs 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… Like a lot of campaigners, we are up to our neck in

> thinking about government [and the] latest findings… We're not fantastically successful at stepping back.'

4.5 Because of the selective way that NGOs pick up on and use HSS research, and because of the use of more 'joined-up' knowledge that academics are often not used to handling, the relation with HSS academics does have elements of tension. 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 much milder ways some of the business and government criticisms, especially about universities' low valuation of applied research. The tendency for social science research to be overly entrenched within discipline boundaries and for academic work to verge towards sometimes overly esoteric formulations or impenetrable expression also attracts comment. As one major commissioner of academic work put it:

> 'The academic process can be quite long and the final product is not always accessible or useful to us as a campaigning organization… There is a general feeling across the [voluntary] sector that it [HSS research] is not accessible, and that theoretical aspects are useful to academics but not to the people and organizations on the ground.'

4.6 Most recently some observers believe that the change to full economic costing of research by the research councils has had adverse knock-on implications for how HSS academics link to charities and NGOs:

> 'There are now problems with the funding of academic work by civil society organisations with the rise of full economic costing. Academics with contacts in civil society organisations don't want to charge what their universities would ask them to charge. And so it may be more difficult to work with these sorts of organisations now.'

4.7 Nonetheless in our web census of the sponsorships of or associations with research centres in the top ten UK universities, we found 37 instances where university centres included links to third sector organizations in their home pages or self-descriptions. This is more linkages than for businesses or government bodies put together. Of course, our method does not assess the depth of links - for instance, in terms of finance. The biggest group of NGO links was with social science centres,

equal in number to those with STEM disciplines including medicine, but we found only a couple of linkages in the humanities.

Impacts on the media and cultural development

4.8 The decisions made by individual members of a society - acting in their diverse roles as citizens, parents, voters, consumers, savers, etc - exert far and away the biggest influence upon social development. They affect how people look after or risk their health, make life choices about education or relationships, consume products, save or spend money and develop ideas. In an advanced industrial society the media, public debates and cultural development across a myriad of different territorial, social, functional and ethnic communities play critical roles in providing a pervasive information background that allows social actors to make decisions about how they will make choices or behave. Given the numbers of complex decisions being made by millions of people, small improvements in the quality of information and the reliability of information being made available to people can have very important and long-term consequences, this is felt not just for the people involved, but also (when scaled up thousands or millions of times) how the whole of society, the economy and the polity develop. What makes the UK an 'advanced industrial' country is in large part conditioned by how effectively multiple interlocking public debates are carried out, and by the ways in which the media, communities and civil society organizations support these debates and help people to make appropriate and well-informed choices.

4.9 For all professions their ability to contribute to improve public debates and societal decision-making hang on the quality and disinterestedness of the knowledge that they generate. Figure 11 shows that in informing media and public debates and promoting cultural development, humanities and social science researchers in the universities and higher education play a key role as the location where disinterestedness is most rigorously cultivated. Because of the strength and vigour of academic debates and the systematic operation of open peer review processes, successful academic work will be more widely seen as evidence-based, authoritative, independent and standing outside the main lines of conflict between social interests. Private practice is the traditional way in which professions such as medicine, law and architecture were organised. In the modern period, 'private practice' professionalism

has shrunk under the impacts of the growth of corporate and state recruitment of professional staffs (and the conversion of some large 'private practice' professional

Figure 11: Examples of how HSS academic research fosters cultural development and media debate

Type of influence	Examples
Long-run links from academia to foundations, charities, NGOs and interest groups	• Many humanities academics have well-established links with cultural organizations, as for other NGOs. • Senior HSS academics mostly build up reasonable media reputations and networks, so that the dissemination of their work is strong.
Influence from general HSS research and individual ideas	• British HSS disciplines generally rank second in the world after the USA and sometimes first. They sustain a vigorous publishing programme of books and academic journals, by far the largest in Europe. • Research in this report demonstrates that HSS academics are amongst the most extensively cited university sector people in quality newspapers, across the humanities (especially historians, literature and philosophy) and some social sciences (especially economists, business studies and politics/ international relations). HSS academics play a key role in sustaining the quality of public debates. • Some 'star' humanities academics have important impacts via network TV series and radio broadcasting. A much wider range of academic experts now appear on 24 hour news programmes and specialist TV channels. • The growth of stronger links between humanities academics and cultural organizations (such as museums and art galleries) has underpinned a big expansion of cultural consumption linked to major exhibitions, events and anniversaries.

partnerships into very large firms in their own right). Across many sectors university-employed professionals now play much of the key role of providing independent and disinterested advice previously vested in private practice professions, especially in advising government, the media and society at large about how to sift and assess the evidence for competing explanations of social processes.

4.10 The humanities and social sciences have some advantages and disadvantages compared with other higher education subjects in this respect. Across much of the social sciences the development of technical knowledge in quantitative, formal

modelling and related areas has created a near-science-like reputation for esoteric but well-founded knowledge, especially in fields like technical economics, statistics, actuarial science, demography, operational research and so on. On the other hand the formal or technical social sciences are hard to communicate to a larger or lay audience, although there have been some developments in communicating economics analogous to the much broader progress in STEM subjects in enhancing public understanding of science. Other social sciences and many humanities subjects have subject matters that are more accessible to lay people. Here, in public debates, academics must often vie with general journalists, writers and social commentators for influence. These considerations mean that if a 'two cultures' problem remains important in UK society, a controversial subject still, the boundary line between the mathematical and non-math disciplines now runs squarely through the social sciences, rather than between the HSS and STEM discipline groupings, as perhaps it did in the 1950s. The 'digital era' changes reviewed above in Chapter 2 also look set to give a major new twist to this divide.

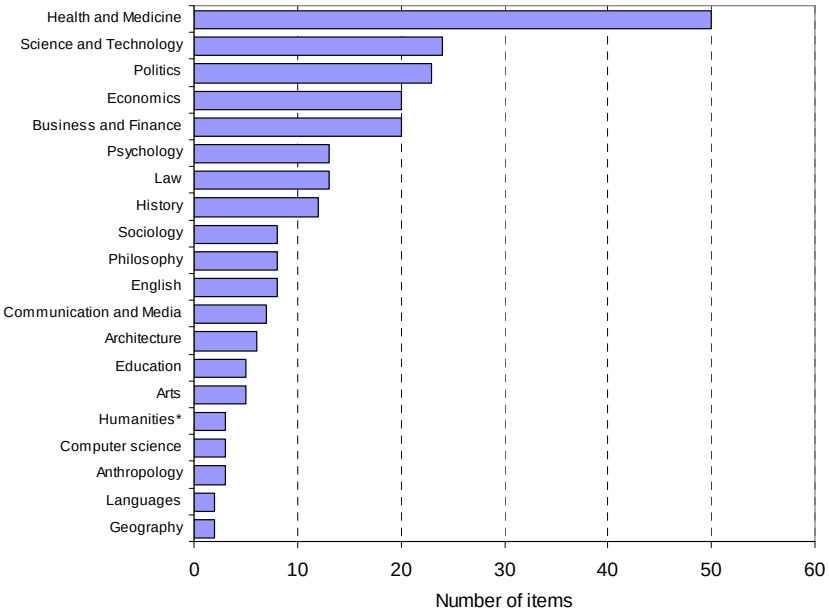
4.11 To gauge the cultural significance of HSS research is notoriously difficult, but media analysis provides some useful insights. A survey of the UK quality press coverage of academic research in May 2007 was undertaken. We used two sets of search terms to surface academic coverage, and found a strong role being played by HSS research. Coverage of HSS disciplines in the top half of Figure 12 (using search terms more favourable to HSS disciplines) outstripped by a factor of 2:1 that given to STEM disciplines. A second alternative search (more attuned to medical/science stories) shows more comparability between HSS and STEM disciplines, but with still nearly half of coverage going to HSS disciplines. These perhaps surprising results both show a similar hierarchy of HSS disciplines with politics and international relations, economics and business, psychology and law emerging as the most cited subjects, but a creditable showing too for humanities. (For more on this see Figure 12 in the research report.)

4.12 There are far too many examples of HSS research being replayed by the media to wider audiences to attempt any listing of them, but it is useful to look at one example in more detail – as we do with Case Box 3 covering the development of interest in

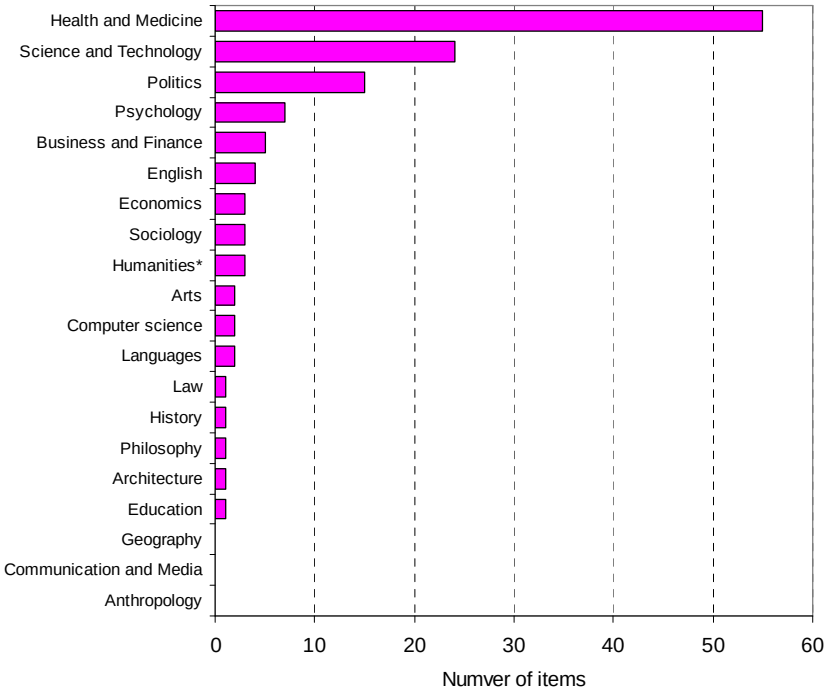
systematically tracking levels of well-being or happiness, and perhaps thinking through public policy methods of best fostering well-being.

Figure 12: The disciplines of academic research covered in the UK press, May 2007

(a) Using search terms 'Professor' or 'academic research'



(b) Using search terms 'Dr' or 'new findings'



Method Note: 'Other humanities' here includes Classics, Theology and religious Studies.

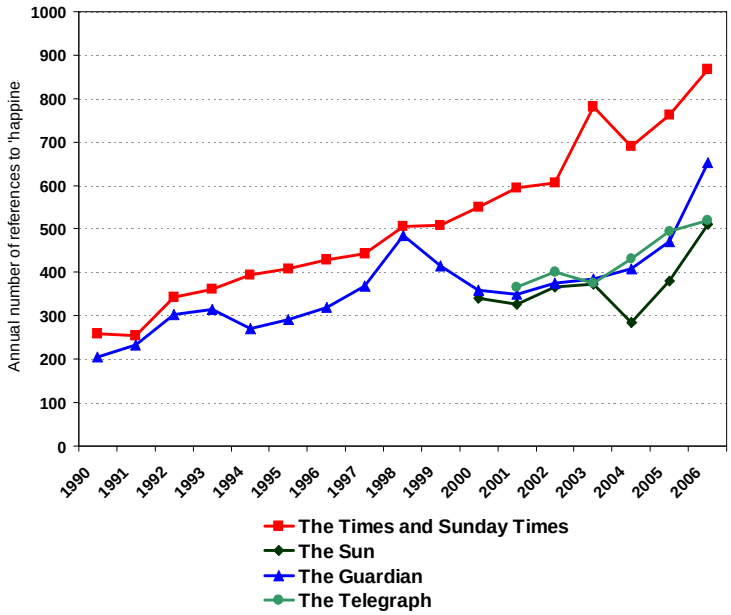
Case Box 3: The growth of research into happiness and well-being

Traditional economics and quantitative forms of social research have both tended to be pre-occupied with hard-edged variables that can be expressed in numerical ways, such as the value or growth of GDP, and have neglected other variables that seemed to be capable of expression only in vaguer or more qualitative ways. However, many recent developments on the borders between economics and psychology have triggered a new interest in 'behavioural economics' and in the psychological bases of economic choices. The accumulation of responses to consistently-framed survey questions across many countries and time periods has generated many new insights into how fundamental but previously rather fuzzy or apparently intangible variables can vary sharply across different country contexts, time periods and social groups.

These changes prompted many economists and psychologists especially to look again at the concepts of 'happiness' and 'well-being' (which underpin more technical notions such as 'utility') and to examine how these neglected ideas might be systematically measured and how large variations in the incidence of happiness across countries could be explained. A particular focus has been the finding that the more economically prosperous countries get, the more happiness does not tend to increase in parallel, but to stay the same – creating a puzzle of great significance for policy stances that just favour maximizing GDP and economic growth. Other studies have suggested that more specifically promoting happiness or a sense of well-being could have beneficial effects in contributing to better mental health.

The results of these still controversial debates have been dramatic. First, Figure 13 shows that the development of 'happiness' research, and the strong dissemination efforts made by leading academics in the field, have had a big impact on how far the subject has been discussed in the UK media over recent years. Coverage in 2006 was at more than 2.5 times the levels common up to the mid 1990s in all the quality papers we covered.

Figure 13: Growth in the annual number of references made to 'happiness' in UK mainstream newspapers since 1990



Second, the debates have sparked initiatives by all the main political parties, to largely attempt to incorporate the findings of happiness research into how their manifestos and policy programmes are drafted and how their political rhetoric is framed. Third, the new research has triggered important initiatives in how related public policy is formulated and implemented, for instance, strengthening the support for advocates of more resources and inputs into provision for mental health. (For more on this see case study B in the Appendix to the research report.)

4.13 Many interviewees, especially, in the humanities commented on the messiness and often long-lived nature of achieving media and cultural impacts. A historian said: 'It is a leaky world… You find that if you write books and speak out in an accessible way, your ideas get picked up, and come back to you in modified form.' The intangibility of scholarly contribution to culture and 'civilization' were frequent themes. As a philosopher put it: 'It is difficult to quantify the impact of my book. I think is widely read but I can't say that it made X thousands of pounds worth of difference to Rolls Royce.' Another author claimed for his work: 'Maybe not life-changing impacts but they have changed the way that people think'.

4.14 In the UK there has been a rather separate debate about whether the role of very prominent 'public intellectuals' has been more circumscribed by public or media scepticism than in other some other countries, such as France and even perhaps the USA (Debray, 1981; Fuller, 2006). In the past, notably during the 'ideology wars' in many HSS disciplines about the role of the state and the market that stretched from the late nineteenth century into the 1980s, fears about the politicized content of HSS knowledge to some extent undermined the more qualitative disciplines' standing as independent voices.

4.15 Whatever the role of major figures, changes in the media since the 1990s have significantly increased the demand for and opportunities for academics from HSS disciplines to be broadcast. The advent of 24 hour TV news and more specialist political and business news channels have greatly increased the number of social scientists who comment on current developments, and the range of expertise, albeit perhaps to smaller audiences than in earlier periods of 'mass' media. The growth of more focused TV channels and the diversification of broadcasting has increased the demand for programming relevant to HSS especially in humanities subjects (notably

history, literature studies, cultural studies and philosophy) and to a lesser degree in the social sciences (such as psychology). Digital and new media developments have hugely increased the number of blogs by HSS academics, along with their readership, and UK academics. Universities are now involved in many mostly cross-national efforts to make classic texts and new analysis easily accessible across the internet. Projects such as Google Book Search (supported by Oxford's Bodleian Library) are revolutionizing access to many texts. There are strong synergies here too with the 'long tail' phenomenon in retailing of books induced by Amazon, which makes a far larger inventory of knowledge relatively easily accessible to larger audiences. The overall Google mission statement, 'to organize the world's information', gives a startling insight into the extent of the changes under way, which all tend to have most impact in the humanities and 'softer' social sciences. Here the barriers to the members of the public accessing new knowledge are smaller than in the quantitative or technical social sciences and in the STEM disciplines, with their reliance on mathematical or statistical expression and on formal reasoning.

4.16 The full implications of these developments for cultural changes and social development are still the subject of vigorous debate and speculation, and there is as yet no consensus in the literature or amongst our interviewees 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 key roles and look well-adapted to continue to do so.

4.17 In the humanities the advent of the Arts and Humanities Research Council has had strong positive implications in many dimensions, but we focus particularly on one area important for the UK's cultural life here - increasing the linkages between the previously rather over-separated worlds of humanities academia and museums and art

Case Box 4: Improving public engagement in the culture sector

During the 'ideology wars' of the 1980s and '90s, museum and gallery usage tended to stagnate or decline, as admission charges rose. Following the political decision to abolish admission charges for all permanent exhibitions and most special events also, however, there has been a renaissance in the sector. Figure 14 shows that visitor numbers have increased by around two thirds since 1999, compared to an increase of one third in public funding during the same period, a radical improvement in 'bangs per buck'. Free access combined with many associated compensating initiatives has uncovered a considerable but previously latent demand amongst British people and visitors to the UK for access to popular and high culture. For instance, 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 14: Increases in expenditure and in visitor numbers for UK museums and galleries since 1999

	2005-06 numbers	Percentage change since 1998-99
Total expenditure *(£ million)*	679	+30
Donations and sponsorship *(£ million)*	71	-8
Admissions income *(£ million)*	21	+1
Visitor numbers (millions)	38	+64
Overseas visitors (millions)	10.6	+163

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

Beyond the root public policy change involved here, 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 is difficult to underestimate. The further development of major exhibitions, often themed around events and historical developments, and publicized in numerous media, higher education and cultural circuits, has been particularly important in strengthening the stand-out significance of cultural events. Better research and faster feedback from social scientists about what works in triggering public engagement has also helped museums and galleries to greatly develop their professionalism and the average success of their activities.

galleries. Some leading museums (such as the British Museum) have boosted their research-orientated activities and been able to qualify for research council funding. Case Box 4 above highlights the importance of these strengthened links in reinforcing the role of special exhibitions adding to the upsurge in visitors made feasible by the change in government policy towards free entry. A senior official in a leading museum explained:

> 'We have become very skilled at putting together snapshots of current thinking in academia. [Exhibitions A, B and C] all involved distilling a much wider body of knowledge down and showing it through a different lens. Even the catalogue for [Exhibition D] is a scholarly piece of work. And it's new work.'

4.18 In our survey of HSS academics, both groups rated their influence with civil society and on public opinion and culture highly. Academics in the humanities and mixed HSS disciplines were more confident of their cultural significance, while the social scientists rated their actual impacts with civil society higher and saw a larger gap between their actual and potential influence in the public/media and cultural domains. The comments accompanying the survey include literally dozens of examples of how academic research now plays a key role in many diverse ways in helping territorial and functional communities to understand their histories, preserve traditions, engage in new activities and think creatively about their futures. (For more on academics responses to their discipline's impacts on cultural enrichment and public debate see paragraphs 4.6 to 4.10 and Figures 4.3 to 4.6. For academic responses to their discipline's impact on civil society organisations see paragraphs 4.14 to 4.16 and Figures 4.7 to 4.10.)

Conclusions

4.19 The patterns of HSS academics' influence across civil society organizations are more episodic, diffuse and hard to pin down than in public policy-making. But they are also clearly more extensive than in business and economic areas, and they are greatly appreciated within NGOs. The media impacts of HSS research and academics' inputs into public debates are also very extensive. The humanities subjects' inputs into cultural development are impressive. We found that HSS academics rate their influence in contributing to public debate and cultural development highly, especially in the humanities. They are confident also of their relationships with a wide range of NGOs and civil society organizations. The evidence reviewed here shows that this positive view is well supported.

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

5.1 The government's 2004 Science and Innovation Investment Framework outlines five major priority areas for future government-sponsored research:

- demographic and socio-economic change;
- globalization;
- climate and environment;
- global uncertainty; and
- technology change.

Each of these topics clearly also requires joined-up answers, involving a close integration between knowledge generated by the physical science disciplines and the humanities and social sciences. With over 6.5 billion people in the world, underlying all of these priority concerns are key issues about how unprecedented levels of human activity are changing and transforming the physical and natural environment. The operations of existing socio-technical systems, and the creation of new ones, both have extensive impacts on how human society relates to its global environment.

5.2 There are many concrete examples that show it matters a great deal how societies react to and accept or reject technological innovations, originating initially from the STEM disciplines. Perhaps the social and political backlash against genetically modified foodstuffs in the UK and Europe is one of the best-known examples, bringing in (as it does) many ideas from historical, sociological and religious thinking, as well as ideas originating in literature and creative arts (for instance, in the concept of 'Frankenstein foods'). But in many different ways, complex forms of social organization condition what innovations are acceptable and get picked up by society and which get delayed or even remaindered, often for small implementation reasons. For example, electronic or remote forms of 'telecare' in health, that is the application of IT-based monitoring and reporting technologies to patient care, now have a long history of initiatives. Literature surveys have found more than 8,600 published journal reports (mainly in medical journals) on telecare or e-health experiments of many different kinds. The vast majority of studies concerned innovations that were developed by technology companies and applied in a pilot mode by health

professionals. But very few of these innovations were subsequently implemented beyond the piloting stage because of professional or customer resistance in use, or an inability to work through the organizational protocols needed for widespread implementation.

5.3 There are some instances where much more complex cross-fertilizations occur. Physical science theories have long been very important as sources of inspiration or analogies for the social sciences. Many social scientists in more technical areas aspire to follow a 'normal science' form, modelled on influential disciplines like physics, where formal models of the phenomena they handle are well developed. These efforts have often been and remain controversial or contested in disciplines (like political science or philosophy) where other researchers utilize only qualitative methods and less formalized modes of reasoning. But an increasing formalization and sometimes mathematization of reasoning is now evident in many social science disciplines, and the same movement has had a minor influence in the humanities also. These one-way emulation and 'at a distance' effects have perhaps reduced the barriers from the HSS side to communicate with physical scientists. But they have not so far created any deeper meeting of minds or of disciplinary cultures across the HSS and STEM groupings. (For more on this see paragraphs 5.2 to 5.4 in the research report.)

5.4 One key area of interaction with STEM subjects 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 systematic models for evidence-based research and ways of assessing a wide range of studies with different methods, data sources and findings. These approaches have been highly influential in again changing social sciences methods to incorporate the medical studies' innovations.

5.5 Other areas of increasing convergence between the HSS and STEM discipline groups are not hard to find. The growing salience of information and IT systems mean that all modern organizations are now 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) combine to bring about particular results - a level of

insight that is often unavailable to the uninitiated designers of machinery, services or products. 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. Both philosophical and socio-legal studies have already had some extensive impacts in taking forward the quality of public debate about the ethical and prudential issues involved in new fields, especially genetic research and the development of bio-medicines. 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 are 'joined-up solutions' to closely integrated, multi-causal problems. This kind of solution would bring together knowledge from both STEM and HSS directives, instead of separating it into different academic cultures, or worse still fragmenting it across many different disciplines in ways that businesses and government often find hard to reconcile or piece together.

5.6 One possible example of how greater joined-up working across disciplines could work well concerns one of the most discussed issues of modern times - climate change and environmental sustainability, covered in more detail in Case Box 5 below. We show that both the final crystallization of the UN scientific report on climate change and the involvement of social scientists in bringing new economic and social perspectives to bear on the consequences of climate change coincided with an appreciable (and long-delayed) increase in media coverage and public awareness of the issues.

5.7 Yet despite all of the points above, our interviewees also repeatedly made clear how difficult it is to create linkages, even on mega-topics like climate change. As one physical scientist at a major research centre with many staff told us:

> 'We [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 and social sciences and humanities….
>
> Everybody recognises that cross-cutting research on the impact of climate change is going to be important. People become more and more specialised, and it is difficult to have a broad view because the field is so large and complex…
>
> We don't have enough cooperation at the moment with social scientists and humanities. There are no social scientists at [our centre].'

5.8 Interviewees identified many different factors inhibiting cross-disciplinary collaborations, ranging from funding systems, through a pervasive discipline-entrenchment, through explanations specific to either the HSS or the STEM disciplines. One disaffected physical scientist remarked:

> 'Basically engineering and science cultures are Neanderthal… Science subjects have tended to resist the diversification and interdisciplinary wave that has gone through humanities and social sciences. We are a collection of semi-autonomous teaching units, with little incentive to collaborate.'

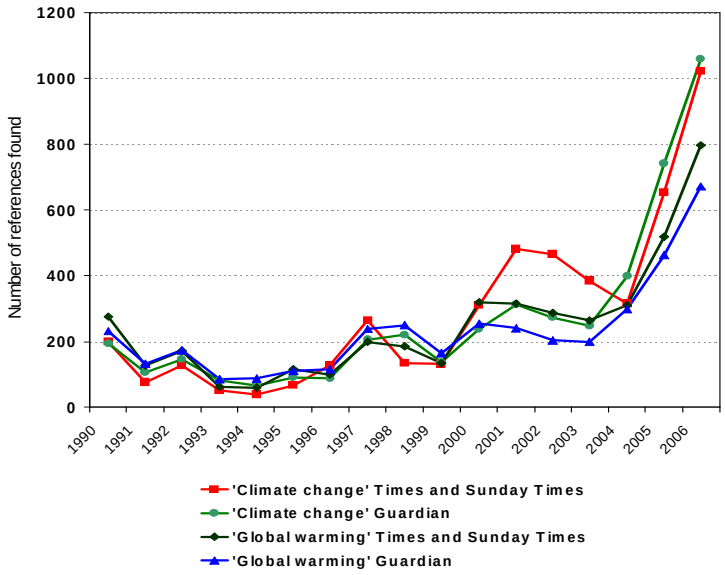
Yet there is indeed some significant evidence to show that the humanities especially have become impressively inter-disciplinary. For example, the 91 historians who replied to our e-survey recorded collaborations or joint working with more than 21 different disciplines. However, only 5 per cent of these respondents worked with science and engineering (the same level as worked with classics), and only a further 3 per cent with medicine. Similarly language studies academics stressed that to us in interviews that their subject needed to undertake a broad-ranging change of roles: 'You would need to make common cause with other disciplines – we need humanities in the STEM subjects'.

Case Box 5: HSS inputs on climate change and environmental sustainability

The UK has played a major role in the international development of knowledge about climate change and studying some of the means by which environmental sustainability might be improved to combat these problems. Of course, in their early period the key contributors were physical scientists and geographers/environmental studies experts in the physical aspects of these disciplines. However, in the most recent period the involvement of HSS academics has grown strongly, as governments and businesses increasingly grapple with the problems and as it becomes apparent that achieving environmental sustainability is essentially about changing very deep-rooted socio-economic patterns.

The greater involvement of HSS disciplines in this area has coincided with, but also helped trigger, the issue breaking out of the previous narrow confines of public debate. For instance, Figure 15 shows that the discussion of global warming and climate change in the UK quality press was remarkably restricted up until 2000. It really only clearly shoots upwards in 2005 and 2006, following interventions such as the Stern report, Chaired by the LSE economist Sir Nicholas Stern working in government and published by the Treasury, this report had a worldwide impact in increasing business and public awareness of the economic and social threats of climate change. It also encouraged discussion as to what measures might hold out some possibility of achieving corrective effects.

Figure 15: Growth in the annual number of references made to 'climate change' in mainstream UK newspapers since 1990



(For more on this, see case study F in the Appendix to the research report.)

5.9 Funding and RAE-segmentation issues were mentioned by some interviewees as important constraints:

> ‘Because of the difficulty of assessing cross-disciplinary activities, they tend not to get funded. It is easier to get funded by placing yourself in the centre of a discipline and staying there. You are seen as a safe pair of hands.’

Academic attitudes are still often sceptical of cross-or inter-disciplinary research. For example, two senior interviewees told us:

> ‘Interdisciplinary [work] is a stage in the process of rigour of becoming a discipline. Within a discipline, there is rigour, there is peer review... When you are working across disciplines … it is very difficult to assess the impact of that work.’

> ‘This project to make academics broader can be distracting…if I were interested in dance, then I wouldn’t haven chosen [discipline A] as my subject.’

5.10 For all these reasons the current picture of linkaging between the HSS disciplines and the STEM subjects remains problematic. One top research-commissioning official in government said frankly:

> ‘Integration between natural sciences, social sciences and humanities is very weak in the UK. Research is driven by the RAE and bound by disciplines. Although there are attempts to do interdisciplinary work in [our central government department], there is very little of it and [it meets] with mixed success … The really important link is between hard sciences and humanities, and this is really weak. It is a link that needs to be looked at, particularly in relation to cultural attitudes and sensitivity to foreign cultures.’

Both government and business interviewees argued strongly for reducing the siloing of knowledge in universities. There are some reasonably well-funded organizations in government, especially the Foresight Programme in the Department of Innovation, Universities and Skills, and to a lesser degree the Prime Minister’s Strategy Unit, which have well-developed capacities to bring together the perspectives of different disciplines – often in ways that major universities have found hard to match.

5.11 Finally in our survey of HSS academics’ views it is also clear that progress here remains problematic. Both humanities scholars and social scientists rated the extent of their actual impact on science and technology development as relatively low. Social scientists at least saw a strong unmet potential for more influence in this area. Yet they were also overwhelmingly positive on the need for more joint research, spanning the boundaries between sciences, technology, engineering or medical subjects on the one hand and the social sciences on the other. Humanities scholars were more

pessimistic about the chances of linkaging. But they were also overwhelmingly supportive of renewed efforts to promote them. Historians especially, who saw the backward mapping of current social problems as a very important perspective on long-run issues of human societies' impacts on the natural environment. (For more see paragraphs 5.7 to 5.10 and Figures 5.1 to 5.4.)

Conclusions

5.12 There are good prospects for encouraging greater collaboration between the humanities, the social sciences and the STEM subjects, provided that new initiatives are made to foster them. Amongst HSS academics there is strong support for a new push and we have reviewed some important commonalities of purpose in addressing mega-research issues, and some important areas where methods and intellectual outlooks have become inter-penetrating. We have also pointed to some preliminary evidence that greater collaboration has strongly positive impacts on the public and media understanding of major issues like climate change. But unless co-ordinated and systematic efforts can be made, and can perhaps especially evoke a positive response from academics in the STEM disciplines, many existing barriers to collaboration are unlikely to come down significantly.

Annex 1: Methods used in this report

The evidence considered here reflects chiefly findings accumulated from three main groups of methods – unobtrusive measures, reactive methods and qualitative analysis.

1. Unobtrusive measures or non-reactive methods use data or evidence sources that are not affected by the researchers' intervention. The main approaches included are:

• *Analysis of statistics* on the overall significance of HSS disciplines' and their general impacts on the UK economy and society.

• *Web censuses and media searches*, tracing the objective significance of HSS research in public policy making, the economy and business, and the media.

2. Reactive measures use evidence that produce responses or judgements by people who react to questions asked by the researchers. The main approaches included are:

• *Interviews with 80 senior people* drawn from four main areas:

- senior policy-makers in government departments, agencies and other public policy contexts;
- businesses;
- professional bodies, think tanks and non-governmental organizations; and
- universities, research councils, and academic professions.

• *Data from an open-access web-based e-survey* of members of the humanities and social sciences professions, which attracted more than 450 detailed individual responses.

• *A systematic survey of HSS discipline's professional bodies* (using the same survey form but designed to elicit more of a 'corporate' response from the professional bodies concerned).

3. Qualitative analysis focuses on systematically cross-referencing and triangulating evidence from all the sources above. In addition, other approaches used are:

• *Ten short impact case studies*, looking at specific instances where the influence of humanities and social sciences research can be traced through to public policy and economic impacts. In each case we traced influences through a range of interviews and documentation sources, looking for different assessments of causal patterning and

the salience of academic research and researchers in the overall process of social or policy change.

• *A full literature review and documentation scan* covering all aspects of the contributions made by humanities and social sciences disciplines to public policy-making, the economy and civil society in the UK. We also looked at overseas comparator countries.

• *Plausibility checking by focus groups and our project committee,* are methods for ensuring that the analysis undertaken here has broad acceptance from a range of different stakeholders and that our analysis controls for a range of closely involved viewpoints. We are especially grateful to an influential supervising committee of senior academics form the British Academy for many interactions and a wide range of suggestions and inputs incorporated here.

Expanded version of Figure 1: Perceived scores given by HSS academics on the impact of their discipline in different areas, and the potential impact that their discipline could have

	[1] All HSS	[2] Humanities	[4] Mixed or both	[3] Social sciences
Public policy				
Actual impact	3.4	2.5	3.6	4.6
Potential impact	5.1	4.4	5.5	6.0
diff.	**1.7**	**1.9**	**1.9**	**1.4**
Public and culture				
Actual impact	4.6	4.7	5.0	3.9
Potential impact	5.6	5.7	5.9	5.4
diff.	**1.0**	**1.0**	**0.9**	**1.5**
Civil society				
Actual impact	4.1	3.7	4.1	4.5
Potential impact	5.1	4.8	5.3	5.6
diff.	**1.0**	**1.1**	**1.2**	**1.1**
Science and technology				
Actual impact	2.9	2.6	3.1	3.1
Potential impact	3.9	3.3	4.0	4.5
diff.	**1.0**	**0.7**	**0.9**	**1.4**
Economy and business				
Actual impact	3.0	2.5	3.4	3.6
Potential impact	3.8	2.9	4.1	4.7
diff.	**0.8**	**0.5**	**0.7**	**1.1**

Source: Survey of HSS academics. Humanities N = 150, Social Sciences N = 124, Mixed Disciplines N = 102.

List of Interviewees and Focus Group Participants

We would like to thank the following people who kindly gave up some of their time to be interviewed or take part in focus groups for this study.

Title	Organisation
Vice President, Strategy and Planning	Astrazeneca
Principal Research Officer, Policy and Research Unit	Barnardo's
Dr, Department of Law	Birkbeck College, London
Head of Research	British Museum
Head of Strategic University Research	British Telecom
Professor, Forum of Philosophy in Business	Cambridge University
Professor, Faculty of History	Cambridge University
Dr, Forum of Philosophy in Business	Cambridge University
Partnership Development Manager, Research Services Division	Cambridge University
Professor, Law School	Cardiff University
Director, Policy Research, Research & Information	CILT, the National Centre for Languages
Dr, English Language and Linguistics	College of St Mark and St John Plymouth
Director of Campaigns and Education	Commission for the Built Environment
Department of Art History	Courthold Institute of Art
Research Director	Demos
Chief Scientific Adviser	Department for Communities and Local Government
Chief Research Officer	Department of Children, Schools and Family
Deputy Director of Strategic Analysis	Department of Children, Schools and Family
Chief Scientific Adviser	Department of Health
Chief Scientific Adviser	Department for International Development
Chief Scientific Adviser	Department for Work and Pension
Analyst	Deutsche Bank
Senior Associate	Douglas Associates
Head of Social Science Research	Food Standards Agency
Professor, Department of Architecture	Edinburgh University
Dr, Art History Department	Edinburgh University
Land Use and Social Research	Forestry Commission
Head of Campaigns	Friends of the Earth
Senior Official	GO Science
Former European Head of Drug Development in Genetics	GlaxoSmithKline
Head of Climate Change for Government	Hadley Centre

Chief Social Researcher	Health and Safety Executive
Director, Research Development and Statistics Directorate	Home Office
Policy Manager, Strategy, Information and Development Directorate	IDeA
Professor, Child Education	Institute of Education
Professor, Higher Education Studies	Institute of Education
Head of Human Rights Policy	Justice
Professor, Centre for Professional Ethics	Keele University
Dr, New Materials Group	Kings College London
Professor, Centre for Biomedicine & Society	Kings College London
Manager, Policy Unit, Corporate Research and Intelligence	Lancashire County Council
Head, Legal Services Research Centre	Legal Services Commission
Policy Director	Liberty
Professor, Department of Economics	London School of Economics
Professor, Human Rights Centre	London School of Economics
History and Policy	London School of Hygiene and Tropical Medicine
Research	Microsoft
Assistant Director, RDS-NOMS	Ministry of Justice
Senior Policy Team Leader	National Union of Students
Professor, Centre for Population Studies	Nottingham University
Head of Research	NSPCC
Professor, Languages	Open University
Professor, Philosophy Department	Oxford University
Research and Development	O2 Group Technology
Research and Policy in Development	Overseas Development Institute
Director	Policy Studies Institute
Dr, French Department	Queen Mary, London
Research Director	Rand Europe
Dr, Modern Languages Department	Reading University
Director	Reform
Secretary	Save Britain's Heritage
Head of Research	Shelter
Research Director	SHM
Senior Research Fellow	Social Market Foundation
Professor, Social Policy Department	Southbank University
Professor, School of Humanities	Southampton University
Professor, Neuroscience	Sydney University
Professor, School of Art History and Cultural Policy	University College Dublin
Professor, Tyndall Centre	University of East Anglia
Head of Academic Relationships	Vodafone Group
Head of Research	Victoria and Albert Museum
Professor, Economics Department	Warwick University

Dr, Centre for Cultural Policy Studies	Warwick University
Policy Adviser	The Wellcome Trust
Chief Social Research Officer	Welsh Assembly
Public Value Research	The Work Foundation
Professor, Sociology Department	York University
Business Development Manager for Arts & Humanities	York University
Professor, Department of Health Sciences	York University

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