

**Impacts of Higher Education Institutions
in Yorkshire and the Humber**

FINAL REPORT

CONTENTS

SUMMARY	
Background	i
Impacts: The Economy	i
Impacts: Health and Wellbeing.....	ii
Impacts: Society and Community	iii
Impacts: Culture and Sport.....	iii
Impacts: Skills.....	iv
Anticipating and Adapting to Change	v
1. BACKGROUND.....	1
Why an Impacts Study?	1
Overview of HE in the Region	2
How the Study has been Compiled	3
2. IMPACTS: THE ECONOMY	4
Scope	4
The Economy of Y&H and its Knowledge Economy Dimension	4
Significance of Income and Expenditure.....	5
Employment.....	6
HE Services to Business and Enterprise.....	8
Infrastructure Support for Business Formation and Growth	10
Helping Develop an Enterprise Culture.....	11
Indicators of HEIs' 'Reach'	13
Graduate Retention	15
Conclusions Relating to Economic Impact.....	16
3. IMPACTS: HEALTH AND WELLBEING	18
Scope	18
Health and Related Education and Training	18
Specialist and Direct Contributions.....	20
HE and Health Sectors' Collaboration.....	23
Conclusions Relating to Health and Wellbeing Impact.....	23
4. IMPACTS: SOCIETY AND COMMUNITY.....	25
Scope	25
Society and Community Education and Training	25
Students' Community Action	26
Staff Community Action	28
Roles in Regeneration and Place-making	28
Strategic Involvement of the HE Sector.....	29
Conclusions.....	31

5.	IMPACTS: CULTURE AND SPORT	32
	Scope	32
	Culture and Sport Education	33
	HE Cultural and Sporting Assets	34
	HEI Involvement in Culture and Sport.....	35
	Conclusions.....	36
6.	IMPACTS: SKILLS	37
	Scope	37
	HE Learning.....	38
	Regional HE Students Accounts.....	42
	Developmental Contributions to Skills Formation	43
	Conclusions.....	45
7.	ANTICIPATING AND ADAPTING TO CHANGE.....	47
	Introduction	47
	Variable Geometry of the Regional HE Sector	47
	Collective Arrangements	48
	Conclusions.....	49

SUMMARY

Background

1. The Higher Education Institutions (HEIs) in Yorkshire and the Humber (Y&H) are prominent features in our regional landscape, borne out of a combination of distinctive local actions and national policy developments for the sector and are institutions which operate with a global reach. Individually and collectively, they represent a huge asset for our region.
2. Yorkshire Universities is the regional HE association for Y&H, formed in 1993. It provides a forum for the 11 Universities and 3 HE Colleges in the region to work together.
3. It is through Yorkshire Universities that the idea of an assessment of the impacts of HEIs in the region should be compiled. The important feature in this decision was the self-defined scope of the impacts to be assessed. In effect, this scope relates to what is frequently termed as “*well-being*”. It recognises that the mission of the sector and the simple fact of being here in the scale that it is have effects of significance that go well beyond narrower, but still legitimate, forms of impact, eg in terms of the economy, educational attainment and employment.
4. The scope of the exercise has, therefore, been to group types of impacts under 5 main headings. These are:
 - The Economy
 - Health and Wellbeing
 - Society and Community
 - Culture and Sport
 - Skills

A 6th heading relates to how these types of impacts can be managed and is covered under the term ‘Institutional Adaptability’.

Impacts: The Economy

5. The economic significance of the sector’s presence in the region from the income it attracts and the expenditure it incurs is equivalent to around 3.2% of the region’s annual output, on a par with that from important sectors like food and drink, hotels and catering, banking and insurance.
6. The direct and indirect employment impacts of the HE sector are variously estimated at 33,000-37,000 jobs (FTE), subject to the assumptions used. This is equivalent to 1.5%-1.7% of the region’s total jobs. Consequently the sector’s impact represents a high value per head.
7. The research and development investment by the HE sector is a significantly higher proportion of the region’s low overall investment in R&D and, therefore, becomes a vital factor for economic development. The number of employing organisations involved in contract research is modest and will include non-Y&H businesses, representing a form of export from the sector. The value of contract research in the region is, however, significant.
8. Several initiatives and programmes like the White Rose Consortium, CICs, Knowledge RICH, Science City York and others represent immensely important avenues for technology and knowledge transfer between the HE sector and businesses. The imperfect indicators on business innovation in Y&H suggest the region under-invests in this particular driver of productivity.

There is, therefore, a strong strategic rationale for stimulating great use of HE intellectual, scientific and technology assets through measures like these. Latest survey estimates indicate a rising trend amongst businesses in the region with R&D links to Universities, now at 10% and the highest to date.

9. The Universities and University Colleges, individually and collectively, have developed an extensive portfolio of services and facilities to stimulate enterprise formation and growth in the region. This includes applied business support services, science parks, incubation and incubator facilities and a key role in the Advanced Manufacturing Park in Rotherham.
10. These are complemented by a wide range of HE activities to stimulate an enterprise culture in the region, including amongst graduates.
11. Formally recorded business start-ups by graduates and University 'spin-off' companies are modest in number but probably under-represent the actual total given the range and scale of activity and of facilities.
12. The economic significance of the skills and knowledge acquired by the HE sector's students is covered separately. Y&H is a net importer of HE students and 10% of students come from outside of the UK. Latest evidence indicates that, of graduates in employment who had originally lived in Y&H, 73% work in Y&H 3½ years after leaving HE. For graduates in employment who had originally studied in Y&H, 39% of those with a first degree work in Y&H 3½ years after leaving HE (61% for post graduates and 64% for other undergraduates).

Impacts: Health and Wellbeing

13. Impacts on health and wellbeing of society have proven to be immensely difficult to achieve, despite 60 years of the NHS and Welfare State, so it is inappropriate to attribute the comparatively poorer health of the Y&H population on the lack of or insufficient impact from the HE sector. The health and wellbeing needs of the region's population and health services do, however, represent a set of challenges to which the HE response is an important contribution.
14. The education and training of entrants to and current participants in the health sector is the most directly quantifiable contribution of the region's HE sector. By subject of study, the proportions of students (FTE) in Y&H are comparable with the England average with a slightly greater regional participation in subjects allied to medicine.
15. Available labour market information (including on outlooks) and evidence of graduate retention point to a close connection between the health and wellbeing learning provision in the region's HEIs and the need for qualified personnel. This reflects the close relationships between the region's HEIs and the health and wellbeing sector.
16. The provision of the HE sector to continuing professional development (CPD) of employees in the sector is widespread. There is a very wide portfolio of further facilities and services from health and wellbeing faculties, related centres and institutions, often at the forefront of clinical practice, helping to develop the knowledge and skills of the employed workforce.
17. The HE sector is actively involved in pure and applied research and in innovation and technology transfer in the health and wellbeing sector. The services of several CICs are applicable across health and wellbeing and are being used by both major companies and small specialist ones in developing new products and services for the sector and whose applications will have potential beyond the region. There is also a lot of applied social policy research undertaken by the Universities.

18. Several Universities are involved in direct delivery of health and wellbeing services, often in partnership with NHS Trusts. This frequently includes clinical academic appointments. The forms of delivery are very broad, extending to public awareness, encouraging participation in science education, emergency planning and music for people with mental health issues.
19. Most (9) HEIs incorporate complementary and alternative medicine in their curriculum and several conduct research in this field.
20. Collaboration between HE and the health and wellbeing sector is deeply embedded, in practice and at senior levels of governance. The HE-Business and Community Interaction (HE-BCI) Survey confirms the intensity and the beneficial impacts of this collaboration.

Impacts: Society and Community

21. With much of the knowledge and skills now needed in delivering social and community services, including regeneration and sustainable communities, being at degree level or above, the region's HE sector is a major provider and regional labour market intelligence points to the relevance of this provision.
22. Contributions by students and staff to voluntary action in communities are increasingly organised, systematic and reaching out to disadvantaged communities, using the knowledge and expertise of the students and staff involved.
23. Effects of and impacts from HEIs in regeneration and place-making reflect the 'footprint' of campuses in towns and cities and some potentially negative spillovers onto neighbourhoods. Management approaches exploit opportunities and progressively seek out mitigation measures.
24. Direct regeneration impacts from the HE sector on social and community wellbeing also derive from formal involvement in programmes delivery, often of a developmental nature. The larger Universities' social policy units have national and international credentials as well as valued regional and local applications.
25. The Regional Research Observatory is an open network for HE and other researchers with its Regional Journal publishing current and accessible papers.
26. CPD provision is widespread. A unique example in English regions, and relevant to sustainable communities, is the 3 HE Planning Schools' work with the Royal Town Planning Institute (Yorkshire).
27. HEIs are embedded in strategic partnerships dealing with social and community wellbeing from neighbourhood levels to the regional scale. This involvement has considerable resource implications. HEIs make specialist contributions to knowledge development and capacity in public sector organisations responsible for social and community services.

Impacts: Culture and Sport

28. By its very nature, HE is a feature in any region's cultural landscape. Beyond that, the sector represents a learning and development arena for what (some would say) is humankind's highest form of endeavour and contribution to society.
29. Depending how the scope of culture is defined, students reading subjects related to culture and sport exceed 50,000; about a quarter of the region's HE population. Languages represent the major component of this.

30. The sector's cultural and sporting assets as venues and facilities are of particular significance for their quality, rather than their physical extent, most towns and cities possessing their own cultural and sport resources. Nonetheless, these assets are important for students' learning and are used to open up the HE sector to the wider public as well as the value of cultural and sport participation in its own right.
31. More significant than the facilities themselves are the ways in which HEIs use their expertise and resources in partnership with other organisations. This includes Local Authorities and event organisers as well as cultural organisations themselves like Opera North.
32. Available data indicates annual attendances at HE public events exceeding 160,000, roughly equivalent to 3% of the region's population. Actual attendances are probably much greater than this. As household participation in cultural activity in the region is below the national average, the HE contribution assumes greater relative significance.
33. There is an association with culture and sport of talent and creativity, attributes with economic value which, in particular, link to creative industries. Furthermore these are activities in which practice and training are second nature, a feature which ought to be more widespread across other forms of work and economic activity.

Impacts: Skills

34. Although skills are not the same thing as education or qualifications, they get conflated and their collective significance in knowledge-based economics has risen inexorably up the policy agenda. The HE sector is inescapably involved.
35. The core business of HE in the region is educating over 200,000 students and in a range of subjects comparable to the national average. The 4 Lifelong Learning Networks in the region promote and manage HE progression for students with vocational skills thereby upskilling the regional pool of labour.
36. Projections of demand by occupations indicate a significant requirement regionally which is capable of absorbing much of the region's HE sector output. Y&H is, however, a net importer of HE students and the regional economy's size and composition will not absorb everyone so, inevitably, some depart. This is not the same as an (emotive) Brain Drain.
37. There is very fluid ebb and flow of HE participation in the region which is hard to quantify. There is, though, a solidly embedded regional core of students from and graduates in the region as well as a floating and mobile cohort. Graduates Yorkshire is a long running HEI partnership of Careers Services with an objective for graduate retention.
38. There are many instances of HEIs contributing to skills development and policy, responding to needs of employers and widening participation. The HE-BCI Survey shows that the sector assesses its own economic impact through education as important, more so than through meeting skills needs. The Survey shows it is, though, frequently involved with several Sector Skills Councils but does not feel deeply involved in skills policy regionally, does little labour market intelligence monitoring and planning, and appears to have low curricular involvement of employers.
39. Given the World Class Skills exhortations, the region has to make more of its HEIs and the sector has to become more involved in this agenda than, seemingly, it is.

Anticipating and Adapting to Change

40. HEIs have a complex and compelling agenda and the regional dimension is but one of many seeking their attention. As preceding sections show, individual HEIs are extensively involved in local and regional issues and activities. The HE-BCI Survey, however, indicates that the regional dimension does not loom large in HEIs' corporate consciousness.
41. Yorkshire Universities represents the sector in the region through which economies of scale and added value are achievable. It has a Strategic Plan, a formalised Strategic Alliance with Yorkshire Forward and was cited as good practice in a national study of Higher Education Regional Institutions.
42. The HE dividend for Y&H can be conveyed by individual institutions and collectively through Yorkshire Universities. Like all forms of education, the dividend includes its own intrinsic value for individuals and society. Wider forms of impacts include those where attempts at quantification can attach a value to the HE dividend, as in the case of economic impacts. But, as this study shows, the HE dividend includes further and intangible impacts, the value of which is not transparently reducible to a valuation, economic or otherwise. The academic and philosophical discourses on these matters are centuries old and not likely to be concluded by Yorkshire Universities. Recognising the significance of these different types of impacts and seeking to describe them in documents like this at least ensures they are communicated and not overlooked.

I. BACKGROUND

Why an Impacts Study?

- 1.1 The Higher Education Institutions (HEIs) in Yorkshire and the Humber (Y&H) are prominent features in our regional landscape, borne out of a combination of distinctive local actions and national policy developments for the sector and are institutions which operate with a global reach. Individually and collectively, they represent a huge asset for our region.
- 1.2 The effects of possessing this regional asset and, even more important, of making the fullest possible use of it, are judged and measured in many different and often partial ways. When reduced to a particular scale or grade relating to a few fields of activity, or summed into a league table, these judgements and measurements are typically framed by others and not by the institutions themselves.
- 1.3 The Dearing National Committee of Inquiry into Higher Education (1997) identified the aim of higher education (HE) as “*to sustain a learning society*”. It then identified 4 main purposes which make up this aim:
- “to inspire and enable individuals to develop their capabilities to the highest potential levels throughout life, so that they grow intellectually, are well equipped for work, can contribute effectively to society and achieve personal fulfilment;
 - to increase knowledge and understanding for their own sake and to foster their application to the benefit of the economy and society;
 - to serve the needs of an adaptable, sustainable, knowledge-based economy at local, regional and national levels;
 - to play a major role in shaping a democratic, civilised, inclusive society.”

It follows, then, that by pursuing this aim and fulfilling these purposes the impacts of HE represent a richly diverse return on investment.

- 1.4 Yorkshire Universities is the regional HE association for Y&H, formed in 1993. It provides a forum for the 11 Universities and 3 HE Colleges in the region to work together.
- 1.5 It is through Yorkshire Universities that the idea of an assessment of the impacts of HEIs in the region should be compiled. The important feature in this decision was the self-defined scope of the impacts to be assessed. In effect, this scope relates to what is frequently termed as “*well-being*”. It recognises that the mission of the sector and the simple fact of being here in the scale that it is have effects of significance that go well beyond narrower, but still legitimate, forms of impact, eg in terms of the economy, educational attainment and employment.
- 1.6 The scope of the exercise has, therefore, been to group types of impacts under 5 main headings. These are:
- The Economy
 - Health and Wellbeing
 - Society and Community
 - Culture and Sport
 - Skills

A 6th heading relates to how these types of impacts can be managed and is covered under the term ‘Institutional Adaptability’.

- 1.7 As is so often the case, the boundaries between types of impacts are not precise and activities under one heading can lead to effects under several more.

EXAMPLE OF LINKED EFFECTS: CULTURE AND SPORT

The **cultural and sporting** resources of HEIs and the access to these resources have intrinsic value in their own rights. Participation in culture and sport is expected to have additional benefits for **health and wellbeing** and for **social and community development**.

Furthermore, such participation can stimulate an interest in and demand for learning and the acquisition of **skills**. This may be directly related to learning about culture and sport or be derived from the experience on a campus or of an event. Cultural, sport and leisure industries are significant for the **economy** and have high knowledge content.

To maximise the potential impacts from an individual's journey that starts with a visit to an exhibition or a match in a sports centre, **institutional adaptability** can design working practices that enable progression and, as a result, impacts on a multi-faceted scorecard.

- 1.8 To avoid repetition, the evidence is presented under the 'best fit' heading which captures the primary impact. Cross-references are made where the linked impacts are strong.

Overview of HE in the Region

- 1.9 Within the region there are 12 HEIs comprising 9 Universities (and, additionally, the Open University and the Hull Campus of the University of Lincoln) and 3 HE Colleges. The full list of the 12 is:

Universities	HE Colleges
Bradford	Leeds College of Music
Huddersfield	Northern School of Contemporary Dance
Leeds	Trinity & All Saints
Leeds Metropolitan	
Sheffield	
Sheffield Hallam	
York	
York St John	

- 1.10 Students registered at HEIs total 195,023 (2005/06) with a further 11,106 registered in FE Colleges. Numbers range in HEIs from over 30,000 at the University of Leeds to just over 1,000 at Leeds College of Music. The Northern School of Contemporary Dance's students (160) are registered outside of Y&H. The Open University has approaching 10,000 students who live in the region. Bradford College is the largest FE provider of HE (3,235).
- 1.11 Of the total number of students registered at the region's HEIs, 44% originate from within the country. Y&H has the highest net inflow of young full-time first degree students in the region. 10% of all registered students come from the rest of the world and 3% come from other EU countries. The remainder (43%) originate from other UK regions.
- 1.12 The profile and distribution of subjects studied in the region are similar to England as a whole with slightly higher regional proportions in subjects allied to medicine, biological sciences, languages and in historical and philosophical studies. A smaller proportion of students in the region's HEIs read creative arts and design subjects.
- 1.13 Beyond being major teaching establishments, HEIs represent a sector employing some 30,000 people and with an annual income of £1.5bn. They are economic features, with charitable objects, of significance for the regional landscape and with national and international dimensions. As a sector, HE is instrumental in the regional economy although this is not the sector's core purpose.

It is the sheer scale and diversity of HEIs, individually in their localities and collectively in the region, which give rise to a kaleidoscope of impacts as portrayed in this study.

How the Study has been Compiled

- I.14 Two main methods have been used to gather evidence. Most of the statistical sources are from official publications, eg HE Funding Council for England (HEFCE) and others. These are compiled from (amongst other sources) returns from individual institutions.
- I.15 In addition, the region's institutions have contributed by responding to questionnaires covering data and examples of activities relating to each type of impact.
- I.16 An aspect of impacts relating to modelling the economic effects of HE has been assisted by Yorkshire Futures, the Regional Intelligence Network and by the University of Strathclyde's regional impact model as developed for Universities UK.
- I.17 The final report is produced as a collection of the impacts themes. With minor adaptation, each section lends itself to a freestanding profile for publication and dissemination.

2. IMPACTS: THE ECONOMY

Scope

- 2.1 The economic impacts from HE in Y&H will show up in a very broad range of features. Not least of these, by any means, is the effect of skills (and qualifications) acquired through learning and then applied in work. We cover the skills impacts separately in section 6.
- 2.2 As HEIs are independent organisations they have direct economic impacts, capable of being estimated in the same manner as any other sector of the economy. These impacts show up in the following main ways:
- institutional expenditures (capital and revenue) including on employees, purchase of goods and services and on research and development;
 - the expenditure effects of the student population in the local economy, although this is a field that needs some qualification;
 - institutional services provided to businesses and enterprises to assist their development.

HE also has an effect on the balance of trade through, eg invisible exports and attracting international students and visitors to Y&H.

- 2.3 There are econometric models of varying sophistication which are used in economic impacts assessments. Calibrating some of them with accurate data for a regional or local assessment is not always possible. The process is as much an art as it is a science.
- 2.4 Economic impacts of HE extend well beyond the 'quantifiable' effects from models. The sector is increasingly involved in support to existing and new enterprises through, eg research, technology and other 'know-how' transfer services. It supplies talented/well qualified people into the local labour force whose knowledge assists with business growth, productivity, diversification and innovation and who, generally, have an earning advantage over non-graduates which has an economic effect. But beyond these 'pure' economic effects, the other impacts covered in this document will also have economic value too and in their own rights. They are not easily rendered in monetary or employment terms by standard methodologies but their significance should also be recognised.
- 2.5 This section focuses on the main impacts described above. It starts with a particular perspective on the regional economy.

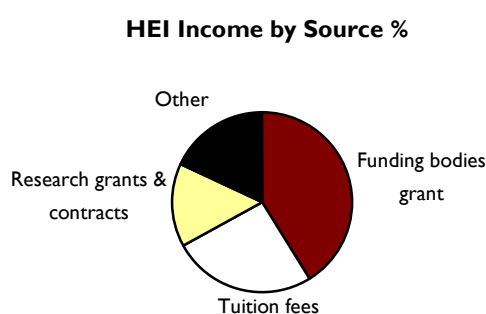
The Economy of Y&H and its Knowledge Economy Dimension

- 2.6 Other publications, eg Progress in the Region (2007), provide a full profile of the Y&H economy. It can be sized in various ways:
- economic output circa £75bn pa;
 - total population 5m;
 - total employees 2.2m;
 - total enterprises (VAT) 130,000;
 - total employing establishments 170,000.
- 2.7 Compared to the England average, which is distorted by the effect of London and the South East, the Y&H economy performs a few points below average. This is true for output per head, employment rate, business density, research and development and workforce skills. The situation has, however, been improving and the differences between our region and most other English regions are quite small.

- 2.8 From a HE perspective, the contribution to a developing regional knowledge economy is particularly relevant. There are several schools of thought on what constitutes a knowledge economy and how it can be measured. These tend to distinguish between knowledge intensive sectors and knowledge jobs. Different frameworks and thresholds are then used by analysts from different 'schools' to arrive at benchmarks or typologies. If some of the rhetoric is set to one side, it is recognisable that the knowledge economy is embedded in all sectors, from farming to funeral undertakers.
- 2.9 The current economic policy consensus is that the knowledge intensive sectors and jobs provide the driving force for productivity and wealth creation. In which ever way this is then analysed, Y&H does not feature as a strong knowledge intensive economy in Britain and tends to have a greater proportion of its knowledge intensive jobs in the public rather than the private sectors.
- 2.10 Analysis by Geoeconomics Ltd for Graduates Yorkshire (Graduate Economies in Britain: A Local and Regional Analysis 2007) provides some dimensions of the region's knowledge economy. The share of employment of all knowledge intensive sectors in Y&H is 47% (UK = 50%) and the growth (1998-05) has been amongst the fastest in England at 24% (UK = 16%). This faster growth has been in both public and private knowledge intensive sectors. The public knowledge intensive sectors outweigh the private sector equivalent and have grown faster too.
- 2.11 This evidence helps to dispel the notion that the region lags far behind in the knowledge economy stakes. Furthermore, the Geoeconomics analytical toolkit defines the knowledge economy by reference to workforce graduate-level qualifications and to occupations likely to require a degree or equivalent. Clearly, therefore, there is an association here with the significance of HE.
- 2.12 These economic features represent important contextual conditions relating to the ability of the region to absorb the knowledge outputs from the HE sector.

Significance of Income and Expenditure

- 2.13 The total income from YU member institutions¹ for 2004/05 was £1.429bn; 99.6% of this income was spent during the same year.
- 2.14 The composition of income by source (data excludes the Open University Yorkshire Region) is shown below:



Source: HEFCE 2007 Regional Profile Y&H

Within these total figures are export earnings by the sector of £147m.

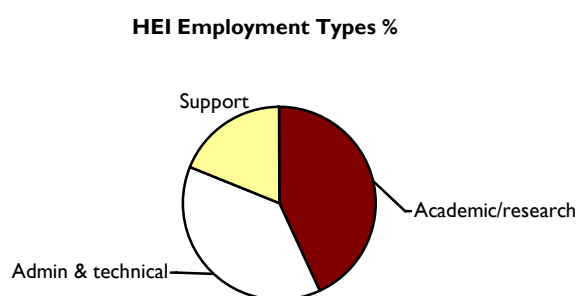
¹ 12 of the 14 members, ie excluding Northern School of Contemporary Dance and University of Lincoln (Hull campus)

- 2.15 Some 60% of expenditure (£854m) in 2004/05 was for employment costs of staff. Allowing for cross boundary travel to work by HE employees to and from neighbouring regions, it is a reasonable assumption that most of their disposable income is spent within the region. This has an income multiplier effect in the wider economy.
- 2.16 The presence of the student population (excluding HE students studying in Further Education Colleges) has a further economic effect. In 2004/05 there were 191,593 full and part-time students registered in the region's institutions (HEFCE 2007). Making reasonable assumptions about their expenditure patterns (including course fees, university accommodation to avoid double counting), derived from the national Student Income and Expenditure Survey 2004/05, and allowing for that which may occur anyway, the annual expenditure of full-time only students in the region is estimated at £980m. This (too) has an income multiplier effect in the wider economy.
- 2.17 The estimated total annual expenditure from the region's HE sector is, therefore, £2.4bn. It has been estimated that 60% of this spending is retained in the region, ie £1.44bn pa. A study in the North East estimated an expenditure multiplier ratio of 1:96, ie every direct £1 has an additional impact worth £0.96p. On this basis, the total impact is therefore worth £2.8bn pa. This is comparable to the output of the following industries in the region:
- Food and drink £2.7bn
 - Hotels and catering £2.5bn
 - Banking and insurance £2.7bn

Further and different estimates of HEI impacts on output, from 2 different forms of econometric modelling, are presented below.

Employment

- 2.18 The HE sector employed 29,621 employees in 2004/05 in full and part-time jobs; the full-time equivalent (FTE) is 24,215. This is more than employment in Chemicals, Electrical and optical equipment, Transport equipment, Textiles and clothing. By broad classification, the composition of HE employment in the region is shown below:



- 2.19 This shows a wide range of occupations (from professors to porters) in the sector and a high proportion of jobs that are available to local labour markets in the sense that they do not necessarily require high level qualifications and skills.
- 2.20 Using the Regional Econometric Model (REM) for Y&H (courtesy of Yorkshire Forward), the additional employment effect from the HE sector is a further 8,725 jobs (FTE) in the regional economy, ie a total of over 33,000 jobs (FTE) are derived from the direct and indirect effects of the sector's presence. This is equivalent to an annual output of £1.1bn. The REM calculation is that the biggest additional job impacts by sectors are in retailing, wholesaling and in business services. These effects derive from supply chain multipliers and from income (consumer spending) multipliers.

- 2.21 All computer-based econometric models are subject to data source limitations and the assumptions on which the models are constructed. The University of Strathclyde model (The Economic Impact of UK HEIs: Universities UK, 2006) is a particularly complex one. It is based on the use of input-output data analysis using official UK data, including HESA data on financial resources and students. The model is a 'top down' one of the national economy with regional extensions which enable an impact assessment for all HEIs, groups or individual institutions. A scenarios approach to impact modelling is also incorporated. It is, therefore, a different type of impact model to the REM and the results are, accordingly, different.
- 2.22 The results from the Strathclyde model for the regions' HEIs, based on data for 2005/06, incorporate expenditure effects of students (excluding payments to HEIs eg fees, accommodation etc) and visitors and, therefore, produce higher results on impact calculations. The validity of this factor and the degree to which it is wholly additional is debateable.
- 2.23 From this model, Y&H HEIs' direct economic impacts are approximately £1.5bn for 2005/06 and this is based on income and expenditure (including employee costs). The indirect or knock-on effects from HEI purchases of goods and services, from their employees' spending and from student expenditure, amount to a further £1.1bn for 2005/06 within the region. There is a wider 'spillover' effect to the rest of the UK which the model calculates as £2.5bn (which includes the Y&H spillover effect) for 2005/06. The summary results for economic output effects are shown below.

OUTPUT IMPACT OF Y&H HEIs (£m) 2005/06				
Direct Total	Knock-on		Direct and Knock-on	
	Y&H	UK	Y&H	UK
1,521	1,073	2,541	2,595	4,062

Note: excludes OU in Y&H, Hull Campus of University of Lincoln and HE in FE Colleges

- 2.24 The direct and indirect impacts combined within the region therefore total £2.6bn from this modelling source. This equates to 3.2% of the region's estimated Gross Domestic Product.
- 2.25 Employment impacts are incorporated within these output estimates but can be identified separately. For 2005/06, the direct employment (FTE) in the region's HEIs was 25,540. The knock-on or indirect effect (including from students' non-HEI expenditure) in the region is an additional 11,733. The wider UK spillover effect is 27,087. Nationally the model produces a HEI employment multiplier (ie direct and indirect effects) of 1.99 while the equivalent for Y&H is lower at 1.45. The employment impacts are summarised below:

FTE EMPLOYMENT IMPACT OF Y&H HEIs 2005/06				
Direct Total	Knock-on		Direct and Knock-on	
	Y&H	UK	Y&H	UK
25,540	11,733	27,087	37,273	52,627

Note: excludes OU in Y&H, Hull Campus of University of Lincoln and HE in FE Colleges

- 2.26 The direct and indirect employment effects from the Strathclyde model within the region therefore total 37,273 (FTE), an estimate reasonably close to that of the REM.
- 2.27 By industrial sectors in the region, the biggest indirect employment impacts are felt in wholesale and retail trades, manufacturing, public administration, financial services and construction, ie a slightly different distribution of impacts than shown by the REM. The main occupations where the knock-on employment effects are most numerous are managerial, clerical, crafts, sales and plant/machine operatives.

2.28 Whatever the 'right' answer is on impacts, the employment effect of the HE sector is shown to be within the range of 33,000-37,000 jobs (FTE) or 1.5%-1.7% of the region's total jobs.

HE Services to Business and Enterprise

2.29 HE sector activities in the region have a direct relevance for and application to business development and enterprise formation and growth. This includes through:

- pure and applied research and development;
- knowledge transfer activities;
- commercialisation, eg licensing;
- enterprise formation support services and infrastructure.

2.30 Research income of the region's institutions was shown above (paragraph 2.13) to represent 15% of total HEIs income. Collaborative research income for 2005/06 is £28.2m (see table below) which is a comparatively small proportion of the England total (6.4% of £440m) and less than other regions except West Midlands and the South West. Contract research income at £61.7m (see table below) is much higher, representing 11.1% of the England total and the third highest after London and the South East regions.

COLLABORATIVE RESEARCH 2005/06	
Funding Source	£
OST Research Council	9.3m
Other Government Departments	11.2m
EU (Commission Institutions)	5.6m
Other	2.1m
Total	28.2m

Source: HE-Business and Community Interaction (HE-BCI) Survey 2005

CONTRACT RESEARCH 2005/06 (excluding returns for collaborative research)		
	No.	Total Value £
Small and Medium Sized Enterprises (SMEs)	196	3.1m
Other Commercial (non-SME) Businesses	954	19.6m
Non-Commercial Organisations	1,347	39.0m
Total	2,497	61.7m

Source: HE-BCI 2005 Survey

2.31 Research and development investment (from all sources) remains comparatively low in Y&H. Its composition is, however, significantly different from that for the UK.



Source: ONS R&D Statistics 2004

Consequently, and in the context of the degree of knowledge intensity in the regional economy, the significance of HE research and development assumes greater proportion in Y&H and effecting a transfer of the benefits into the economy presents the challenge.

- 2.32 As measures of the volume of HE and business interactions in the region, the following relating to 2005/06 provide a selection of indicators:

TYPE AND NUMBER OF INTERACTIONS	
Contract Research	2,497
Consultancy Contracts	2,608
Facilities and Equipment-related Services	1,943
New Patents Granted	24
Non-software Licences Granted	24
Software Licences Granted	42

COLLABORATIVE RESEARCH: WHITE ROSE CONSORTIUM

This is a strategic partnership between the Universities of Leeds, Sheffield and York, formed in 1997. In 2003/04 the consortium achieved funding and research projects worth £40m for the White Rose Universities.

One example is the White Rose Grid, a computing environment for resource and knowledge sharing in order to develop an international research projects portfolio. The DAME (Distributed Aircraft Maintenance Environment) Project uses this grid in the field of aero-engineering to access globally distributed data for faults, diagnoses and predictions. This is a collaboration with Rolls-Royce plc, Data Systems and Solutions, Cybula Ltd and Esteem Systems. This last partner is a Wetherby-based firm supplying consultancy and project management services.

- 2.33 HEIs are involved in at least 17 of 178 projects funded by the Collaborative Research and Development element of the (former) DTI Technology Programme. The University of Leeds directs the Materials Knowledge Transfer Network. Within Y&H and assisted by Yorkshire Forward, Centres of Industrial Collaboration (CICs) and Knowledge RICH are initiatives to help HE reach out to business and businesses find their way into expertise.

CENTRES OF INDUSTRIAL COLLABORATION*

SPECIALISM	LOCATION
Biomaterials and Tissue Engineering	Leeds University
Design Futures	Sheffield Hallam University
Digital Print	Leeds University
Engineering Design	Hull University/Leeds University
Environmental Technologies	Hull University
Food Chain	Leeds University
Materials Analysis and Research	Sheffield Hallam University
Particle Science and Engineering	Leeds University
Pharmaceutical Innovation	Bradford University
Polymer	Bradford University
Precision Technologies	Huddersfield University
Wireless Technologies	Bradford University/Leeds University

* The Green Chemistry CIC at the University of York is now the Centre of Excellence for Green Chemistry

- 2.34 Between 2003-06, the CICs in the region have worked on over 1,400 projects with businesses, generated £50m income and created or safeguarded more than 1,000 jobs.
- 2.35 There are several further examples of collaborative research and development work amongst institutions in the region:
- the West Yorkshire Knowledge Exchange is a collaboration between the Universities of Bradford, Huddersfield, Leeds and Leeds Metropolitan University relating to digital technologies applications by small and medium sized enterprises (SMEs);

- the Universities of Bradford, Huddersfield and Leeds secured additional resources to pay for courses to help managers and staff in small firms update their skills and qualifications;
 - the University of Leeds have managed a West Yorkshire Proof of Concept Fund, part-financed through the European Regional Development Fund. More on proof of concept is presented below under the Enterprise Culture sub-section;
 - other examples of HEI collaboration in the region are presented in subsequent thematic sections.
- 2.36 Science City York represents a different form of collaboration, conceived in 1996 and launched in 1998 by Lord Sainsbury. Led by the University of York and York City Council, Science City York's purpose is to harness the economic potential of York's world class science base with a particular focus on bioscience, IT and Digital and Creative Technology industries.
- 2.37 Several institutions host other specialist centres combining teaching, research and technology transfer. Examples include:
- Advanced Manufacturing Research Centre – University of Sheffield
 - Institute of Logistics – University of Hull
 - Institute of Pharmaceutical Innovation – University of Bradford
 - Microbiology Services – University of Huddersfield
 - Centre for Novel Agricultural Products – University of York
 - Sorby Nano Investigation Centre in the Kroto Research Institute – University of Sheffield
 - Centre for Enabling and Assistive Technology – York St John University
- 2.38 The range of business and industrial technologies expertise and development services spans established, staple industries to newly emergent technologies. Sheffield Hallam University has a £1.1m (HEFCE) project, Food Innovation, concentrating on productivity and competitiveness. Businesses involved include national retailers (ASDA, Waitrose, Marks & Spencer, Sainsbury's) and Yorkshire firms, eg Northern Foods and Fosters Bakery. Making bread and cakes in Barnsley may not be widely regarded as part of the knowledge economy but Fosters Bakery has 2 Knowledge Transfer Partnerships with the University. At the micro and nanotechnologies end of the spectrum, the Universities of Bradford, Leeds, Sheffield and York, supported by Yorkshire Forward, are developing capabilities relating to characterisation, polymer and micro-moulding and nano-particulate products. Sheffield Hallam's Nanotechnology Centre for Physical Vapour Deposition has developed coatings to improve the life of cutting tools, with Hydra Clarkson International Ltd, for use with aerospace and automotive alloys. The partnership between Authentix Ltd and the University of York's Department of Chemistry has involved several Knowledge Transfer Partnerships in the fields of testing and miniaturisation.

Infrastructure Support for Business Formation and Growth

- 2.39 Since the phenomenon of science and technology parks gathered momentum, followed by attention to business incubation (typically for spin-outs and graduate enterprises, although some have an open door policy for appropriate businesses), complemented by incubator accommodation, the region's HE sector has developed a portfolio of accommodation, services and experience. Science Park developments exist on the campuses of Universities at Hull, York and Sheffield. The University of Leeds was at the forefront of virtual developments with its Virtual Science Park conceived in the late 1980s.

2.40 Incubation services and incubator accommodation operated by the sector in the region include:

- Bioscience Business Incubator – University of Bradford.
- University of Bradford’s ‘Think Business’ Programme for its students and graduates has an ‘Ideas Lab’ providing pre-incubation support services. Sheffield Hallam University’s equivalent is the Hatchery in its Enterprise Centre.
- Business Generator and Business Mine – University of Huddersfield and University Centre Barnsley.
- Innovation Centre – University of Leeds.
- Innovation Hub (including bio-incubator and ‘non-traditional’ innovation/knowledge transfer) – University of Leeds.
- Logistics Incubator – University of Hull (who are also a partner in The Deep Business Centre).
- Bio-incubator, IT Incubator and Innovation Centre – University of York.
- Business Start-up Incubator – Leeds Metropolitan University (who also founded UniVentures at Normanton, now owned by Inkopo Ltd).
- Bio-incubator – University of Sheffield.

2.41 The Advanced Manufacturing Park in Rotherham (supported by Yorkshire Forward) is of major significance regionally and nationally. The Advanced Manufacturing Research Centre, a Boeing/University of Sheffield partnership, is the anchor organisation, complemented by the presence of The Welding Institute, The National Metals Technology Centre, Castings Technology International and the Innovation Technology Centre; Sheffield Hallam University’s 2 CICs provide further specialist support. Further projects in the pipeline include:

- The Factory of the Future (Sheffield University) – a research and demonstration centre focusing on pioneering industrial techniques.
- Energy Technology Building – a showcase zero carbon development and accommodation for energy technology companies.
- Flexible Manufacturing Space – hybrid business accommodation for research/light manufacturing.
- CAMTEC – a composites research facility.
- IMPC – a powder metallurgy support facility.

Helping Develop an Enterprise Culture

2.42 The region’s HEIs are collectively and individually involved in stimulating an enterprise culture. Through Graduates Yorkshire (see further below), each Careers Service is developing its capacity to provide information, advice and guidance on entrepreneurship as a valid career choice for graduates. The University of Leeds, which coordinates this work in the region, was selected as the Association of Graduate Careers Advisory Service winner of the Award for Excellence for Entrepreneurship, sponsored by the National Council for Graduate Entrepreneurship in 2007. ‘Yomping the Nation’ (now Xing) is a national competition for team-based entries from Universities for pre graduate training in enterprise and is supported by Graduates Yorkshire. A team from Leeds Metropolitan University won the regional final. With support from Yorkshire Forward, a Regional Graduate Entrepreneurship Programme has commenced.

2.43 The Yorkshire Concept Fund was originally set up by the Universities of Bradford, Hull and Sheffield Hallam in 2004/5 and funded as a two year £600,000 pilot initiative of the Higher Education Innovation Fund (HEIF). It is a high risk proof of technology/proof of market fund supporting 17 propositions so far yielding 3 spin outs and with four licence deals under discussion. In September 2007 the Yorkshire Forward Board approved £3m support to a 3 year region wide HEIs Yorkshire Concept: Proof of Commercial Concept Fund alongside £3m co-investment from 10 HEIs creating £6m in total. This new Fund operates under the same objectives as the pilot, ie:

- to stimulate and increase the level and quality of commercialisation propositions from the HEIs;
- to help links and relationships with agencies, organisations and individuals who could provide seed corn and/or third party funds;
- to contribute and stimulate cultural change, networking and good practice within and between institutions;
- to help support collaborative research and development with regional companies;
- to contribute to the development of the regional sectors by facilitating the exploitation of technology.

Supporting ideas from the HEIs' research and knowledge base, academics and business development managers 'pitch' to a Yorkshire Concept Board to receive approval for their propositions. By January 2008 10 propositions had been received by the Board and four funded to a level of £200,000.

2.44 The Graduate Entrepreneurship project is a single pot Yorkshire Forward funded project which is tasked with strengthening the employability skills in Y&H graduates as well as encouraging business start-ups. The project is funded to the tune of £1.5m and runs until March 2009 with an option to extend until September 2009. Yorkshire Universities allocate this funding to support non curriculum activities which are designed to develop entrepreneurial skills and thinking. The central co-ordination allows for sub regional and regional activities to take place making best use of the funding available by utilising economies of scale. The central coordination also allows for best practise and the cross fertilisation of ideas to be shared across the individual HEIs. The activities that have been supported so far are wide ranging and have included workshops on subjects such as taxation, intellectual property to idea generation. Mentors are available within most of the HEIs and specialist mentors in highly specific subject areas have been funded to offer specialist help to the growing companies. The skills are celebrated each year with a Regional Enterprise Awards competition and dinner. This was supported by the project last year and will be again this year to a lesser extent with a view to corporate sponsorship making this a sustainable event.

2.45 Several other relevant enterprise development initiatives, for graduates and others, include:

- Flying Start Programme for Performing Arts – a National Council for Graduate Entrepreneurship scheme, sponsored by the Arts Council England and the Northern Edge consortium of universities. This scheme focuses on social enterprises in performing, fine, visual and participatory arts and is an illustration of cross-over impacts from enterprise to society and to cultural development. The University of Hull, for example, has 40 participants.
- Trinity and All Saints provide courses for teachers involved in Enterprise Education, now a formalised curriculum requirement for Key Stage 4 pupils following the Howard Davies Review of Enterprise in Education.

- Leeds College of Music provides its students with a Music Industry module, a preparatory course reflecting the high proportion of graduates establishing their own production, performing and teaching businesses.
- York St John University's Acorns scheme provides business start-up support and aftercare services in their first year of trading and beyond; 26 new firms have been established.
- 'Amaze Yourself' is a European Social Fund project provided by Bradford and 6 other regional Universities and 3 Colleges in the region giving enterprise skills training and business start-up support to disadvantaged groups.
- Several Universities have supported the Shell STEP Programme to provide 8 week undergraduate placements for local businesses to assist in enterprise development. Sheffield Hallam University was the 'Best New Agent' in 2006, placing 22 students on projects; in 2007 the University won the contract to deliver STEP in South Yorkshire, Derbyshire and Nottinghamshire.

2.46 HEFCE-funded Centres of Excellence in Teaching and Learning (CETLs) with an explicit remit to promote enterprise and employability include:

- The White Rose CETL in Enterprise – Universities of Leeds, Sheffield and York
- Institute of Enterprise – Leeds Metropolitan University
- Enhancing, Embedding and Integrating Employability (E3I) – Sheffield Hallam University
- Collaborating for Creativity – York St John University

Indicators of HEIs' 'Reach'

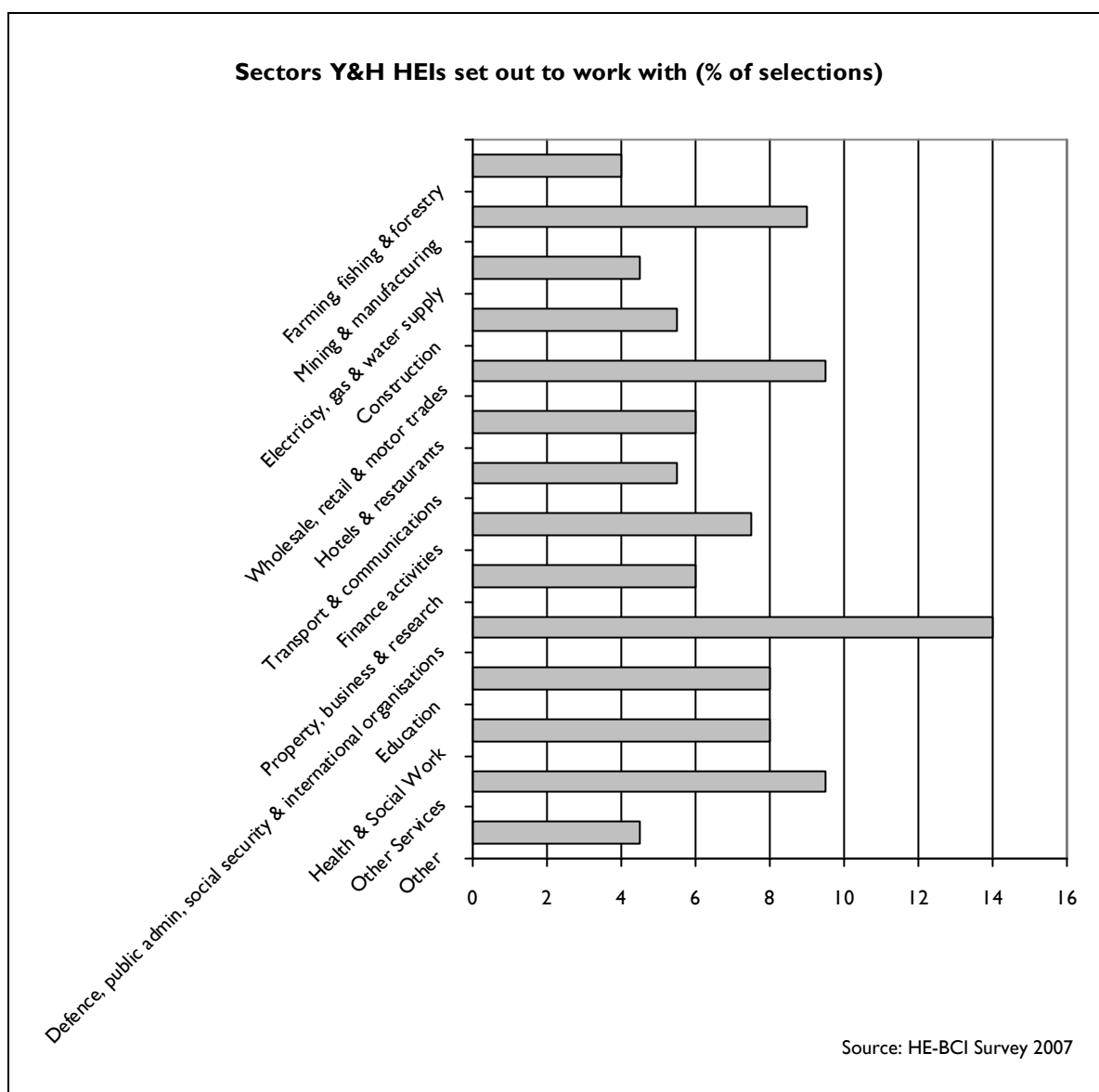
2.47 The number of personnel (FTE) dedicated to engaging with commercial business partners is 212, just under 1% of total employees in the sector. On this indicator Y&H ranks 7th out of the 9 English regions (HE-BCI Survey 2007).

2.48 Completed Knowledge Transfer Partnerships where there has been a Y&H institution as a partner total 299 (7.6% of the UK total). The University of York and Sheffield Hallam University were national award winners in 2005. Current Knowledge Transfer Partnerships number 70 (6.6% of the UK total).

2.49 During 2005/06 there were 132 business start-ups by graduates arising from formal graduate entrepreneurship programmes in the region (HE-BCI Survey 2007). This is the 4th highest total in England although it is equivalent to 1% of the region's annual VAT registrations. The known number of active firms in the region from such programmes is 269 and their estimated employment (FTE) is 479, the 2nd highest total in England. Most regions' active graduate start-up firms still employ less than 2 people. The estimated annual turnover of active firms from graduate entrepreneurship programmes averages £18,200 in Y&H.

2.50 'Spin-off' firms with some HE ownership established in 2005/06 in the region numbered 14, the 5th highest number in England. The known active firms from spin-off activity in the region totalled 106 (3rd highest in England). Employee numbers, at 441 (FTE) are the 6th highest in England. The estimated annual turnover of active spinout firms was £17.6m (8th in England), equivalent to £166,000 per firm.

2.51 In the HE-BCI Survey, institutions indicate the sectors with which they work. Results for 2005/06 are shown in the following graph.



2.52 This pattern is broadly similar to that for all English HEIs, the main differences being a higher regional representation in hotels and restaurants and in financial activities and a lower regional representation in the education sector.

2.53 The Yorkshire Forward/CBI Survey of Regional Economic Trends (May 2007) showed that 10% of the region's surveyed businesses have R&D links to universities (not necessarily to those within the region). This is the highest proportion since the survey began. The industrial sectors with the highest proportion of R&D links are primary, manufacturing and financial and business services. Only 1% of construction firms have such links. These links are strongly correlated with business (employee numbers) size; 33% of medium to large firms, 17% of small firms and 7% of micro firms. The Humber sub-region's firms, at 6%, are least likely to have R&D links to Universities.

2.54 Y&H HEIs consider their 3 greatest contributions to economic development in the region are, in the following order:

- Research Collaboration with Industry
- Access to Education
- Technology Transfer

Graduate Retention

- 2.55 Y&H is a 'net importer' of HE students. Being able to retain as much as possible of this knowledge and talent within the region's economy represents a knowledge economy impact. The main features of the regional 'balance of trade' in HE students are covered in section 6 on skills.
- 2.56 Through Graduates Yorkshire, a graduate retention project managed by Yorkshire Universities, supported by Yorkshire Forward and operated largely through the HEIs' Careers Services, a web-based service to businesses has enabled over 5,000 employer organisations to fill more than 16,000 jobs with graduate employees.
- 2.57 Latest evidence shows that 27% of young full-time first degree students in the region in 2005/06 come from Y&H. Results from the Destination of Leavers from HEIs Longitudinal Survey (HESA 2007) of leavers from 2002/03 indicate that:
- Of UK domiciled leavers in employment in 2006 who had originally lived in Y&H, 73% worked in the region.
 - Of UK domiciled leavers in employment in 2006 who had studied at a Y&H HEI, the following proportions, by level of qualification, worked in the region:
 - ▶ Postgraduate 61%
 - ▶ First degree 39%
 - ▶ Other undergraduate 64%
- 2.58 The Graduates Yorkshire '3 Years On' survey (2007) shows that, for all surveyed graduates in employment in 2007 (whether or not employed in the region), over a third are in the education and health sectors and a further 7 % are in public administration, a pattern largely unchanged from 2004. Property, business and professional services accounted for 21% of respondents. First destinations of employed first degree graduates (whether or not employed in the region) are shown in the following graph and are not dissimilar to those from the 3 Years On survey.

-
- 2.62 Several initiatives and programmes like the White Rose Consortium, CICs, Knowledge RICH, Science City York and others represent immensely important avenues for technology and knowledge transfer between the HE sector and businesses. The imperfect indicators on business innovation in Y&H suggest the region under-invests in this particular driver of productivity. There is, therefore, a strong strategic rationale for stimulating great use of HE intellectual, scientific and technology assets through measures like these. Latest survey estimates indicate a rising trend amongst businesses in the region with R&D links to Universities, now at 10% and the highest to date.
- 2.63 The Universities and University Colleges, individually and collectively, have developed an extensive portfolio of services and facilities to stimulate enterprise formation and growth in the region. This includes applied business support services, science parks, incubation and incubator facilities and a key role in the Advanced Manufacturing Park in Rotherham.
- 2.64 These are complemented by a wide range of HE activities to stimulate an enterprise culture in the region, including amongst graduates.
- 2.65 Formally recorded business start-ups by graduates and University 'spin-off' companies are modest in number but probably under-represent the actual total given the range and scale of activity and of facilities.
- 2.66 The economic significance of the skills and knowledge acquired by the HE sector's students is covered separately. Y&H is a net importer of HE students. Latest evidence indicates that, of graduates in employment who had originally lived in Y&H, 73% work in Y&H 3½ years after leaving HE. For graduates in employment who had originally studied in Y&H, 39% of those with a first degree work in Y&H 3½ years after leaving HE (61% for post graduates and 64% for other undergraduates).

3. IMPACTS: HEALTH AND WELLBEING

Scope

- 3.1 As an area of potential impacts, health and wellbeing is very broad and can be achieved through the other types of impact in this review as well as directly by the HE sector's role in health and in social welfare.
- 3.2 The main features covered in this section include:
- Health Education and Training
 - Specialist and Direct Contributions
 - HE and Health Sector's Collaboration

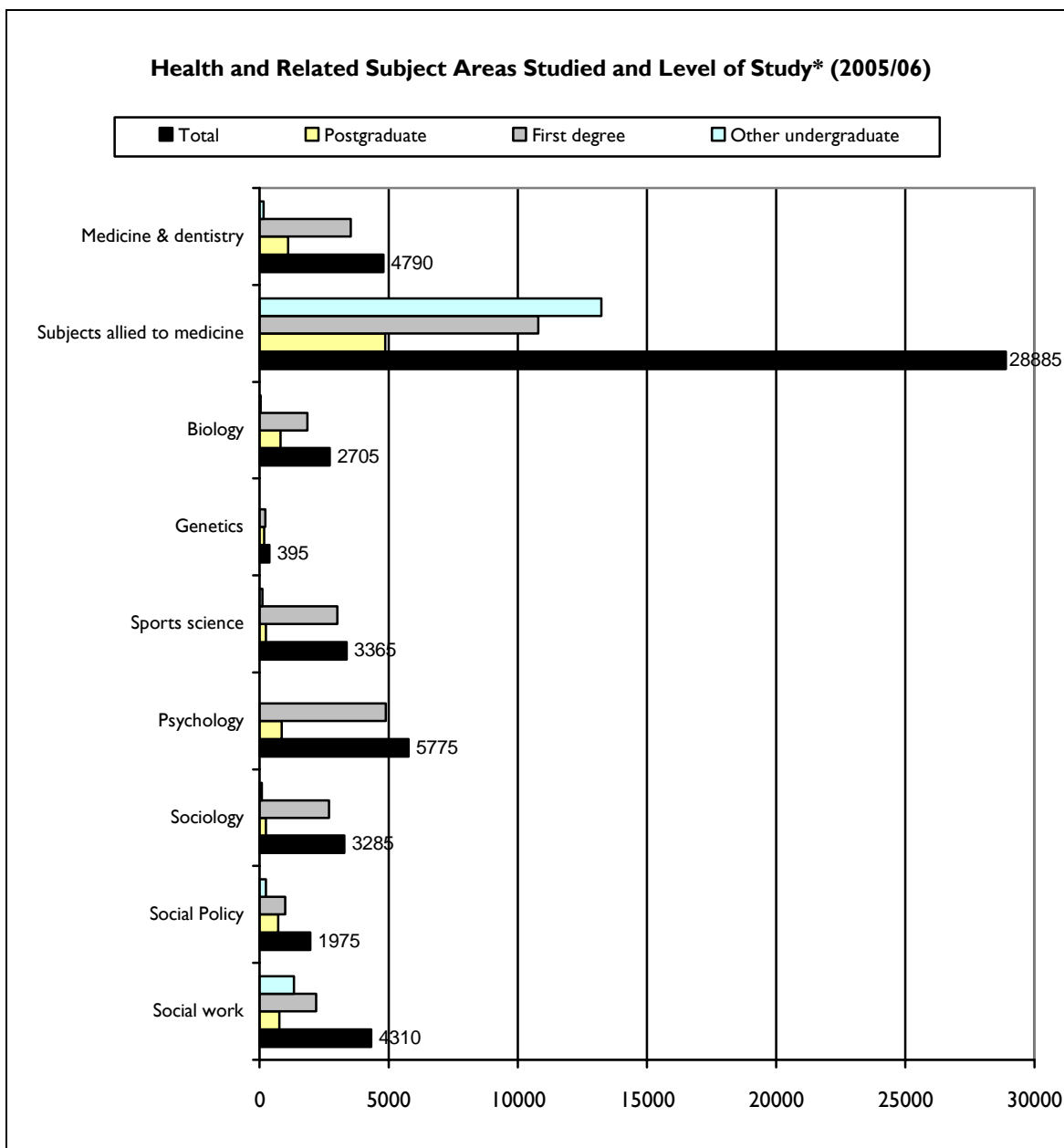
There is a wider and indirect impact from HE on health and wellbeing which shows up through the sector's contribution to society and community and to culture and sport – this is covered in those sections. We have, however, incorporated into this section some specific detail relating to health and wellbeing in the economy and to skills.

- 3.3 From a region-wide perspective, Y&H's population experiences poorer health than the England average. A generic indicator from the Indices of Deprivation 2004 is the health domain where 29.3% of the region's population are in the top deprivation quintile nationally. This is approximately 1.5m people and the proportion is the third highest amongst the English regions.
- 3.4 Progress in the Region 2007 from Yorkshire Futures includes other indicators covering participation in sport or active recreation, life expectancy, causes of premature mortality, obesity, smoking and alcohol consumption. These bear out the health deprivation domain and show some of the specific instances of health problems.
- 3.5 Regional conditions are comprised of significant disparities in health by geography. As a generalisation, urban and industrialised areas portray poorer health than suburban and rural areas. As we show below, individual HEIs have not only developed specific knowledge and expertise in health and medicine, but have also developed particular activities and services that are relevant to their local circumstances.

Health and Related Education and Training

- 3.6 The volumes of students developing knowledge in the region's HEIs in disciplines applicable to health and wellbeing are shown in the following graph and then discussed further.
- 3.7 The most obvious way in which the HE sector contributes to health in the region is through providing education in medicine and dentistry and in subjects allied to medicine. We also show some of the other education contributions not within these subject areas.
- 3.8 Several other areas of study with significant study numbers are also of direct relevance for health and wellbeing. Examples are:
- within biological studies – biology, genetics, sports science and psychology;
 - within social studies – sociology, social policy and social work.

These are broadly distributed amongst the HEIs. Other disciplines studied will also be applied through the health sector including business and administration studies, engineering and technology and, within historical and philosophical studies, theology and religious studies. This last subject is taught at the Universities of Leeds, York St John (Centre for Sports and Spirituality), Sheffield and Hull (which has a Centre for Spirituality) and at Trinity and All Saints College.



- 3.9 In 2005/06, the region had 4,790 students reading medicine and dentistry, equivalent to 9.4% of the England total. Of this total, 23% were postgraduate students and most were studying part-time at the University of Leeds. Almost all of the other students were reading their first full degree and on a full-time basis; a small minority (3%) were full-time other undergraduates.
- 3.10 In subjects allied to medicine there were 28,885 students in the region (10.9% of England total). Postgraduates comprised 16.8% of the total and were most numerous in Sheffield Hallam University, part-time study and in nursing. The University of Bradford has significant numbers in pharmacology, toxicology and pharmacy. The balance of undergraduate students is slightly weighted towards other levels of study compared to first degree and, by the 2 levels of study, most first degree students study full-time and most studying at other levels do so part-time. Nursing is the dominant subject, followed by anatomy, physiology and pathology. The University of Bradford is (again) the main regional centre for pharmacology studies. There are also large numbers of students within the 'other' category which includes non-professionally qualifying courses like health and community, sport and health etc.

- 3.11 This curricular breadth of coverage by discipline level, mode of study, specialisms, inter-disciplinarity and learning progression pathways represents provision which, as the University of Hull comments, would not be offered were it not for HE provision. As we saw in section 2, by no means all of the HE sector output in terms of graduates will be absorbed by the health and wellbeing sector in the region. Some indicators we have do, however, suggest a strong regional connection between learning and employment in the sector; not least due to the relationships developed within the region and covered later.
- 3.12 The Regional Econometric Model indicates that 4.4% of the region's jobs (FTE) are within the health professionals and associate professionals occupations and a further 5.5% are in caring personal services. These 3 occupations are the ones with the fastest growth projections. The Graduates Yorkshire '3 Years On' survey in 2007 found that 17% of those surveyed in employment worked in health and a further 6% in community and social work. By discipline, 13% of those surveyed had studied medicine or allied subjects and their employment rates are amongst the highest of all disciplines. Furthermore, with 45% of all regional students reading medicine and allied subjects doing so on a part-time basis who, it may be assumed, are also working in the sector, this is a further indication of a good regional learning and labour market match.

Specialist and Direct Contributions

- 3.13 A consequence of this provision and regional relevance to the health and wellbeing sector of HE is an additional contribution to workforce development, including through continuing professional development (CPD) which is provided by all HEIs.
- 3.14 Some further examples directly relevant to practitioner training include:

Institution	Activity
University of Bradford	<ul style="list-style-type: none"> Pharmaceutical Innovation Centre of Industrial Collaboration provides training as well as its delivery focus on drug development The Analytical Centre, Institute of Cancer Therapeutics and School of Life Sciences provide project delivery services Born in Bradford is a cohort study tracking 10,000 babies and their health Partner in regional CETL working on Assessment and Learning in Practice settings The Centre for Inclusion and Diversity is a resource for (amongst others) clinicians Positive Images promotes health careers to young people
University of Huddersfield	<ul style="list-style-type: none"> The Penfield Virtual Hospital promotes problem-based and contextual learning The Podiatry Clinic is the only HEI facility in the North Part of the region CETL (see Bradford)
University of Hull	<ul style="list-style-type: none"> Hull York Medical School provision is based on primary care practice and participates in the regional Aimhigher healthcare strand, with York St John University Centres include Postgraduate Medical Institute, Institute of Woundcare, Centre for MRI, Institute of Rehabilitation, Diabetes Centre, Clinical Biosciences Institute and Food, Health and Education Research Group
Leeds Metropolitan University	<ul style="list-style-type: none"> Health Faculty CPD is at the forefront of Long Term Conditions practice Partner in CETL (see Bradford) Centres for Health Promotion and Research, Men's Health, Eating Food and Health Self-care project for NHS
University of Leeds	<ul style="list-style-type: none"> The School of Healthcare Studies developed 10 years ago and still runs the Certificate in HE in Nursing/Enrolled Nurse Conversion Programme Over 30 specialist areas within Faculty of Medicine and Health and, with Leeds Teaching Hospitals NHS Trust, aims to develop a Clinical Academic Centre Partner in CETL (see Bradford)

Sheffield Hallam University	<ul style="list-style-type: none"> • Foundation Health Degree in Health Informatics for Capex Health, a Barnsley company servicing the NHS (with Dearne Valley College and Leeds Teaching Hospital) • Specialist provision including Community Matron Programme, specialist registrars, cardiovascular medicine, sport and exercise science • Lifestyle management software development – nutrition and physical activity
Sheffield University	<ul style="list-style-type: none"> • Pioneer nationally of outreach training in Dentistry • Emerging Public Sector Academy – for management, development and leadership • Hosts a Public Health Observatory (and runs a Masters in Public Health with strong national and international recruitment)
Trinity & All Saints College	<ul style="list-style-type: none"> • With Global Energy Solutions, TASC is providing training of BME middle managers in the NHS in leadership mentoring and coaching • An Institute of Wellbeing is being established with Craven College
York St John University	<ul style="list-style-type: none"> • Provides Management of Spasticity and M level stroke programmes • Weekly structured open learning for therapists through ‘Therapy Weekly’ journal • Learning from Listening multimedia project with York Hospital Trust • NHS workforce development evaluation (for LSC) • Virtual learning community, with Yorkshire Caring Homes, on telecare-based services for older people • Partner in CETL (see Bradford)
University of York	<ul style="list-style-type: none"> • Hull York Medical School (see Hull) • Training and organisational support to the national Improving Access to Psychological Therapies’ project at Doncaster demonstration site • Clinical Simulation Unit used by trainee nurses, medical students and NHS organisations • Hosts Y&H Public Health Observatory • York Trials Group • Epidemiology and genetics unit works with information and diagnostic services • Neuro-imaging Centre clinical resource and research • Centre for Usable Home Technology demonstration house • Interdisciplinary Centre for Child Development and Wellbeing

3.15 These examples illustrate a range of activities from HEIs developed with practitioners in public and private sectors to enable better services provision. There is a large cross-over from the HEIs’ specialist knowledge and from pure and applied research and development which enables these education and training contributions to be at the forefront of practice.

3.16 There are several further dimensions to the HE sector contribution, not least of which is in the field of innovation. Section 2 on the Economy provides an overview. Here we highlight some health and wellbeing applications.

3.17 The White Rose Health Innovation Partnership, supported by the Higher Education Innovation Fund, applies ‘open innovation’ approaches to collaboration amongst academics, clinicians and industry and areas of national clinical need. Its focus is on:

- Cardiovascular
- Woundcare
- Orthopaedics
- Dentistry
- Assistance Technologies
- Neuroscience

The significance of the White Rose Research Triangle was a factor in the inward investment of Entra Health Systems who specialise in diabetes monitoring for young people.

- 3.18 The West Yorkshire Proof of Concept Fund (see section 2) has supported Renal Freedom to develop a mobile kidney dialysis device. Examples of recent spinout companies are in the fields of molecular detection, embryology, tissue repair, bio-materials and dermatology. The Bradford Bioscience Incubator has attracted knowledge-based companies in proprietary hydro gels, dermatology and prosthetic devices.
- 3.19 Collaborative research with DePuy involves the Leeds Tissue Engineering CIC and funds 20 PhD studentships, one product from which has achieved \$100m sales in 4 years, and the Huddersfield Precision Technologies CIC on limb replacement products. The Leeds Particles CIC has assisted pharmaceutical and rheology specialist companies with properties measurement. The UK Clinical Research Network is coordinated from the University of Leeds. CellTran Ltd is a University of Sheffield spinout company whose new product for the treatment of burns has been commercialised with the aid of a Wellcome Trust Translation Award. The Skin Research Centre (University of Leeds) is at the development forefront of 'Living Skin Equivalents' and works with major regional pharmaceutical companies and the Clinical Dermatology Department at Leeds General Infirmary. The spinout company VERTual Ltd from the University of Huddersfield is providing a virtual environment for the training of radiographers.
- 3.20 Under the Yorkshire CONCEPT Fund (see section 2), scientists at the University of Hull have developed a naso-gastric feeding tube which overcomes incorrect insertion problems. Huddersfield Microbiology Services have collaborative research with AGA Healthcare, grant aided by Yorkshire Forward, and with Gamma Healthcare developing biocidal products to fight *Clostridium difficile* and MRSA.
- 3.21 Contributions to health and wellbeing from HE knowledge are not restricted to health technologies and clinical practices developments. Tesco wishing to help suppliers remove trans-fatty acids, which are linked to heart disease, from food products has been met through the involvement of the Food Chain CIC.
- 3.22 Amongst the direct delivery contributions to health are some clear cut examples:
- University of Huddersfield Podiatry Clinic has 9,000-10,000 patient contacts per year.
 - The Leeds Dental Institute provides routine dental care and acts as a referral centre for specialist treatment.
 - The Carnegie Weight Management Programme (Leeds Metropolitan University) runs programmes and campaigns targeted at young people.
 - York St John University is involved in running the York Hospitals NHS Trust cardiac rehabilitation service.
 - The Hull York Medical School uses the 'Gary' project materials from the Durham University (where Gary is a virtual patient) in a pilot with a college and schools in North Lincolnshire to develop students' interest in science.
 - The University of Hull's Postgraduate Medical Institute and the local Acute Trust host 2 oncology health centres with drop-in services for patients.
 - Leeds College of Music delivers a music making course for adult and community learning students with mental health issues.

Several more of the examples related to training itemized above have a delivery dimension as do some of the specialist units providing testing and analytical services. Clinical academic appointments, joint with the NHS and a specific HEI, provide clinical care in the NHS.

- 3.23 In addition to the technical and scientific research and innovation, most HEIs are actively involved in social policy research and evaluation and in action research. This is profiled more fully in section 4 (society and community).

- 3.24 Two quite different examples, both from the University of Leeds, show the potential breadth of the HE sector's contribution. With the Cabinet Office Emergency Planning College (based in Easingwold), the Business School has developed a range of qualifications in civil protection, risk management, business continuity and emergency planning, critically important areas for welfare and public health. The Medical School, as part of its 175th anniversary, has been running a well-attended programme of events 'You and Your Body'.
- 3.25 Complementary and alternative medicine is incorporated into the curriculum in most (9) HEIs as degree modules or short courses. Leeds University has a Chair in Complementary Medicine. Several universities have research activities in the field.

HE and Health Sectors' Collaboration

- 3.26 It is inescapable, from the above account, that the degree of collaboration with the region's health sector (as well as with industries supplying the sector) is extensive and intensive. The HE-BCI Survey (2005/06) has 2 specifically relevant questions on this.
- 3.27 First, HEIs were asked to confirm with which (Standard Industrial Classification) industries they work. Of the 11 regional institutions (including Leeds College of Music and not including the Open University), 10 responded positively in relation to health and social work. The only other sectors with a comparable response were education, finance, manufacturing and other services. Second, HEIs were asked about the ultimate impact of their 'third stream' activities in the public sector, ranked from 1 (highest) to 5 (lowest), where the public sector was sub-divided and 'NHS and Health Authorities' was one category. The responses in this category were:
- 6 HEIs responded 1
 - 2 HEIs responded 2
 - 2 HEIs responded 3

The responses for this category were much higher than for the other categories, including for education.

- 3.28 The region's HEIs are well represented in a range of forums and authorities including on NHS Trusts, Boards and other organisational arrangements, eg workforce development confederations and public health networks. Several universities are represented on national councils (eg Health Professional Council, Nursing and Midwifery Council). They are also active members of Local Strategic Partnerships where the community health and wellbeing dimensions are joined up across multi-disciplinary and multi-agency responsibilities.

Conclusions Relating to Health and Wellbeing Impact

- 3.29 Impacts on health and wellbeing of society have proven to be immensely difficult to achieve, despite 60 years of the NHS and Welfare State, so it is inappropriate to attribute the comparatively poorer health of the Y&H population on the lack of or insufficient impact from the HE sector. The health and wellbeing needs of the region's population and health services do, however, represent a set of challenges to which the HE response is an important contribution.
- 3.30 The education and training of entrants to and current participants in the health sector is the most directly quantifiable contribution of the region's HE sector. By subject of study, the proportions of students (FTE) in Y&H are comparable with the England average with a slightly greater regional participation in subjects allied to medicine.
- 3.31 Available labour market information (including on outlooks) and evidence of graduate retention point to a close connection between the health and wellbeing learning provision in the region's HEIs and the need for qualified personnel. This reflects the close relationships between the region's HEIs and the health and wellbeing sector.

- 3.32 The provision of the HE sector to CPD of employees in the sector is widespread. There is a very wide portfolio of further facilities and services from health and wellbeing faculties, related centres and institutions, often at the forefront of clinical practice, helping to develop the knowledge and skills of the employed workforce.
- 3.33 The HE sector is actively involved in pure and applied research and in innovation and technology transfer in the health and wellbeing sector. The services of several CICs are applicable across health and wellbeing and are being used by both major companies and small specialist ones in developing new products and services for the sector and whose applications will have potential beyond the region. There is also a lot of applied social policy research undertaken by the Universities and which is covered in section 4.
- 3.34 Several Universities are involved in direct delivery of health and wellbeing services, often in partnership with NHS Trusts. This frequently includes clinical academic appointments. The forms of delivery are very broad, extending to public awareness, encouraging participation in science education, emergency planning and music for people with mental health issues.
- 3.35 Most (9) HEIs incorporate complementary and alternative medicine in their curriculum and several conduct research in this field.
- 3.36 Collaboration between HE and the health and wellbeing sector is deeply embedded, in practice and at senior levels of governance. The HE-BCI Survey confirms the intensity and the beneficial impacts of this collaboration.

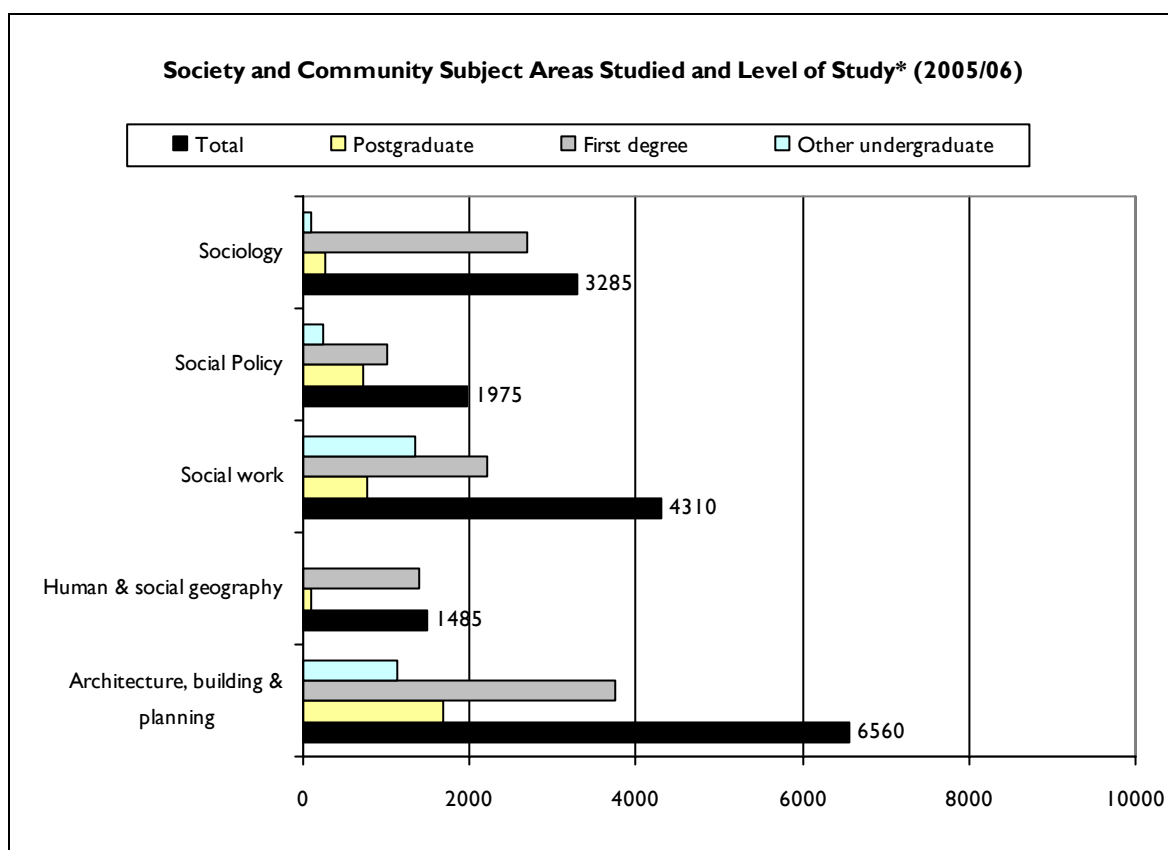
4. IMPACTS: SOCIETY AND COMMUNITY

Scope

- 4.1 Ultimately, all of the forms of impact reviewed in this document show up in society and communities because of the HE sector's existence as economic institutions, their services to individuals, businesses and to the public and third sectors. In the sense of society as a pluralist collective and of communities being ones of place and of interest, the forms of impacts profiled here are distinct in that they go beyond individuals and are, invariably, deliberately sought impacts.
- 4.2 To avoid too much repetition, we have organised the portrait of activities and impacts relating to society and community to exclude those more attributable to economic, health and wellbeing, culture and sport and to skills although readers will recognise the interactions here.
- 4.3 As a field of policy interest, this theme embraces terms like sustainable communities, wellbeing, social capital, quality of life, all of which are subject to the complexities of influences and causes, of implicit underlying values leading to definitions and, therefore, of methodological issues over their measurement. 'Progress in the Region' (Yorkshire Futures 2006) presents baskets of indicators on this theme, one of significance being the Index of Multiple Deprivation where, as with the health deprivation domain (see section 3), the region is the third most deprived in England. In population terms 1.5m people (29.6%) in the region are in the national most deprived quintile. This ranges, by district, from 0% in Ryedale to 58.2% in Hull. By contrast, 67% of the region's surveyed households wholly enjoy living in their neighbourhood and 90% like their local neighbourhood to some extent. Contexts for HE impacts therefore possess considerable variety.
- 4.4 This section covers the following fields:
- relevant subjects of study, mostly social sciences, but not solely so;
 - students' community action;
 - staff community action;
 - roles in places, place-making and regeneration;
 - strategic involvement, knowledge and policy development.

Society and Community Education and Training

- 4.5 The HE sector is highly relevant to this theme through the contribution of education and development of knowledge amongst its students. Relevant subject areas, modes and levels of study are shown in the following chart (overleaf).
- 4.6 There will, of course, be other disciplines with applications in social and community development, but these are the main ones. The social sciences subjects are provided across the range of HEIs and are, mostly, at first degree level. The architecture, building and planning courses are provided to the largest numbers of students by Leeds Metropolitan University and the 2 Sheffield Universities, and there is a wider spread by level of study.
- 4.7 Social sciences graduates and postgraduates will apply their knowledge across a range of fields and sectors (by industry and by public/private and third sectors), the main one being within Local Government which is included within the public administration category that represents 6.9% of the region's jobs. The Regional Econometric Model projects a fall in employment in this sector of -5.7%.



4.8 The built environment graduates and postgraduates form part of the professions working within the field of sustainable communities (now termed as 'place-making') where employment demand has been strong, especially in the private sector. This is resulting in recruitment and retention problems in the public sector and in, for example, social housing. The national Academy of Sustainable Communities (based in Leeds) has identified major skills gaps emerging over the next 5 years ('Mind the Skills Gap: A Review of Skills We Need for Sustainable Communities' 2007). With Sheffield Hallam University, the Academy has developed the UK's first foundation degree in sustainable communities. Graduates in the social science discipline of human and social geography include a proportion who proceed to postgraduate study in, eg planning, regeneration and related fields. Relatedly, the growing role of third sector bodies in regeneration and renewal introduces new needs in this sector for skills and development which the Community Regeneration/Development Foundation Degree at Northern College, in partnership with the University of Bradford, is aimed to meet.

4.9 The Graduates Yorkshire '3 Years On' 2007 survey showed employment rates for built environment graduates at 94%, second only to law and, for social sciences graduates, at 84%.

Students' Community Action

4.10 Students may be active in many different ways in their communities without this occurring through the auspices of the institution at which they study. The region's HEIs can, however, identify activity organised through Students Unions as well as through the institution (often through faculties/departments where the action represents experiential learning for the students as well). These occur mainly in the fields of:

- Children and Young People
- Health
- Sport
- Prisons

Other events and activities cast the net a lot wider, not least Rag Weeks.

- 4.11 Most organised student activity is through a volunteering body in each HEIs' Student Union. Examples include UCAN (Bradford), Hands On (Huddersfield), CALM (Leeds Metropolitan University and Student Action (York). One of the first is in Hull.

HUSSO is the Hull University Social Services Organisation, the in-house charity of the Student Union, established in 1961 and registered as a charity in 1964. It has 300 volunteers working in over 20 projects. In 2002, HUSSO and the University of Hull established the Community Volunteering Project whose 2005 Volunteering Fair enlisted 300 students to work with local charities, 180 of whom give their time once a week or more.

- 4.12 Contributions to children and young people by students are mostly in the field of learning, both in schools and out of school. A selection of examples illustrates widespread practice:
- Acting Together is a theatre in education company run by the University of Sheffield and whose members are all student volunteers creating and providing educational programmes for school children in the city.
 - York Students in Schools is a project at the University of York through which 500 students per year volunteer as classroom assistants and mentors.
 - The York St John University Primary Literacy Project sees students supporting pupils in Key Stage 2 literacy attainment.
 - Crafting a Community is a course-specific Huddersfield project with textiles students volunteering in galleries, museums and schools.
 - Leeds College of Music students can take part in a Community Music Programme involving a Saturday Music School, mentoring and work in schools.
 - Language support by students in communities and in schools is widespread, provided for refugees, asylum seekers, migrant worker families and communities at large.
- 4.13 There is a strong emphasis in this activity on children with special needs and experiencing family or other domestic difficulties.
- 4.14 In the health field, additional to the coverage provided in section 3 on health and wellbeing impacts, student activities in Bradford, for example, relate to smoke-free homes and to working with people with epilepsy, their families and carers.
- 4.15 Amongst the University of Leeds volunteering programmes which involve some 1,200 students per year and where the Millennium Volunteers Programme is supported, one medical student contributed 350 hours (over 16 hours per week) to 6 programmes including widening access to medicine and a sex education initiative.
- 4.16 Contributions of students via sports activities tend to draw upon university sports and recreation facilities which, like those at the University of Sheffield, are to professional standards. Sheffield's annual sports day provides coaching for inner city school pupils aged 8-10 at the Goodwin Sports Centre. The University of York's community fund supports a coaching programme. Leeds Metropolitan University's Great Student Run is organised by student volunteers. Sheffield Hallam's impacts are rather different in that the University generally rents or hires space and facilities from local community provision, thereby supporting sustainability. More on the HE impacts relating to sport is shown in section 5.
- 4.17 The region has several large penal establishments, including in Hull and the East Riding where HUSSO contributes to prisons and prisoners through sport and fitness, the Hull Prison crèche and with learning support ranging from life skills to degree level study.

- 4.18 Accreditation of these types of student contribution is fairly universal, usually through an institution award, eg the Hallam Award and/or the National Millennium Volunteers Award. At the Leeds College of Music, accreditation is built into degree programmes through, for example, a level 3 Community Music Project.

Staff Community Action

- 4.19 In several institutions, staff get involved in community and social volunteering through formal arrangements agreed by the University and the Students Union. Most organised staff contributions are coordinated through a HEI service or in partnership with, eg Business in the Community. The University of Bradford is noteworthy for its Centre for Community Engagement, established with HEIF2 support, and which has been particularly active in BME communities and in anti-racist training. In a few other instances, staff volunteering occurs out of personal interests. Staff in Hull's Centre for Lifelong Learning have mentored the Children's University in the city.
- 4.20 Some of this voluntary activity is now and increasingly incorporated in HEIs' strategic missions and corporate plans, with provision for staff time devoted to this, formalised into policies and procedures so that there is a systematic institutional approach.

Roles in Regeneration and Place-making

- 4.21 There are notable impacts from the presence of HEIs and their students in their communities, not all of which are wholly and always beneficial. It is usually the case that university campuses and facilities are significant features within an urban structure and appear to comprise 'blocked off' spaces to communities. There are safety and security issues to take into account in estate management.
- 4.22 Most institutions encourage public and community access and use of facilities. The University of Leeds is producing an 'Evening Campus' strategy and the University of York has a Community Forum through which the planning for the campus extension can be discussed. At Bradford, the University has an Ecoversity Programme for a sustainable campus as part of the city's regeneration. York St John University has a large estate of listed buildings that have undergone extensive refurbishment and most Universities have large, often striking, capital projects recently completed or underway.
- 4.23 This presence and use adds life and vitality to towns and cities. Barnsley, for example, recognises the significant urban renaissance contribution from its University Centre established by the University of Huddersfield. The same can be said for the Scarborough campus of the University of Hull. Several Universities have partnership arrangements with institutions in other towns where, otherwise, there would be no HE presence. Some of the less positive effects, however, derive from parking in residential streets, impacts on housing and property markets from HEIs' needs for space and accommodation, and concentrations of students in residential areas.
- 4.24 This last feature has impacts on neighbourhoods in terms of amenity as well as on local businesses whose peak volume of trade coincides with term times and can fall noticeably during vacation periods, sometimes to a point where the business closes and year-round residents lose a local service. In Sheffield, Leeds and Hull the Universities have been working with local planning authorities, communities, staff and students on mitigation measures. York St John Students' Union initiated the award-winning SSHH campaign (Silent Students = Happy Homes) to promote good neighbourly relations.

- 4.25 The Hull situation is illustrative because of comparatively low house price values (the city is a Housing Market Renewal Pathfinder) making non-university accommodation very affordable which then has a knock-on effect on demand for university-owned student accommodation. Hull has also experienced the departure of much of the presence of what is now the University of Lincoln. Some of the surplus estate has been acquired by the University of Hull and some sold for redevelopment.
- 4.26 More direct impacts on regeneration from HEIs derive from their formal involvement in programmes, often based on partnership approaches. Apart from directly economic (section 2) or skills (section 6) impacts, there is a strong HE representation in community regeneration initiatives. The University of Leeds has been directly involved in Neighbourhood Renewal in Harehills, with HEIF2 support, to demonstrate the HE role in regenerating deprived communities. The Scarborough Campus has established a Community Economic Development Centre to work with third sector groups. Leeds Metropolitan University's specialisms in sport are applied through over 20 projects with Bradford football and rugby clubs as routes to communities and their regeneration.
- 4.27 Most of the larger Universities have specialist research units contributing to policy development, evaluation and practice. Examples include Policy Research Unit (PRI), Centre for Urban Development and Management (CUDEM), Centre for Regional Economic and Social Research (CRESR), Centre for City and Regional Studies (CCRS). Their work ranges from the local (community cohesion in Beeston), sub/city regional (Hull and Humber Ports Observatory), regional (evaluations of Objective 1 and 2 European Programmes), to national and international. The national evaluation of New Deal for Communities which is led by CRESR at Sheffield Hallam involves 10 HEIs in the country. While the region's research units compete with one another, they collaborate too, as on the European Programmes evaluation.
- 4.28 The Regional Research Observatory, coordinated from the School of Geography at Leeds University, brings together HE and other analysts from across the region and publishes the Regional Journal, through Yorkshire Universities and with support from Yorkshire Futures.
- 4.29 A joint venture partnership between the Planning Schools of Leeds Metropolitan, Sheffield Hallam and Sheffield Universities with the Royal Town Planning Institute (Yorkshire) organises and runs the Yorkshire Conference series, a successful CPD programme.

Strategic Involvement of the HE Sector

- 4.30 A great deal of the governance of social and community development, as well as the other impact themes in this report, occurs at Local Authority District (LAD) level and, to varying degrees, neighbourhoods within Districts. Local Strategic Partnerships provide the multi-sector arena for this work and the HE sector is a frequent partner in these at Board and/or sub-group level, sometimes for more than one LAD. This clearly has resource implications for HEIs. Pro Vice Chancellors and various forms of external relations offices retain overviews and disseminate information within their institutions and networks. Sub and city regional perspectives and their forums seek HE involvement, particularly for expert knowledge although the economic dimensions tend to take precedence. At the regional scale, HEIs are actively involved strategically with Yorkshire Forward, the Regional Assembly and Government Office on social and community development. Their involvement with the health sector is shown in section 3. Yorkshire Universities provides a mechanism through which this involvement is coordinated and disseminated. The implications for the sector of shifting spatial, organisational and functional relationships are explored in section 7.

- 4.31 The rural dimension of social and community wellbeing warrants special mention given the geography of the region and the urban locations of HEIs. York St John University is working with Askham Bryan and Craven Colleges and LANTRA and has set up a Rural Academy. Leeds Metropolitan University is partnering with Bishop Burton College in the East Riding, Bishop Burton having strong land-based and rural traditions in its provision and services. The more urban-based HEIs are, nonetheless, involved in partnerships that reach beyond city confines.
- 4.32 In addition to contributing to strategic decision making in partnership settings, HEIs are performing important roles in developing knowledge in public sector organisations working at community and social wellbeing. Some examples are:
- University of York KTP with Wakefield Metropolitan District Council's Social Services Department.
 - Sheffield University's Public Sector Club (a 6-times yearly dinner club for senior executives) and its development of a Public Services Academy.
 - The York Accord, in which York and York St John Universities are active partners, is similar to the Sheffield initiative and for all of North Yorkshire.
 - Hull's Business School has developed and provided management training (including MBA level) for East Riding of Yorkshire and Hull City Councils and the University has a new cross-disciplinary degree in Children's Interprofessional Studies.
 - York St John University is the training college for North Yorkshire Police; a similar venture with the Ministry of Defence Police Guard Authority is being explored.
 - Trinity and All Saints College has work underway on the 'Every Child Matters' and 'Healthy Living' policy agendas.
- 4.33 An increasingly sensitive national policy issue has become what may neutrally be described as campus cohesion. Widening participation and internationalisation touch on this topic and Ministers have conveyed to HEIs their concerns and expectations. The Regional Churches Commission has worked with the University of Hull for several years to deliver its 'Faith Matters' training course to staff. In 2008, Yorkshire Universities and the Yorkshire and Humber Faiths Forum will host a conference on campus cohesion. The IMPACT project in the region, which operated throughout 2000-05, worked to develop the employability of minority ethnic undergraduates and graduates. Its practices have since become mainstream in HEI Careers Services.
- 4.34 Some of the qualitative evidence from the HE-BCI 2007 Survey indicates a comparatively low but growing priority to social and community impacts from the region's responding HEIs. For instance:
- amongst their top 3 contributions to economic development, one HEI includes support for community development and 2 say developing local partnerships;
 - all 10 work with organisations in the community and social services sector;
 - most (7) rank their 'third stream' impacts under community development at the mid-range (3 in a score of 1-5), 2 rank their impacts as 1 (highest) and one ranks itself at 2;
 - on a scale of 1-5, the level of incentives for staff to engage with business and community is ranked at 4 by 7 HEIs;
 - 8 say their engagement with social, community and cultural partners over the past 12 months has increased;
 - 5 say that regeneration funding helps them facilitate community development.

Conclusions

- 4.35 With much of the knowledge and skills now needed in delivering social and community services, including regeneration and sustainable communities, being at degree level or above, the region's HE sector is a major provider and regional labour market intelligence points to the relevance of this provision.
- 4.36 Contributions by students and staff to voluntary action in communities are increasingly organised, systematic and reaching out to disadvantaged communities, using the knowledge and expertise of the students and staff involved.
- 4.37 Effects of and impacts from HEIs in regeneration and place-making reflect the 'footprint' of campuses in towns and cities and some potentially negative spillovers onto neighbourhoods. Management approaches exploit opportunities and progressively seek out mitigation measures.
- 4.38 Direct regeneration impacts from the HE sector on social and community wellbeing also derive from formal involvement in programmes delivery, often of a developmental nature. The larger Universities' social policy units have national and international credentials as well as valued regional and local applications.
- 4.39 The Regional Research Observatory is an open network for HE and other researchers with its Regional Journal publishing current and accessible papers.
- 4.40 CPD provision is widespread. A unique example in English regions, and relevant to sustainable communities, is the 3 HE Planning Schools' work with the Royal Town Planning Institute (Yorkshire).
- 4.41 HEIs are embedded in strategic partnerships dealing with social and community wellbeing from neighbourhood levels to the regional scale. This involvement has considerable resource implications. HEIs make specialist contributions to knowledge development and capacity in public sector organisations responsible for social and community services.

5. IMPACTS: CULTURE AND SPORT

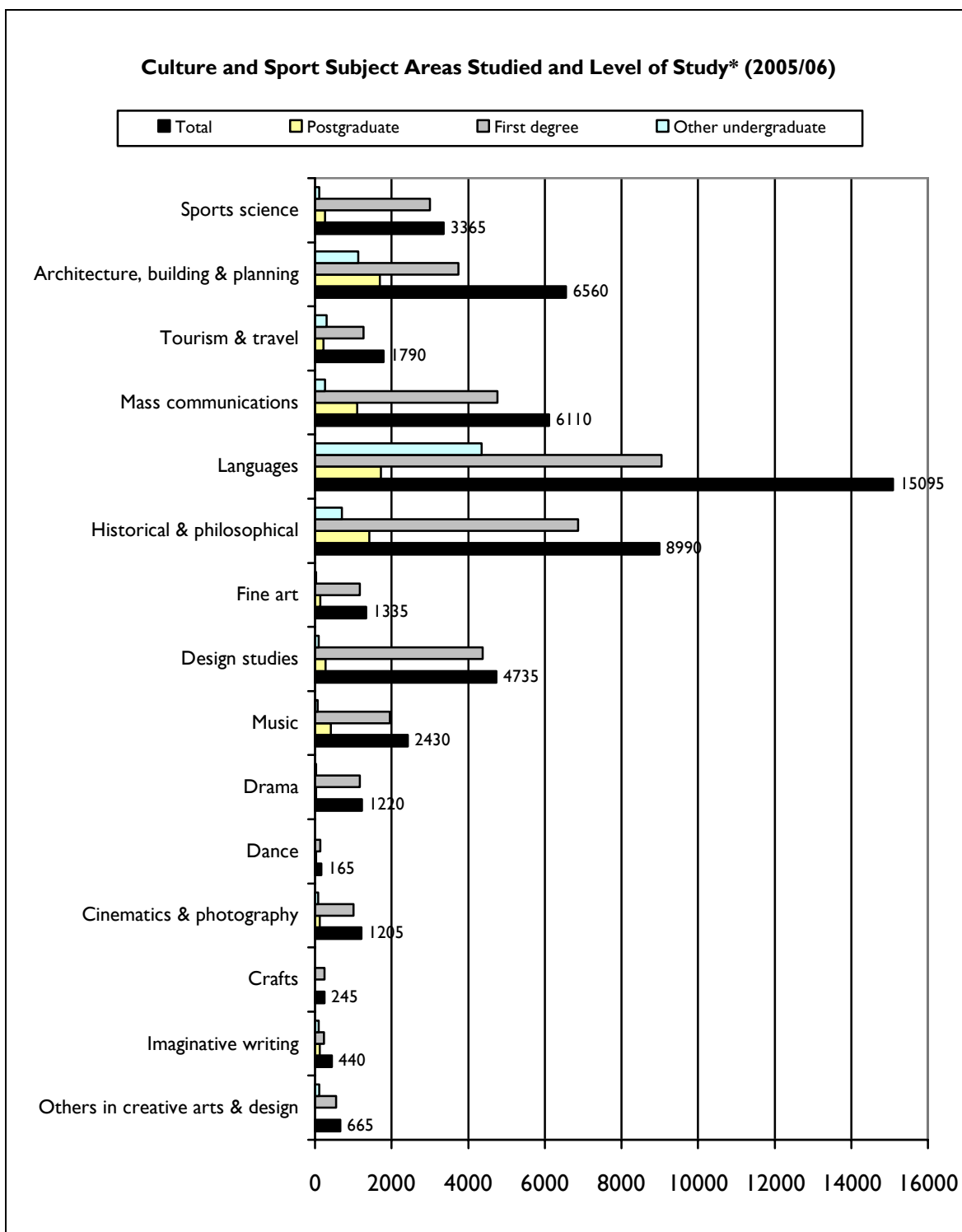
Scope

- 5.1 The Department of Culture, Media and Sport defines culture as that which makes life worth living, a very broad definition which captures a lot of what the HE sector does. Yorkshire Culture, the regional consortium, aligns cultural policy with the region's economy, identifying the following 5 drivers:
- creative economy;
 - health, wellbeing, sports participation and a 2012 legacy;
 - tourism including events and festivals;
 - culture in local identities and regeneration;
 - historic and natural environment.
- 5.2 Boundaries of and motives for cultural and sport development have, therefore, extended from their intrinsic merits to embrace the economy, health, community development and cohesion, image promotion and a lot more besides, a tendency which is termed as the 'instrumentalism' of culture and sport. Clearly cultural and sporting assets are contributors to what makes for a good region but in providing an account of the HE contribution, a selective focus is necessary in this section while placing on record the acknowledged broader interactions with other forms of impact.
- 5.3 'Progress in the Region' (Yorkshire Futures 2006) provides some indicators of what can be an elusive field to pin down. Amongst the assets the region has are:
- an historic environment, built and natural, of immense worth;
 - a diversity of faiths and of their buildings;
 - 163 museums;
 - over 30,000 listed buildings;
 - 32 (regularly funded) arts venues;
 - over 400 libraries (10 in HEIs);
 - over 200 archives (13 in HEIs);
 - some 90 significant festivals annually;
 - 43 cinema sites, 15 screens dedicated to non-mainstream film;
 - hundreds of sports venues.
- One of the Regional Economic Strategy areas of economic significance is the creative and digital industries cluster. Tourism and culture also feature as economically important.
- 5.4 Regional benchmark indicators are not, however, readily available for all of these although household participation in cultural activity is lower than nationally (Y&H 16%; GB 21%) and for leisure time physical activity, 42% of the population are classed as physically inactive.
- 5.5 The HE contribution to culture and sport in the region is portrayed through:
- student numbers studying relevant subjects;
 - HE cultural and sports facilities assets made available for wider use;
 - HE involvement in cultural and sporting activities.

Given the potential breadth in scope of the topic, its coverage and the use of classifications within culture involve some subjectivity.

Culture and Sport Education

5.6 Amongst the subject areas covered here are 2 (sports science; architecture and building) also included previous sections. Within some subject areas there are specific disciplines of relevance (eg tourism, transport and travel features in business and administrative studies). Other subject areas like languages cover many disciplines, most of which will provide a basis for cultural understanding. A subject area like creative arts and design includes disciplines that may be more directly associated with culture and so the student numbers in these are itemised individually.



Source: HESA

* HE students registered (headcount) at HEIs in Y&H

- 5.7 In 2005/06 the region had 54,350 students reading subjects broadly related to culture and sport. Of this total, 28% (15,095) were studying a language with the greatest numbers studying at the University of Leeds and the University of Sheffield. There were 3,255 students studying on a part-time basis at the Leeds Metropolitan University with Spanish, English and Italian studies the most popular courses.
- 5.8 In total there were 8,990 students in the region studying courses related to historical and philosophical studies of which 6,870 were on a full-time basis towards a first degree. The University of Leeds, the University of Sheffield and the University of York all had significant numbers greater than 1,000. York St John University had a significant number (650) studying theology and religious studies on a full-time or part-time basis.
- 5.9 In subjects related to mass communications there were 6,110 students in the region with 78% (4,760) studying towards a first degree. There were 4,735 students in the region reading design studies; the vast majority (93%) studying towards a first degree. The University of Leeds also had relatively significant numbers studying drama, dance and imaginative writing and York St John University with a significant number studying dance and cinematics and photography. One of the underlying themes in urban renaissance, which draws upon architecture and planning skills, is to foster places with an appeal to cultural and creative industries professionals.
- 5.10 The knowledge and qualifications acquired through these studies will be applied, through employment and enterprise, across many sectors of the economy as well as within those that are prime users of specific qualifications. These are classified under other community, social and personal service activities which is an eclectic collection covering, eg libraries, archives and museums as well as dry cleaning and funeral undertaking. Tracing the diffusion of qualified people into sectors is not, therefore, straightforward although the Graduates Yorkshire '3 Years On' survey showed 82% of creative arts and design graduates to be in employment in 2007. They comprised 7% of survey respondents. The proportion of employed graduates (all disciplines) in 3 sectors relating to culture and sport was also 7%, so there is the suggestion that supply and demand are in balance.

HE Cultural and Sporting Assets

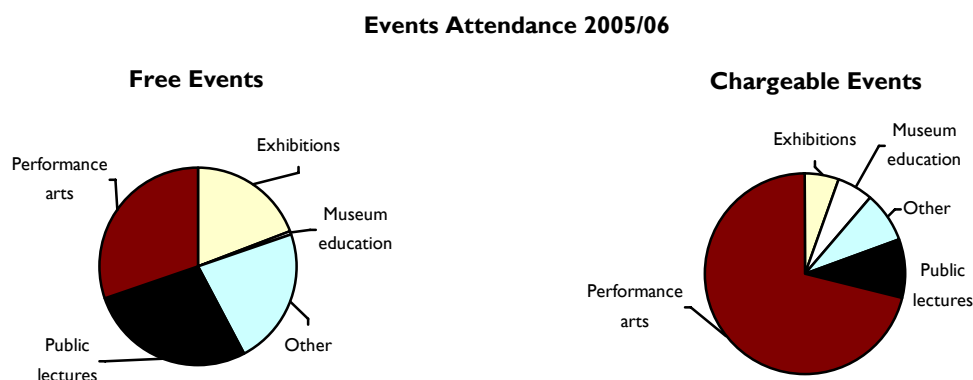
- 5.11 At least 7 HEIs have significant archive resources available to the public. The Borthwick Institute for Archives at York is the largest in the North of England, housed in new purpose-built accommodation. Public access is actively encouraged and close links with the York Minster Archives and City Archives are fostered. This collection spans a time period from the Middle Ages and most subject matters. Prior to the move to the new building, it was used annually by around 5,000 people, 90% being non-academic users. Borthwick also has an outreach programme with schools and local groups.
- 5.12 The JB Priestly Archive is Bradford's best known collection. Hull's Archive includes work by Philip Larkin and John Godber of Hull Truck Theatre. Its Wilberforce Institute of Slavery and Emancipation has been established with support from Yorkshire Forward. At Leeds, the Textile Archive has international significance.
- 5.13 All of the region's HEIs (other than the Open University) have one or more venues for performance (drama, concerts, readings etc). The Leeds Piano competition, which has an international profile, is held at the University's Great Hall for its initial stages. Bradford's Tamsin Little Music Centre and Theatre in the Mill are specialist facilities complemented by much larger multi-purpose facilities on campus. Leeds College of Music operates The Venue; a modern dedicated mid-scale music venue close to the West Yorkshire Playhouse. York St John University also has new facilities including cinema screening and sound recording as part of its Collaborating for Creativity (CETL) project. The extended campus of the University of York is to include a performing arts centre.

- 5.14 There are art galleries and collections at 5 HEIs and several who do not have a purpose-built venue hold regular exhibition series open to the public in various campus locations. Bradford has been developing a University Art Collection since its formation in 1966 and opened a purpose-built gallery in 1994.
- 5.15 The majority of HEIs provides 'walk-in' access by the public to their libraries and some include borrowing rights or fee-based services. The University Library at Sheffield is a founding partner in the South Yorkshire Access to Libraries for Learning scheme; a good practice model cited by the national INSPIRE framework.
- 5.16 Most HEIs have their own sports facilities, both indoor and outdoor and some have wet and dry facilities as well. The University of Leeds has outdoor centres in the Lake District and the Yorkshire Dales. The redevelopment of the Headingley Stadium in Leeds has involved Leeds Metropolitan University as a partner and is now renamed the Headingley Carnegie Stadium from which the Carnegie Faculty of Sport and Education provides coaching.

HEI Involvement in Culture and Sport

- 5.17 This portfolio of cultural and sports resources, including much which is newly built, provides learning, practice and showcase facilities for students as well as assets for use by the public. In most instances their operation is coordinated with other forms of provision, including that of Local Authorities and event organisers. There are several examples of joint venture developments, the Headingley Carnegie Stadium being one and the History Centre in Hull where the University and City Council are combining their archive collections being another.
- 5.18 Across the cultural and performing arts, the region's HEIs and their students are involved in festivals, 2 national ones being the Documentary Film Festival in Sheffield and the Student Drama Festival hosted at the Scarborough Campus. Leeds College of Music runs, every other year, FUSELEEDS and the Leeds Lieder+ festivals as well as a high profile jazz programme.
- 5.19 Also in the music and concerts field, Opera North has joint initiatives with the Universities of Leeds and Hull and with Leeds Metropolitan University. Performances in, for example, the Tasmin Little Music Centre range from symphonies to world music.
- 5.20 Several contributions from HEIs have developmental effects. Leeds Metropolitan University, for example, commissions a considerable amount of work and the Theatre in the Mill encourages fringe and contemporary drama touring groups. The support provided by the Gulbenkian Centre at the University of Hull to the (then) touring drama company, Hull Truck, developed local audiences and helped to root the company in the city. The University Film Society at York was instrumental in growing the market for non-mainstream cinema now met commercially by City Screen in the city centre. The student market in Headingley largely accounts for the continued presence of the Hyde Park Cinema whose programme and role in the Leeds Film Festival are departures from the offerings of multi-screen complexes.
- 5.21 Not all of the region's HEIs are able to collate consistent data on attendances and staff time devoted to cultural events. The HE-BCI Survey (2007) collects data on this nationally and its results too may be incomplete but provide an indication of scale. Comparisons with other regions on certain types of cultural participation are skewed by figures for the South East and East of England, probably reflecting the assets of Oxford and Cambridge Universities.

- 5.22 Attendances at public events hosted by HEIs in the region totalled over 160,000 and about 40% of this total was for chargeable events. As shown below, the free events (apart from museum education) attract attendance in broadly comparable volumes. Performance arts dominate the attendance at chargeable events.



Source: HE-BCI Survey 2007

The academic staff time devoted to these events exceeded 7,000 days; equivalent to over 30 person years and, in full cost employment terms, representing an input of some £1.5m.

- 5.23 Beyond these types of contribution, the region's HEIs are represented on various regional Boards/Councils, eg Yorkshire Culture, Yorkshire Dance, Museums, Libraries and Archives Council Yorkshire as well as on national bodies, eg Sport England, Arts Council, Lifelong Arts Learning Network, English Heritage. In several instances, senior personnel from the region figure amongst European and other international institutes and networks. Much of the policy development in the region on culture and creativity has drawn on contributions from leading academics in the region. Probably as significant is the frequency with which HEI staff contribute to local boards, trusts, societies and clubs active in culture and sport.

Conclusions

- 5.24 By its very nature, HE is a feature in any region's cultural landscape. Beyond that, the sector represents a learning and development arena for what (some would say) is humankind's highest form of endeavour and contribution to society.
- 5.25 Depending how the scope of culture is defined, students reading subjects related to culture and sport exceed 50,000; about a quarter of the region's HE population. Languages represents the major component of this.
- 5.26 The sector's cultural and sporting assets as venues and facilities are of particular significance for their quality, rather than their physical extent, most towns and cities possessing their own cultural and sport resources. Nonetheless, these assets are important for students' learning and are used to open up the HE sector to the wider public as well as the value of cultural and sport participation in its own right.
- 5.27 More significant than the facilities themselves are the ways in which HEIs use their expertise and resources in partnership with other organisations. This includes Local Authorities and event organisers as well as cultural organisations themselves like Opera North.
- 5.28 Available data indicates annual attendances at HE public events exceeding 160,000, roughly equivalent to 3% of the region's population. Actual attendances are probably much greater than this. As household participation in cultural activity in the region is below the national average, the HE contribution assumes greater relative significance. There is an association with culture and sport of talent and creativity, attributes with economic value. Furthermore these are activities in which practice and training are second nature, a feature which ought to be more widespread across other forms of work and economic activity.

6. IMPACTS: SKILLS

Scope

- 6.1 The Government includes skills (human capital) as one of the 5 drivers of productivity and at the higher level (equated with graduate qualifications), the UK has a similar proportion of its workforce to most comparable countries. Globalisation is recognised as increasing the need for higher skills for firms to compete internationally. This is part of the knowledge economy phenomenon which is variously defined by reference to sectors, occupations and graduate level qualifications.
- 6.2 Human capital in economic terms refers to the knowledge, skills and competences of the workforce. Qualifications are a far from adequate proxy for human capital but tend to be used as such in setting policy targets and for benchmarking purposes, and by employers as a quick way of screening applicants for jobs. There is, however, a read across between qualification levels, employment rates and earnings. For example, the regional employment rate for people with a Level 4 qualification or above is 87.4% whereas those with no qualifications have an employment rate of only 46.5%. The earnings premium regionally for those with a Level 4 qualification (compared to those with none) is 24.4% for men and 37.1% for women. That said, these are averages and the differentials within qualifications are wide. Furthermore, the proportion of the working age population with Level 4 qualifications and above in the region (2005) is 22.2% compared to 26.5% for Great Britain.
- 6.3 ‘World Class Skills: Implementing the Leitch Review of Skills in England’ represents the Government’s proposals announced in July 2007 and sets, amongst other targets, the ambition for 40% of all adults to have a HE qualification (Level 4 or above) by 2020. The proposals include a major emphasis on ‘demand-led’ skills (ie employer and individual demand), especially at Level 3 and above. The new Department for Innovation, Universities and Skills signifies this ambition.
- 6.4 The Government expects all HEIs to grow their capacity to engage on a large scale with employers, these activities to share equal status with research and academic activities. A range of initiatives include new funding models, employer co-funded student places, pathfinders and stronger interactions with Sector Skills Councils.
- 6.5 In seeking to reflect these influences and to capture evidence on the skills impacts of the HE sector in the region, an array of data sources is drawn upon although these are not always compatible with one another. Compiling a HE regional labour market and skills account is complex for several reasons:
- FE Colleges provide HE to over 11,000 students.
 - Several HEIs in the region have students registered here but learning elsewhere, while others from elsewhere have students learning here.
 - By no means all students complete their studies.
 - The ‘stock’ of students and graduates, while difficult to pin down is also composed of flows, eg:
 - ▶ those who live and study in the region, and may remain upon graduating or subsequently leave;
 - ▶ those who come from the region, study elsewhere and then return or move somewhere else;
 - ▶ those who come from elsewhere, study here and stay or leave upon graduating;
 - ▶ those who come from elsewhere, study elsewhere and come here upon graduating.

- Evidence on destinations has tended to concentrate on first destinations 6 months after graduating (at first degree level) and tracking thereafter becomes elusive, but practice now is for an Early Survey and a second 'Longitudinal Survey' 3½ years after leaving.

As a consequence, it is hard to say accurately what the HE regional impact on skills may be. This is not least because the region is a significant net importer of students and, consequently, an exporter of graduates and, furthermore, the region's HEIs have an outlook which extends beyond Y&H (as well as an education outlook broader than that of skills).

6.6 In the rest of this section we cover:

- learning patterns by subject;
- elements of a regional HE skills account including destinations;
- contributions to work-based learning, future skills agendas and to raising participation.

This is a broad-based section where the skills dimension has an employment, rather than an enterprise, dimension as enterprise impacts are dealt with in section 2. Some of the specific labour market aspects covered in relation to the previous sections on health and wellbeing, society and community and on culture and sport are not repeated here.

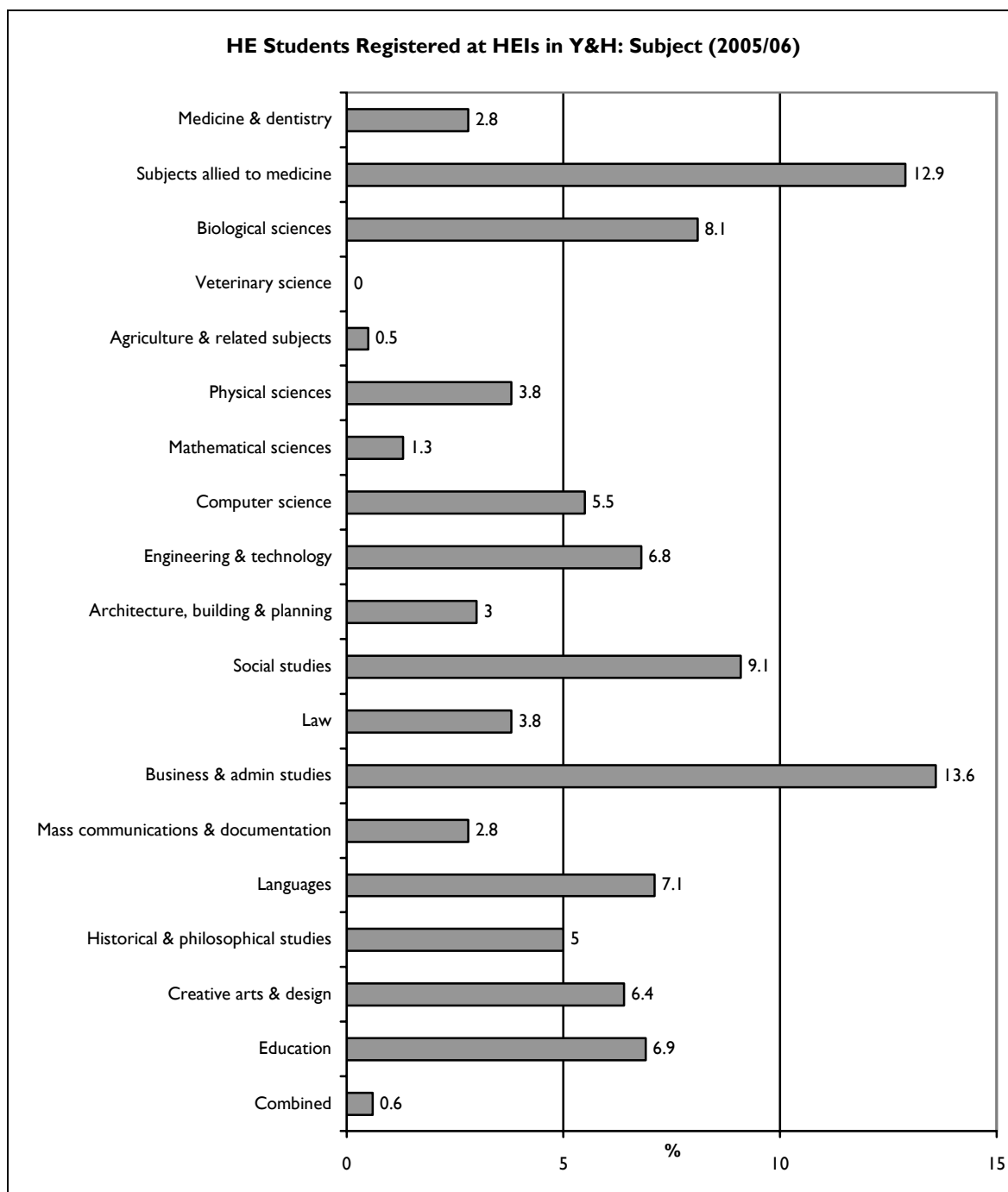
HE Learning

- 6.7 The total HE student population in the region (2005-06) is 206,130, roughly equivalent to 10% of employee jobs in the region. Some 58% of HEI registered students are studying at first degree level. Close to a quarter are studying at postgraduate level and one in 5 of these are undertaking postgraduate research. The balance comprises other undergraduates, foundation degree and HND/HNC students. Non-UK students total some 23,000.
- 6.8 The proportions of students by subjects studied (based on FTEs) are shown in the following graph (overleaf). The pattern is broadly comparable to that for England with slightly higher proportions regionally in:
- subjects allied to medicine;
 - biological sciences;
 - architecture, building and planning;
 - languages;
 - historical and philosophical studies.

Regional representation in law, creative arts and design and education is slightly below the England average.

- 6.9 Students will, of course, choose their subjects to study and the institution based on a much wider range of factors than acquiring particular forms of knowledge and qualifications that lead directly into a degree-related industry or occupation. There are, however, industries and occupations where graduate level qualifications are frequently sought. This is, increasingly, associated with the knowledge-based economy, defined in various ways but usually around knowledge intensity in human capital. It then tends to be measured through knowledge-based industries (within manufacturing and services including public sector services) and knowledge-based workers (degree level and particular occupations).
- 6.10 Y&H, like most British regions, has about 47% of its employment in knowledge-based industries, not all of whom are necessarily knowledge-based workers. In London, the share rises to about 58%. On this basis, the region may have a slightly lesser propensity to absorb the outputs from the region's HEIs.

6.11 The Geoeconomics report for Graduates Yorkshire 'Graduate Economies in Britain: A Local and Regional Analysis (2007)' shows a faster rate of employment growth regionally in knowledge intensive sectors than most other English regions over 1998-05. Like most regions (other than London and the South East), the public sector share of knowledge economy employment is around 60% in Y&H.



6.12 Special mention should be made of the HE contribution in the education subject area since this largely feeds the teaching profession and, ultimately, how everyone in formal education learns and starts to acquire skills. The headcount total is nearly 17,000 students, over half being postgraduates and the majority studying part-time. Sheffield Hallam and Leeds Metropolitan Universities and the Universities of Huddersfield and Hull are significant providers of education subject courses.

6.13 The extent to which this subject based learning can read across into regional labour markets is relevant to an impact contribution although graduate choices are widened by virtue of their qualifications. Shown below are the occupations (FTE) with most relevance to graduate level qualifications, their projected net growth and the estimates for replacement demand.

Occupation Employment Forecasts in Y&H	2006	2010	Net Change 2006-10		Labour Market Churn (Replacement Demand)	Gross Demand
			No's	%		
Corporate Administrators	297,790	305,530	7,740	3%	51,050	58,790
Managers and Proprietors	85,040	86,860	1,820	2%	3,690	5,510
Science/Tech Professionals	59,550	63,030	3,480	6%	21,640	25,120
Health Professionals	30,310	32,380	2,070	7%	6,540	8,610
Teaching/Research Prof.	114,570	110,060	-4,510	-4%	25,900	21,390
Business/Public service Prof.	77,830	79,650	1,820	2%	19,540	21,360
Science Associate Prof.	40,220	39,410	-810	-2%	6,030	5,220
Health Associate Prof.	101,270	105,980	4,710	5%	21,730	26,440
Protective Service Occs	36,430	34,380	-2,050	-6%	13,970	11,920
Culture/Media/Sport Occs	41,540	42,320	780	2%	4,780	5,560
Bus/Public Serv. Assoc Prof.	128,460	132,280	3,820	3%	23,260	27,080

Source: Regional Econometric Model: Experian BSL: Yorkshire Futures September 2006

6.14 The 2006 column shows the numerical significance of, especially, corporate administrators and, to a lesser extent, of teaching professionals and of associate professionals in health and business/public services. The significance of the net change projections to 2010 is that the numbers are quite modest and, in a few cases, are negative. Taking into account replacement demand as well as net structural change alters the volumes to a large degree. Replacement demand reflects people who leave or retire from existing posts, creating vacancies to be filled. The scale of job opportunities for graduates represented by the gross demand column significantly exceeds the projected structural demand. By volume, the largest sources of demand are for corporate administrators, professionals in science, technical and teaching, and in business/public service and associate professionals in health.

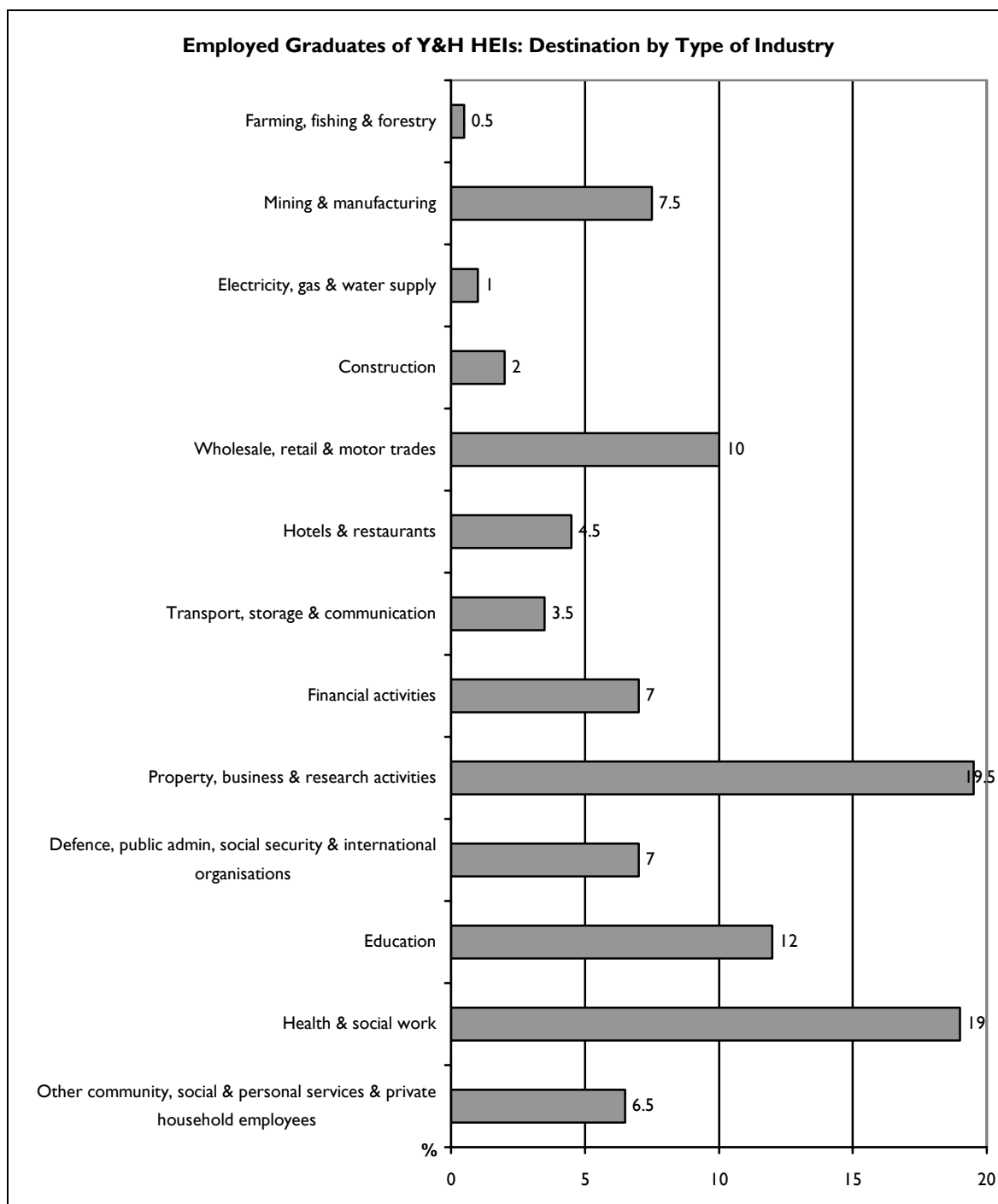
6.15 In total, this outlook in terms of gross demand represents 195,640 FTE posts or some 40,000 per year. The region's HE sector produces around 55,000 qualified people per year, 30,000 of which are first degrees. On the face of it, therefore, there is a surplus generated. The Destination Leavers from HE (DHLS) Survey shows 66% of the region's first degree graduates in 2005 going into work and a further 8% into work and study.

6.16 The destination by type of industry of Y&H employed graduates is shown in the following graph (overleaf) and reveals the significance of business services, health and social work and education. While broadly comparable with England, regional proportions are higher for education, business services and hotels and restaurants and they are lower for wholesale, retail and motor trades and for other services.

6.17 The Longitudinal Survey (DLHE; HESA 2007) shows results in 2006 for UK domiciled leavers from 2002/03 who are in employment. 73% who originally lived in Y&H worked in the region at the time of the survey. Amongst those who had studied at a Y&H HEI, the proportions in employment in the region at the time of the survey were:

- Postgraduate 61%
- First degree 39%
- Other undergraduate 64%

6.18 So the volume of output of qualified people from the region's HEIs is large and slightly in excess of the demand from the economy for jobs likely to require degree level qualifications. Destinations evidence by sector and geography does not point to a regional skills demand and supply picture which is markedly different from anywhere else. Employer surveys on skills requirements in the region tend not to be specific in terms of vocational skills, the main responses generally relating to generic management, marketing, customer care and selling skills. Nationally, the Association of Graduate Recruiters reported (2007) a 12.7% increase in graduate vacancies, a reduction in employer concerns about their ability to fill posts and a retention rate, one year on, of over 90%.



Source: HEFCE 2007 Regional Profiles Y&H

Regional HE Students Accounts

6.19 HE institutions plan, cater for and compete over attracting students while learners choose where to apply and which offers to accept for a variety of reasons, as they also do when looking for work. So regions are not closed systems, nor indeed is the UK for HE and labour market purposes. But with such a significant HE presence in Y&H, being able to compile accounts of flows would help to judge not only HE impacts on skills through students, but also the use the regional economy is able to make of this talent.

6.20 Some of the quantities and proportions are itemised as follows.

Feature	Comment
The student HE population is 206,130	One third study part-time and 26% are over 25 so around 50,000 HE students may already work in or be settled in the region
<p>Origins of the student population:</p> <ul style="list-style-type: none"> 44% come from the region 43% come from the rest of the UK 10% are from the rest of the world (non EU) 44% of young students from Y&H study (first degree) in Y&H, ie the majority choose to study elsewhere 	<p>Y&H has the largest net inflow of young FT undergraduates of all English regions</p> <p>Young students from the region comprise 27% of the region's HEIs young students</p> <p>The Government announced in 2007 that 'rest of world' graduates will be permitted to stay and work in the UK for a year after graduating</p> <p>Their subsequent choices upon graduating about geographic destinations are material – see below</p>
<p>Graduates (first destinations) flows:</p> <ul style="list-style-type: none"> Loyals – live, study and remain in Y&H = 43% Returners – left to study and then return to Y&H = 23% Stayers – left their home region, study and stay in Y&H = 25% Incomers – from another home region, studied elsewhere and come to Y&H = 9% <p>(HESA/DLHE 2003)</p>	<p>This appears to indicate a retention rate (of those who study in Y&H) of 68% (43+25) which is higher than the HEFCE/DLHE figure of 54%.</p> <p>By implication, the region sees 32% of its graduates leaving</p> <p>The proportion of stayers is the highest in the UK, although 'incomers' are a small proportion, especially compared to London, South East and East of England</p> <p>The categories do not include leavers (to study) who do not return, or those who study here and leave after graduating</p>
<p>Y&H HEI Graduates (first destinations):</p> <ul style="list-style-type: none"> Loyals – live, study and remain in Y&H = 29% Passers through – come from elsewhere, study here and work elsewhere = 47% Stayers – come from elsewhere, study and stay here = 18% Leavers – come from Y&H, study here and then leave = 6% 	<p>This is a different set of categories and compiled on a different statistical base to those above</p> <p>It indicates a retention rate of 47% (29+18) of the region's HEI graduates (first degree)</p>

- 6.21 Unfortunately the data cannot easily be distilled down into a balance sheet but one way of portraying some of this relates to full-time undergraduate students. Data from UCAS shows that, in 2006, there were 41,555 accepted applicants to Y&H HEIs. In the same year there were 26,969 accepted applicants to HEIs in the UK from Y&H. As 44% of young students reading their first degree in Y&H HEIs come from the region (ie 11,866 study here and 15,103 study elsewhere), this indicates that 29,689 accepted applicants to Y&H HEIs come from other regions. For every 2 students leaving school in the region and seeking to read for a degree, one enters HE in the region, one studies elsewhere and 3 come into the region from the rest of the UK.
- 6.22 Over a period of time, allowing for internal migration, the quantification of graduates in the population is through the Census and intervening surveys. Based on the National Shoppers Survey (now Lifestyle Survey²) from 2003, 15.1% of the region's households contain someone with a degree; 4 points below the GB average. The survey showed that the majority of graduates now living in Y&H had:
- lived in the region prior to attending University (57%); or
 - attended a University in the region (52%); or
 - took their first permanent job in the region (57%).
- 6.23 There appears, therefore, to be a solid core of the region's HE students who are embedded in the region and then a floating cohort who, unsurprisingly, are mobile.
- 6.24 This provides a context for the operation of Graduates Yorkshire which has been a project and is now transforming into a company. The University Careers Services have combined through Graduates Yorkshire to provide an unfolding range of services which currently and with Yorkshire Forward support covers:
- an online graduate recruitment service for businesses and graduate applicants;
 - extra in-depth careers guidance and upskilling to Y&H graduates;
 - Y&H Job Shops sourcing course-related employment opportunities for students;
 - development of an entrepreneurship knowledge base within Careers Services.
- The Graduates Yorkshire '3 Years On' sample surveys interview graduates 3 years after graduating. From results for the last 3 surveys there is a clear propensity of graduates to return to their home area where they lived before attending a Y&H HEI. The proportion averages about one in every 3.
- 6.25 The challenge for the service (beyond meeting customer needs) is to maximise impacts of the regional funding it has had in terms of increasing graduate retention. The scope for this is greatest amongst the 'floating' cohort although the solidly embedded core can, just as easily, become mobile and so cannot be neglected either.

Developmental Contributions to Skills Formation

- 6.26 As institutions responding to a range of external and internal influences, HEIs individually and collectively contribute to the regional skills development agenda beyond their direct roles as HE providers. This is not new. The Huddersfield Mechanics Institute, a predecessor organisation to the University of Huddersfield, hosted the RSA's first elementary examinations for artisans in 1857.

² Source: © Claritas Acxiom UK Ltd, July 2003. All rights to the data belong to Claritas Acxiom and may not be used or reproduced without the express permission of Claritas Acxiom

6.27 On the policies and programmes agendas, HEIs contribute to regional, sub-regional and local assessments and initiatives as consultees and as partners. Their research and policy units provide consultancy, investigative and briefing services on skills for, as examples, the Sector Skills Development Agency, Yorkshire Forward and the Learning and Skills Council. The Vice Chancellor of the University of Bradford is on the Board of the Regional Skills Partnership, as is HEFCE.

6.28 Mainstream HE courses get developed out of this activity, examples are:

- the University of Hull exploring a pharmacy degree in response to industry needs;
- Leeds Metropolitan University's distance learning masters courses around surveying;
- the University of York has developed modules drawing upon bioscience enterprises associated with Science City York.

6.29 Work-based learning services are commonly provided by HEIs:

- University of Bradford and Ford Motor Company relating to quality improvement and production management;
- University of Hull and Kimberley Clark for middle managers.

Several further examples are included in preceding thematic sections.

6.30 As part of the widening participation agenda, the HEIs (and Graduates Yorkshire) have been actively involved in Aim Higher and Lifelong Learning Networks. The percentage participation rate of young full-time degree entrants from low participation neighbourhoods averages around 15% (2004/05) and exceeds 20% for the University of Huddersfield and Trinity and All Saints College. Foundation degrees help in this regard as well as with work-based learning. Some additional examples of HEI developments are:

- Leeds College of Music in music production and sound design, both for film and TV;
- University of Bradford and West Yorkshire Fire Service on leadership and management for station managers;
- York St John University's courses in music, design, film and TV production;
- University of Hull in pre 16 learning and teaching support, early childhood policy and practice, and applied digital media.

Some previous examples relating to CPD are also relevant.

6.31 The region has 4 Lifelong Learning Networks operating in each of the 4 sub-regions. They have financial support from the HEFCE Strategic Development Fund and are a joint initiative with the LSC. Their purpose is to provide a focus on vocational routes into and through higher education in the context of lifelong learning. The networks comprise HEIs, Colleges, Local Authorities, employers and others.

6.32 The national concerns about learning participation in science, technology, engineering and mathematics (STEM) are equally applicable in Y&H. The new National Science Learning Centre is based at the University of York and is part of a drive to inspire children about science and improve the way science is taught in schools. Funded by the Wellcome Trust and Government, it represents the centre for a network of 9 regional facilities. Other concerns relate to strategically important (but vulnerable) subjects, eg Languages. The region's Universities are working together on a 'Routes into Languages' project.

6.33 The HE-BCI Survey (2007) provides some overview data relating to skills:

- 6 of the 10 HEIs in the region include access to education as one of their top 3 contributions to economic development; 2 and 3 respectively cite meeting regional and national skills needs.
- Amongst the Sector Skills Councils, the ones most frequently (HEI numbers in brackets) worked with are:
 - ▶ Construction skills (4)
 - ▶ Creative and cultural industries (8)
 - ▶ e-Skills UK (6)
 - ▶ Lifelong learning (4)
 - ▶ SENTA (4)
 - ▶ Skillset (9)
 - ▶ Skills for health (6)
- 174,072 total learner days of CPD/CE courses delivered.
- Other courses provided (HEI numbers in brackets):
 - ▶ Distance learning for business (8)
 - ▶ Work-based learning (7)
 - ▶ Short bespoke on campus (10)
 - ▶ Short bespoke at company premises (9)
 - ▶ Extra mural for the public (8)

6.34 All that said, however, most of the region's HEIs (as do others elsewhere apart from London) rate their involvement in developing and implementing regional skills strategies fairly lowly; nor do they place much weight on monitoring skills needs and sectoral change and take this into account in planning provision. Similarly, the extent to which employers are actively involved in development of content and regular reviewing of the curriculum is low.

Conclusions

6.35 Although skills are not the same thing as education or qualifications, they get conflated and their collective significance in knowledge-based economics has risen inexorably up the policy agenda. The HE sector is inescapably involved.

6.36 The core business of HE in the region is educating over 200,000 students and in a range of subjects comparable to the national average.

6.37 Projections of demand by occupations indicate a significant requirement regionally which is capable of absorbing much of the region's HE sector output. Y&H is, however, a net importer of HE students and the regional economy's size and composition will not absorb everyone so, inevitably, some depart. This is not the same as an (emotive) Brain Drain.

6.38 There is very fluid ebb and flow of HE participation in the region which is hard to quantify. There is, though, a solidly embedded regional core of students from and graduates in the region as well as a floating and mobile cohort. Graduates Yorkshire is a long running HEIs partnership of Careers Services with an objective for graduate retention.

6.39 There are many instances of HEIs contributing to skills development and policy, responding to needs of employers and widening participation. The HE-BCI Survey shows that the sector assesses its own economic impact through education as important, more so than through meeting skills needs. The Survey shows it is, though, frequently involved with several Sector Skills Councils but does not feel deeply involved in skills policy regionally, does little labour market intelligence monitoring and planning, and appears to have low curricular involvement of employers.

- 6.40 Individual departments are, however, much more deeply involved in some of these topics and activities than the HEIs' corporate responses to the HE-BCI Survey indicate. In addition, the region has leading academics in these fields whose expertise and advice is drawn upon by the region's agencies.
- 6.41 Given the World Class Skills exhortations, the region has to make more of its HEIs and the sector has to become more involved in this agenda than, seemingly, it is.

7. ANTICIPATING AND ADAPTING TO CHANGE

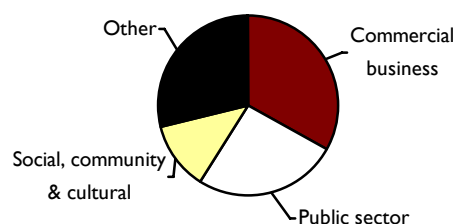
Introduction

- 7.1 Like all large and complex organisations, especially those operating in a national and publicly funded context, HEIs are subject to external forces for change as well as to internal ones. Not least amongst these have been the expansion of HE participation and a funding regime that seeks efficiencies from the sector and places more of the cost on learners.
- 7.2 Preceding sections include examples of HEI activities and services that reflect how institutions individually, in groups and collectively have adapted their operations within the region. Since 1997, the regional policy dimension has gained more prominence and represents an additional factor for the HE sector to take into account. This section reflects, largely, on this regional dimension. The UK's and the region's HE services are, however, internationally tradable including in the provision of courses and accreditation in other countries, research, academic exchanges and international students coming here to study. This international dimension is largely beyond the scope of this section.

Variable Geometry of the Regional HE Sector

- 7.3 The term 'variable geometry' conveys the recognised breadth of type of HEI in the region. Most have existed (in some form) for a long time; the University of Leeds traces back 175 years. The newer, post 1992, institutions have their origins in municipal and industrial sponsorship. Size is not necessarily associated with organisational complexity, but the University of Leeds has 34,000 students and an annual income of approaching £400m while Leeds College of Music has just over 1,000 students and £6m income per year; other HEIs fall within this range.
- 7.4 Invariably, the region's HEIs include in their statements of corporate vision or mission commitments to their locality and region. Pro Vice Chancellors fulfil a networking and internal dissemination and brokering role. Where there are specific research and policy units, these have a regional remit, eg CRESR at Sheffield Hallam University and CURS at Hull University.
- 7.5 Previous sections recount involvement of HEIs in regional affairs and developments including in delivering programmes. The most frequently cited examples are with the health sector and with Yorkshire Forward relating to the economy. Spatial perspectives also range from the campus neighbourhood and locality impacts to the increasingly complex architecture of organisational arrangements at local, sub-regional, city regional and other cross-boundaries activities. Most partners expect HE participation in these which has resource and information implications for the HEIs themselves.
- 7.6 These forms of relationship work in the opposite direction too. The HE-BCI Survey (HEFCE 2007) shows that the region's HEIs have 228 representatives on their governing bodies from business and community sectors. The composition is shown below.

Y&H HEI Governing Bodies Representation %



Source: HE-BCI Survey (HEFCE 2007)

- 7.7 The HE-BCI Survey results also reveal some internal contradictions on the relative significance of the regional dimension for HEIs. Several of these results are in preceding sections but a selection of specifically regional questions and their results illustrates this point:
- in terms of HEIs' contribution to economic development, a low significance is attached to the regional dimension;
 - HEIs' sectoral involvement with industries almost universally is determined by priorities in the Regional Economic Strategy;
 - 4 HEIs say the geographical area of greatest priority for their mission is the region, 5 say it is their locality and surrounding area;
 - out of 11 possible responses to a question on regeneration funding and its contribution to HEI roles, fulfilling the regional mission through new services to industry ranks 5th;
 - most HEIs rank the significance of their local and regional partnership arrangements quite lowly and are not closely involved in regional skills strategies.
- 7.8 A qualification to attach to interpreting these findings reflects the much bigger agenda, nationally and internationally, and the core purposes of HEIs against which to set a regional perspective.

Collective Arrangements

- 7.9 The way in which the HE sector can pool its involvement in regional development so as to achieve economies of scale and added value is through a regional association. Yorkshire Universities is that association in this region.
- 7.10 Originally established in 1993 as Yorkshire and Humberside Universities Association, this is one of the first HE regional associations in the UK. The name changed to Yorkshire Universities in 2001.
- 7.11 Yorkshire Universities is a company limited by guarantee and a registered charity and is a membership organisation. It performs a collective policy and networking role for the sector, provides a channel for communication and coordination within the regional community and administers regional projects on behalf of the sector. These projects include widening participation, innovation in businesses and graduate retention through employment and enterprise.
- 7.12 The Yorkshire Universities Strategic Plan (2007-10) has 4 strategic themes:
- support the contribution of HE to regional development;
 - promote the role of HE in contributing to social cohesion;
 - promote the development of a quality HE sector;
 - provide quality services to the HEIs.
- 7.13 During 2007, Yorkshire Universities and Yorkshire Forward formalised a Strategic Alliance as a basis for joint activity. The objective of this alliance is *“to maximise the potential of the HE sector as a vehicle for economic and cultural impact in the region”*. The areas of focus where the 2 organisations commit to work together are:
- create, cultivate and exploit knowledge;
 - support business growth, productivity and innovation;
 - develop creative and enterprising people;
 - promote the region internationally.

Joint mechanisms to ensure delivery are specified and progress is to be reviewed annually.

7.14 This Strategic Alliance can be seen in the context of a HEFCE 'Study of the English Higher Education Regional Associations' (2005) whose key messages for associations and partners included:

- retention of flexibility to accommodate diversity of member interests;
- priority of strategy;
- define and perform brokerage roles;
- RDAs (and GOs) to understand HE engagement and manage expectations;
- HEFCE to decide what it needs to achieve in regions.

Significantly, the report included the comment "*look to Yorkshire and the Humber (and the North West) for examples of good practice*".

Conclusions

7.15 HEIs have a complex and compelling agenda and the regional dimension is but one of many seeking their attention. As preceding sections show, individual HEIs are extensively involved in local and regional issues and activities. The HE-BCI Survey, however, indicates that the regional dimension does not loom large in HEIs' corporate consciousness.

7.16 Yorkshire Universities represents the sector in the region through which economies of scale and added value are achievable. It has a Strategic Plan, a formalised Strategic Alliance with Yorkshire Forward and was cited as good practice in a national study of Higher Education Regional Institutions.

7.17 The HE dividend for Y&H can be conveyed by individual institutions and collectively through Yorkshire Universities. Like all forms of education, the dividend includes its own intrinsic value for individuals and society. Wider forms of impacts include those where attempts at quantification can attach a value to the HE dividend, as in the case of economic impacts. But, as this study shows, the HE dividend includes further and intangible impacts, the value of which is not transparently reducible to a valuation, economic or otherwise. The academic and philosophical discourses on these matters are centuries old and not likely to be concluded by Yorkshire Universities. Recognising the significance of these different types of impacts and seeking to describe them in documents like this at least ensures they are communicated and not overlooked.