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Higher Education – Business and Community Interaction Survey 2011-12

Northern Ireland Analysis

September 2013

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Background

1. The annual Higher Education – Business and Community Interaction (HE-BCI) survey is carried out by the Higher Education Statistics Authority (HESA) in order to provide reliable and relevant information to support policy development, and to inform funding decisions related to the Knowledge Transfer[1] activities of UK Higher Education Institutions (HEIs).

2. The HE-BCI survey is the primary source of metrics used to determine Queen's University Belfast ("Queen's") and University of Ulster's ("Ulster") core funding allocations for their Knowledge Transfer activities through the Higher Education Innovation Fund, which is administered by the Department as part of its wider core grant.

3. The most recent HE-BCI survey – the twelfth in the series – was published in May 2013 and provided data on the continuing development of the interaction between HEIs and the wider world of Business[2] and the community, covering **academic year 2011/12**. It also contains 2010/11 data for comparison purposes.

4. HE-BCI focuses exclusively on output data covering a range of activities, from the commercialisation of new knowledge, through the delivery of professional training, consultancy and services, to activities intended to have direct social benefits. It should be noted that this survey records the interactions between Northern Ireland HEIs and businesses located both within and outside the region – it is not possible to determine the share of these Northern Ireland HEI's interactions that are purely Northern Ireland based.

[1] Knowledge Transfer is used to describe HEIs activities in economic regeneration, regional engagement, relations with industry, intellectual property, the exploitation of research outcomes and other matters related to the HEIs Business and Community function.
[2] 'Business' in this context refers to private, public and third-sector parties of all sizes, with which HEIs interact in a broad range of ways.

Purpose

5. The purpose of this paper is to present a summary of the key findings of the latest survey from a Northern Ireland perspective. The analysis focuses on Part B of the HE-BCI, that is, the financial and numeric outputs of HEIs Knowledge Transfer activities.[3]

6. A summary of key HE-BCI indicators (2002/03 – 2011/12) is presented in the Annex.

7. The UK HE-BCI report provides further context and methodological detail. The latest UK HE-BCI report can be accessed by clicking here or visiting www.hefce.ac.uk.

Key points

8. The HE-BCI report sets out the Northern Ireland position relative to the UK and should be read in context, where the Northern Ireland economy represents **2.2%** of UK GVA[4] and accounts for **2.0%** of Full Time Equivalent (FTE) academics in the UK.

9. The latest HE-BCI data show a decline in the income NI HEIs received from business and community interaction in 2011/12 by around 14%. This follows very strong performance in three previous HE-BCI surveys culminating in 2010/11 when universities' income exceeded £100 million, for the first time.

[3] Part A focuses on the strategic aims and levels of development within HEIs.
[4] GVA is a measure of economic activity, similar to but statistically distinct from GDP, that allows for regional analysis.

A: Income from Business and Community Interaction

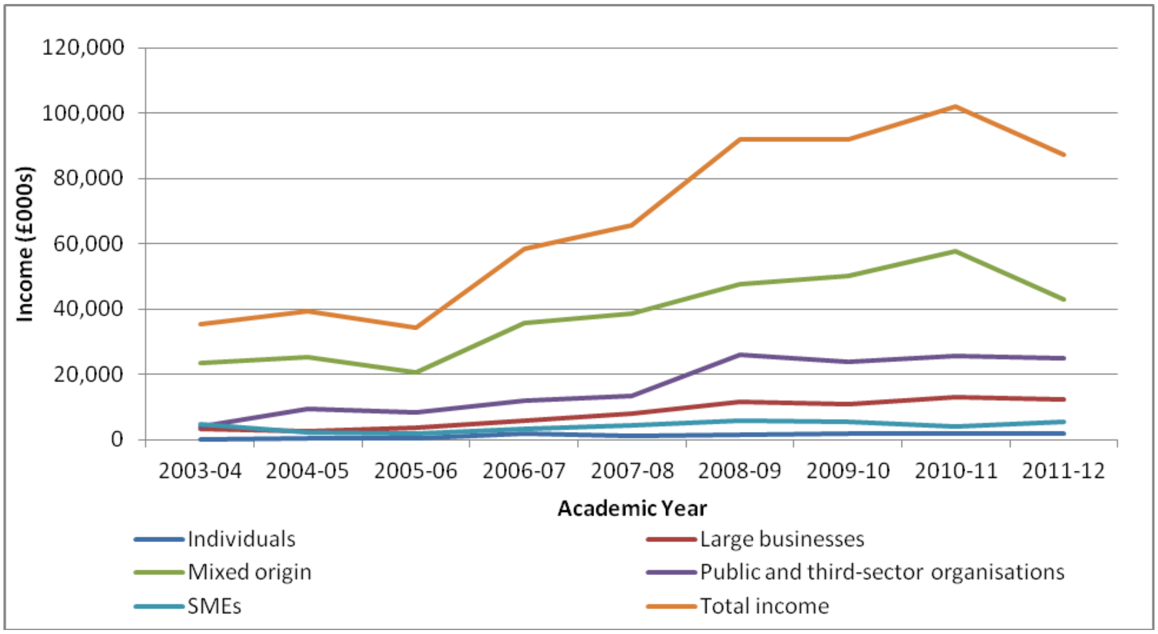
10. In 2011/12, **UK HEIs** received £3.4 billion (including Government funding) from business and community interaction, an increase of around 4% - in cash terms - from 2010/11.

11. The comparable figure for **NI HEIs** is £87 million, which represents a 14% decrease from 2010/11 income levels. It should be noted however that HEI income from business and community interaction has more than doubled (+129%) since 2002/03 (see figure 2). NI HEI's income from business and community interaction of £87 million represents 2.5% of the UK total. This remains impressive in a context where Northern Ireland accounts for 2.2% of UK GVA and for 2.0% of the UK's FTE academics.

Income by partner

12. Spending by large businesses on interaction activities with NI HEIs decreased by 4.5% from £12.9 million (in 2010/11) to £12.4 million (in 2011/12) while non-commercial partners in the public and third sectors, charities and social enterprises reduced their spending by 3.3% from £25.5 million to £24.7 million. There has however been an increase of over one-third (+36%) in total spending by small and medium-sized enterprises (SMEs) on engagement with NI HEIs (see figure 1). It is encouraging to note that even in these difficult economic times there is an increasing awareness amongst SMEs of the economic advantages that can be brought by closer engagement with our universities.

Figure 1: NI HEI Total income by partner 2003/04 to 2011/12 (real terms)[5]



Research-based interactions and intellectual property

13. Income received by Northern Ireland HEIs through business and community interactions can be broken down further into a range of categories: collaborative research, contract research, consultancy contracts, facilities and equipment related services, education and continuing professional development, regeneration and intellectual property. These are considered below, separately.

Collaborative Research Income

14. The HE-BCI survey defines collaborative research as R&D undertaken collaboratively between an HEI and an organisation/individual from business or community sectors.

15. University income from collaborative research in Northern Ireland fell by 11% from £39.9 million in 2010/11 to £35.4 million in 2011/12 (see Figure 2).

[5] 'Mixed origin' refers to income from activities such as collaborative research, regeneration and sale of spin-off shares where – for reasons of practicality and/or administrative burden – the source of income has not been requested by HESA.

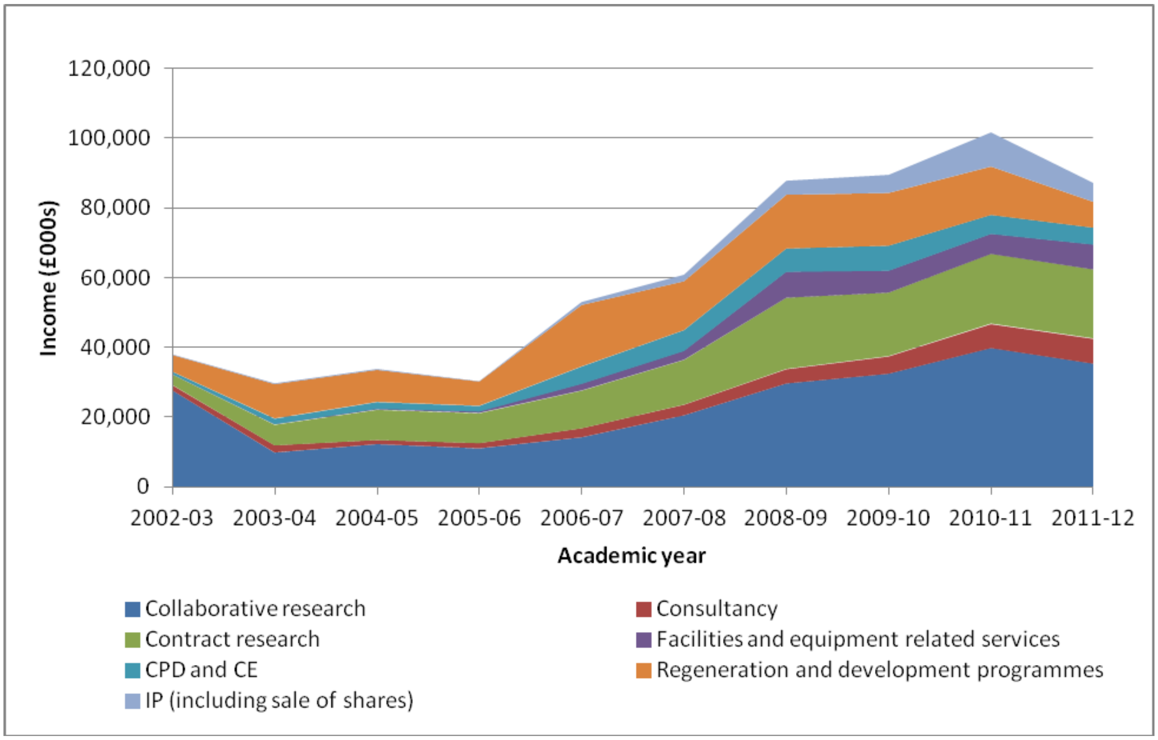
However, income from this source has increased by 28% since 2002/03. In relative terms, the performance of local HEIs in gaining income from collaborative research remains strong at £35.4 million in 2011/12, representing 3.6% of the UK total. Where the Northern Ireland economy represents **2.2%** of UK GVA and accounts for **2.0%** of FTE academics in the UK, this suggests local HEIs are outperforming their UK counterparts on this metric.

Contract Research Income

16. Contract research is that which a sponsor requires and, unlike Collaborative research which involves a broad range of research, is more specific – perhaps addressing a particular business need or opportunity, for example.

17. The HE-BCI survey shows that contract research income has remained broadly unchanged over the last academic year falling marginally from £20 million to £19.7 million (-1%). Income from this source has increased three-fold since 2002/03. Contract research income of £19.7 million in Northern Ireland represented 1.8% of the UK total in 2011/12. Where the Northern Ireland economy represents **2.2%** of UK GVA and accounts for **2.0%** of FTE academics in the UK, this suggests local HEIs have further scope to leverage contract income.

Figure 2: Selected HE-BCI income streams 2002/03 to 2011/12 (real terms)



Consultancy

18. Universities also engage in consultancy contracts, which are a more direct form of knowledge exchange between Higher Education and the economy, where existing knowledge is being innovatively exploited. Consultancy contracts are diverse: they range from helping charities, to innovative rapid prototyping, to advanced training in both scientific and art-based environments.

19. Income from consultancy contracts grew by 4% to £7.1 million in 2011/12, up from £6.9 million in 2010/11. Income from consultancy has more than trebled since 2002/03. Income from consultancy of £7.1 million in Northern Ireland represented 1.8% of the UK total in 2011/12.

Facilities and Equipment Related Services

20. Facilities and equipment related services relates to the use by an external party of physical academic resources of the HEI.

21. Income from use of facilities and equipment has risen over the last academic year by around one-quarter (+24%). The total value of contracts has also increased exponentially over the longer term, growing from £174k in 2002/03 to £7.3 million in 2011/12. Income from facilities and equipment related services of £7.3 million in Northern Ireland represented a significant 5.2% of the UK total in 2011/12. Where the Northern Ireland economy represents **2.2%** of UK GVA and accounts for **2.0%** of FTE academics in the UK, this suggests local HEIs are outperforming their UK counterparts on this metric.

Education and Continuing Professional Development

22. This includes revenue generated by Continuing Professional Development (CPD) courses, defined as a range of short and long training programmes for learners already in work who are undertaking the course for purposes of professional development, up skilling or workforce development.

23. Income from continuing professional development (CPD) and continuing education (CE) activity has fallen by around 11% from £5.5 million in 2010/11 to £4.9 million in 2011/12. However, CPD income has grown strongly (+558%), in real terms, since 2002/03. Income from CPD and CE of £4.9 million in Northern Ireland represents a below average 0.8% of the UK total in 2011/12, suggesting that there is further scope to leverage CPD income.

Regeneration

24. Regeneration funding is an important way for HEIs to invest intellectual assets in economic, physical and socially beneficial projects.

25. Income from regeneration programmes fell sharply, from £13.9 million in 2010/11 to £7.5 million in 2011/12, a decrease of 46%. Over the longer term however, income from this source has increased steadily, growing by 56% over the period 2002/03 to 2011/12. Despite the recent fall, income from regeneration of £7.5 million in Northern Ireland represents a sizeable 4.1% of the UK total.

Intellectual property

26. Intellectual Property (IP) is a vital indicator for the value added by the HEI when interacting with a range of external partners. It is commonly in the form of licences granted to private companies, allowing them to exploit an invention protected by a patent.

27. Income from intellectual property (including sales of shares) fell by 45% between 2010/11 and 2011/12. However, income from this source has grown exponentially (+2550%) since 2002/03. Income from intellectual property (including sale of shares) of £5.4 million represented a substantial 6.9% of the UK total in 2011/12. Where the Northern Ireland economy represents **2.2%** of UK GVA and accounts for **2.0%** of FTE academics in the UK, this suggests local HEIs are outperforming their UK counterparts on this metric.

B: Commercialisation Activities

28. Commercialisation activities are an important part of a university's enterprise activities. Knowledge transfer through commercialisation would usually take the form of licensing of a patent or the formation of a spin-off company.

Spin-off Companies

29. Spin-offs are companies set up to exploit IP that has originated from within the HEI.

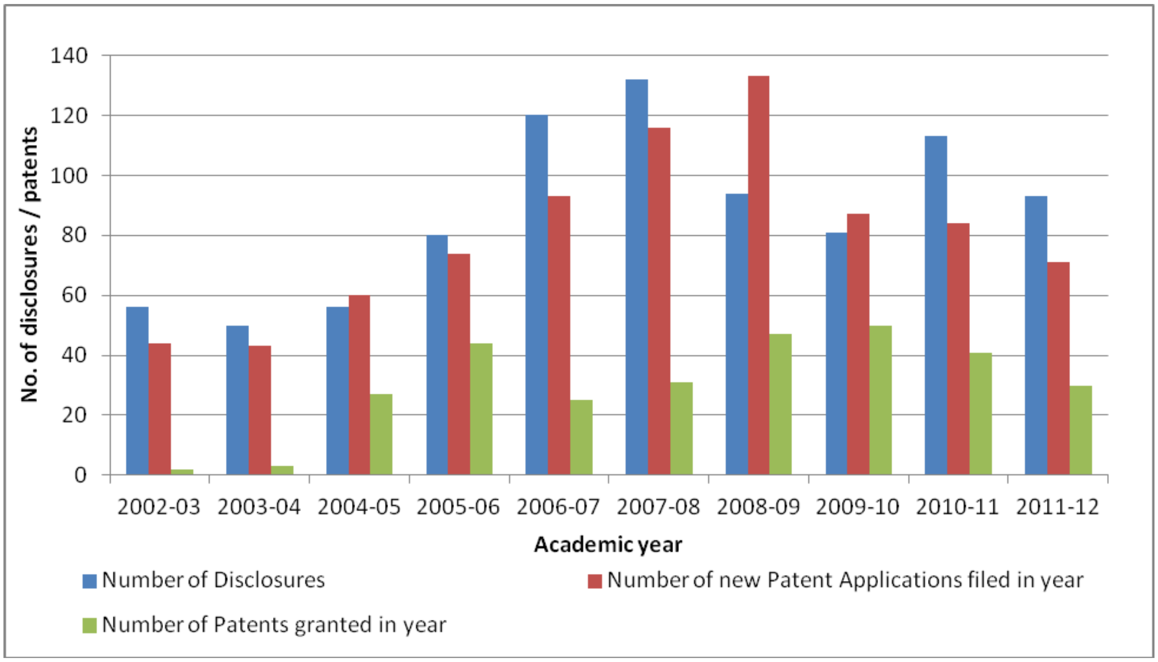
30. In 2011/12, there were 48 spin-off companies still active after 3 years in Northern Ireland – one fewer than the previous year. Over the longer term the number of spin-off companies still active after 3 years has increased by 55% between 2002/03 and 2011/12. The 48 spin-offs in Northern Ireland represented 4.8% of the UK total in 2011/12.

Disclosures

31. The number of research disclosures is also a good indicator of the level of research and innovation in Northern Ireland. A disclosure occurs when research-active staff become aware of potentially exploitable research and work with others (often knowledge specialist staff) to develop those ideas.

32. Disclosures have decreased by 18% to 93 in 2011/12, down from 113 in 2010/11. The number of new patent applications and the number of new patents granted have decreased by 15% (84 to 71) and 27% (41 to 30) respectively. Although there was a significant drop in the number of new patents granted, patent data should be viewed over a longer time series because of the time lag between applications and grants. Since 2002/03 the number of new patent applications and the number of new patents have increased by 61% and 1,400% respectively. The cumulative patent portfolio of the NI HE sector decreased by 17% to 431 in 2011/12. The cumulative patent portfolio of 431 represented 2.6% of the UK total in 2011/12.

Figure 3: Number of disclosures, patents filed on behalf of NI HEIs and patents granted



Social, community and cultural activities

33. HE-BCI also collects data on public events run by HEIs. These illustrate the wide-ranging civic, community and cultural contributions that HEIs make.

34. For example, nearly 21 thousand people attended free public lectures organised by HEIs, representing a 23% increase from 2010/11. Nearly 57,000 people paid to attend performance events – such as music, film, dance and drama – and nearly 20,000 attended free performances. Exhibitions attracted nearly 37,000 visitors in 2011/12.

Summary

35. The latest HE-BCI Survey shows that the income received by Northern Ireland universities from business and community interaction decreased from a record high of £102 million in 2010/11 to £87 million in 2011/12. However, the underlying trend is still very much upwards having increased from £38 million in 2002/03 and again from £61 million in 2007/08.

36. Higher Education is a key economic driver for the Northern Ireland economy. Even during this difficult economic period, and despite the most recent fall in collaborative income, its work with local businesses continues to contribute significantly to the local economy. Northern Ireland universities are still punching above their weight in terms of HE-BCI income, compared to their UK counterparts: Queen's and Ulster's income from business and community interaction represents 2.5% of the UK total. This is impressive considering the Northern Ireland economy currently represents 2.2% of UK GVA and accounts for 2.0% of FTE academics in the UK.

Table 1.1: Summary - Trends in Key HE-BCI Indicators

Indicator	Recent change (since 2010/11)	Long-term trend (since 2002/03)	NI as a percentage of the UK total[6]
Collaborative Research Income	-11%	28%	3.6%
Contract Research Income	-1%	565%	1.8%
Consultancy	4%	371%	1.8%
Facilities & Equipment Related Services	24%	4075%	5.2%
Education & CPD	-11%	558%	0.8%
Regeneration	-46%	56%	4.1%
Intellectual Property	-45%	2550%	6.9%
Number of Spin-off Companies	-2%	55%	4.8%
Number of Disclosures	-18%	66%	2.2%
Patent Applications	-15%	61%	3.1%
Patents Granted	-27%	1400%	3.6%

37. A summary of key HE-BCI indicators (2002/03 – 2011/12) is presented in the **Annex**.

[6] NI represents 2.2% of UK GVA
NI represents 2.0% of UK FTE Higher Education Academics.

Annex: Key Indicators from the HE-BCI Survey 2002/03 – 2011/12

Real-terms income from all sources (£000s)	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Collaborative research	27,711	9,789	12,218	11,003	14,182	20,515	29,682	32,483	39,892	35,398
Contract research	2,967	5,901	8,628	8,555	10,746	12,770	20,368	18,158	19,958	19,729
Consultancy	1,516	2,107	1,218	1,532	2,609	3,051	4,107	4,978	6,875	7,138
Facilities and equipment-related services	174	229	352	558	2,030	2,662	7,564	6,396	5,853	7,265
Continuing professional development and Continuing Education	745	1,600	1,977	1,627	5,009	6,004	6,744	7,249	5,517	4,905
Regeneration and development programmes	4,792	9,870	9,206	6,972	17,673	14,058	15,447	15,182	13,930	7,457
Intellectual property (including sale of shares)	205	293	299	115	861	1,897	4,039	5,181	9,789	5,432
Total Income	**38,110**	**29,789**	**33,898**	**30,362**	**53,110**	**60,957**	**87,951**	**89,627**	**101,814**	**87,324**

Outputs from NI HEIs	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Patent applications	44	43	60	74	93	116	133	87	84	71
Patents granted	2	3	27	44	25	31	47	50	41	30
Formal spin-offs established	6	7	2	1	2	10	7	2	8	6
Formal spin-offs still active after three years	31	37	36	38	45	48	47	48	49	48