Starter for ten

Five facts & five questions on the relationship between universities & city economies

Paul Swinney, May 2011

Summary

With university fees increasing and the majority of universities set to charge the full £9,000, what does this mean for city economies? What is the role of universities in these economies and is there more cities can do to make the most of this? And how might the rise in university fees affect cities around the country?

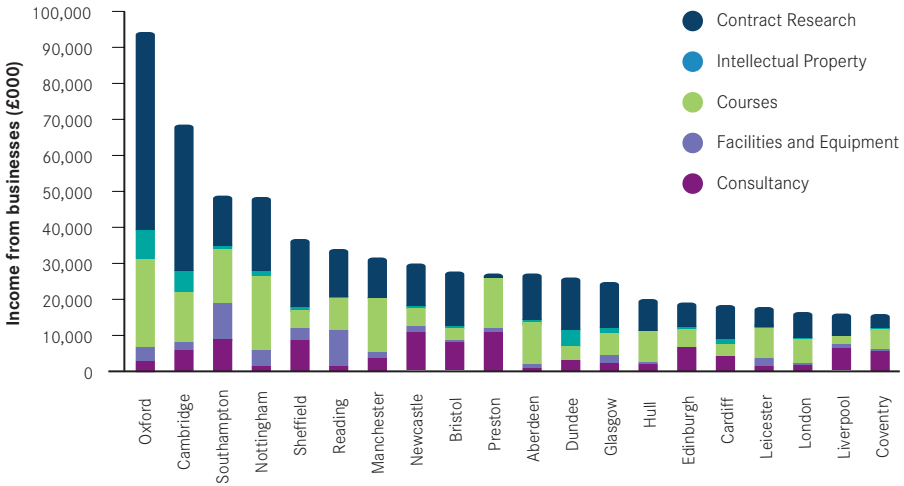
Much is made about the role of universities in city economies. But little is actually known about their impact. Using data from the Higher Education Statistics Authority (HESA) and the Higher Education Funding Council for England (HEFCE), this short note looks at five facts about universities and economic development and raises five questions for potential further research. It shows that by far the biggest economic impact that a university has on its city economy is through its local employment and the spending of its students rather than the interaction that it has with the local business base.

This raises questions about the impact that the fee increases might have if it reduces the number of students at universities. And it raises questions about how universities and cities might work together for mutual economic benefit in the future. These are questions that we will seek to answer through further work over the course of 2011 and 2012.

Fact 1: The level of university-business interaction varies hugely

Figure 1 shows the top 20 cities for average income earned by universities from businesses across different cities[1] from 2004 to 2008.[2] Oxford and Cambridge receive the most money per university from business interaction; Oxford earns an average of over £90 million per university, the majority of which comes from contract research. At Nottingham's universities, Continuing Professional Development courses are the majority contributor to total income from businesses, while consultancy makes up the majority of income for the universities in Newcastle and Preston.

Figure 1: Income from businesses per university in a city, 2004/08



Source: HEFCE, Higher Education Business Community Interaction (HE-BCI), 2004/05, 2005/06, 2006/07, 2007/08

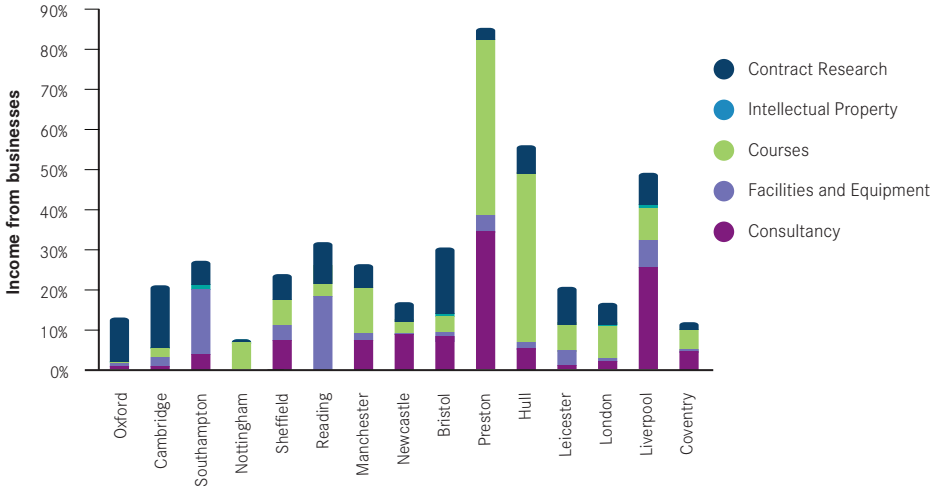
Potential future research question: What is it about different universities that drives this variation and what does this mean for how cities should seek to work with their local universities?

1. PUAs or 'Primary Urban Areas'
2. In Higher Education statistics, universities' 'business interactions' are measured largely in terms of their reported income from businesses. Since we are looking at commercial interactions, the income from collaborative research (which is part public funded) and research for non-profits is excluded here.

Fact 2: University interaction is much wider than the local business base

The reach of universities is usually much wider than their own city and, as Figure 2 shows, also very frequently wider than their own region.

Figure 2: Income from businesses - Percentage that came from businesses based in the same Government Office Region[3], 2004/08



Source: HEFCE, Higher Education Business Community Interaction (HE-BCI), 2004/05, 2005/06, 2006/07, 2007/08

Only seven percent of Nottingham's universities' reported business income comes from the East Midlands region. At the other end of the scale, the vast majority of the business interaction by the University of Central Lancashire, located in Preston, is with those based in the North West. However, although 85 percent of income from businesses comes from the region, in total this amounts to just £23.2 million. In contrast, while the two universities in Oxford earned just 13 percent of their income from businesses in the South East, this equated to £24.3 million.

3. Scottish and Welsh universities excluded here as they did not report spend from their nations.

The wider reach of universities is positive for cities. Universities export their services to other regions of the UK and abroad. This generates income for the university and increases employment in a city. Less tangibly but still importantly, global links to an international network of academics is important for knowledge creation both within and outside the city. For example, the universities of Oxford generated over £150 million from businesses outside of the South East region between 2004 and 2008. And this source of income will become ever more important as a result of cuts to teaching budgets.

Potential future research question: Should universities increase their focus on generating income from local firms? And how can cities benefit from universities' wider reach?

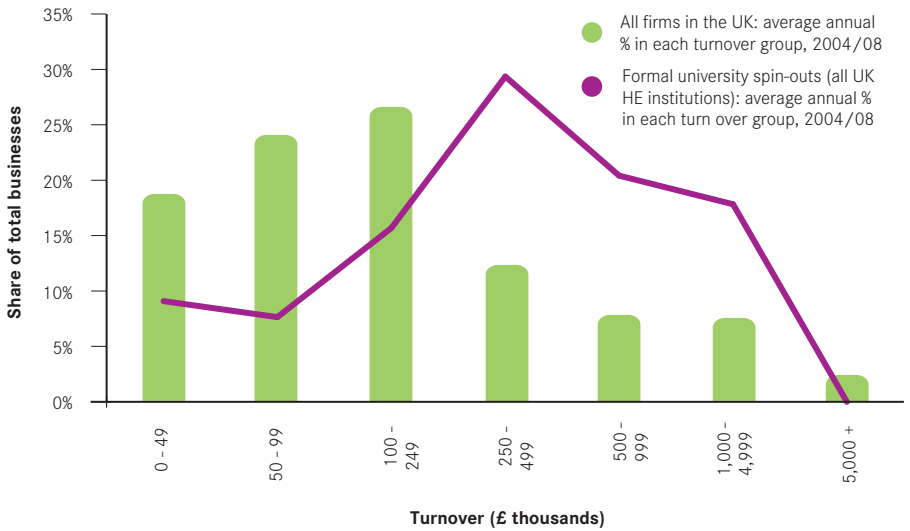
Fact 3: University spin-out are high value but are few in number

Spin-outs[4] from universities tend to have higher turnovers than the general business base (see Figure 3). For example, 67 percent of university spin-outs were turning over more than £250,000 per annum[5] compared to a UK business average of 30 percent.

However, university spin-outs make up a tiny proportion of total business start-ups in a city economy. In Manchester, 37 businesses spun out of the city's universities between 2004/05 and 2007/08. This accounted for just 0.1 percent of all business start-ups over the period. Oxford had the highest number of spin-outs relative to all business start-ups at 1.3 percent. But this only equated to 24 businesses over four years.

4. University spin-outs are firms set up to capitalise on innovations begun in the university: either the founders started off working for the university, or the core technology originated in university research. It is assumed here that all spin-outs operate in the same city as the university they are associated with.
5. This is an estimate of spin-out turnovers based on the university-level statistics.
spin-out turnover = total annual turnover of the active spin-outs from HE institution, divided by the total active spin-outs from HE institution in that year. These annual figures were then averaged for 2004-08.

Figure 3: Comparing average annual turnover of UK universities' formal spin-outs to average annual turnovers of all UK businesses, 2004/08



Source: HEFCE, HE-BCI Survey data, Part B, Table 4d, for years 2004 to 2008; Inter-Departmental Business Register (IDBR) 2010, data for years 2004 to 2008

Potential future research question: Is there more that universities, businesses and cities could do to generate spin-outs? What should be the balance between a focus on spin-outs and a focus on other relationships with business?

Fact 4: Universities play an important role in employment and consumption

Universities attract high numbers of students to their cities. Figure 4 shows that in Oxford and Cambridge in particular this is very important – students make up 27.5 percent of the population in Oxford and 34 percent in Cambridge.

This has large implications for consumer spending in these cities. In 2007/08, the mean total expenditure of full-time English-domiciled undergraduates was

£12,254 per student across the three terms.[6] If this held true in 2008/09 for the 50,100 undergraduates in Leeds, then their total spending would have been around £624 million; while the spending of the 21,800 undergraduates in Stoke would have amounted to £267 million.

Universities are also large and locally significant employers, as shown in Figure 5. In 2008/09, universities in cities alone employed 466,795 people. In Coventry this amounted to 11 percent of total employment. And in Oxford it was 22 percent.

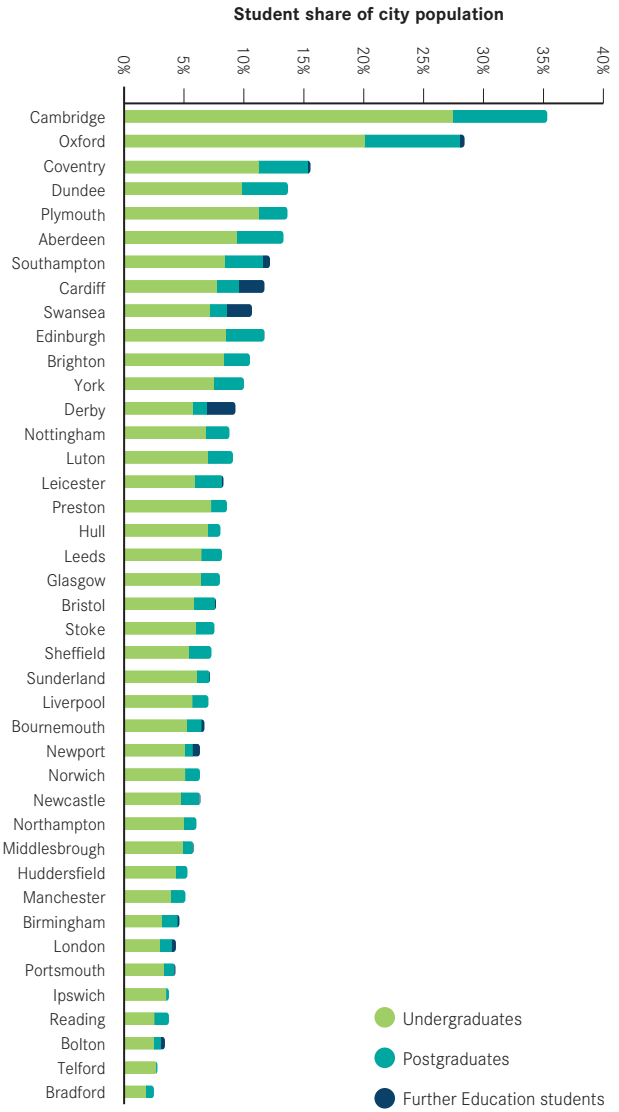
Potential future research question: How could universities and local authorities work together to make the most of the university's role as a large employer? Is there more that could be done jointly to improve the city's offer to students?

Fact 5: Universities' core role as education institutions is important to a city's economic performance – but the key challenge for graduate retention is access to employment

The central role of a university is to educate its students and produce high quality research. Although there is no proven link between skills profiles and economic performance,[7] Figure 6 shows that there is a correlation between the number of people with degrees in a city and that city's subsequent economic performance.

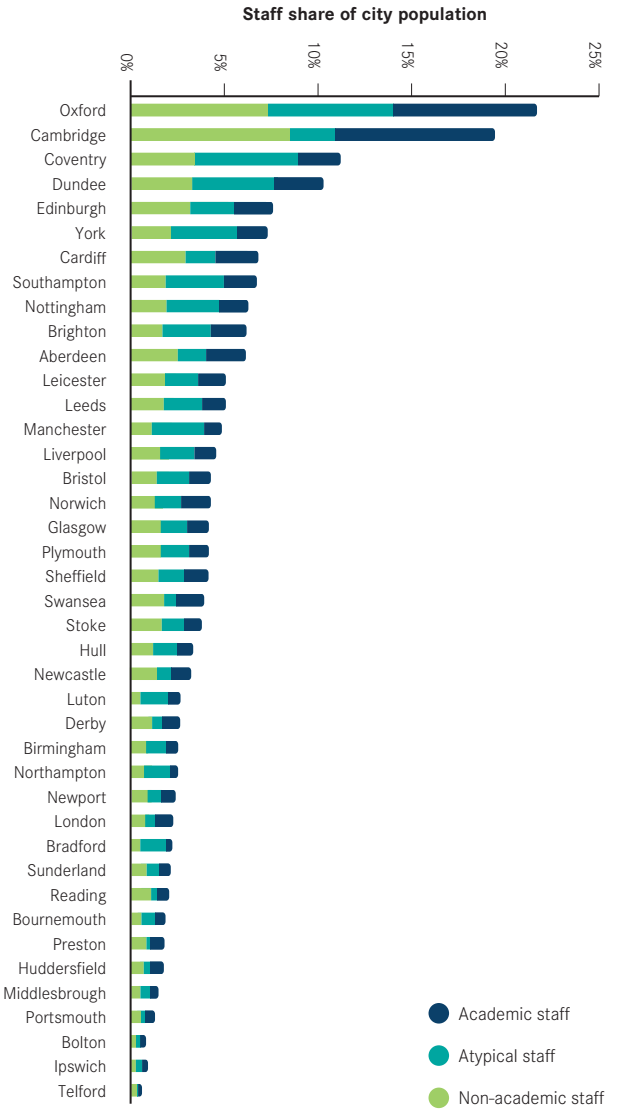
6. Institute for Employment Studies & National Centre for Social Research (2009) *Student Income and Expenditure Survey 2007/08: English-domiciled Students*, London: Department for Universities, Innovation and Skills
7. Storper M (2010) 'Why Does a City Grow? Specialisation, Human Capital or Institutions?' *Urban Studies* 47(10): 2027-2050

Figure 4: Students in 2008/09 as percentage of 2009 population for each university city



Source: HESA (2010) Students in Higher Education Institutions 2008/09, Table 0 - All students by institution, mode of study, level of study and domicile; NOMIS 2010, mid-year population estimates, 2009 data.

Figure 5: University staff in each city as a percentage of the city's employed population, 2008/09



Source: HESA (2010) Staff in Higher Education Institutions 2008/09, Table 0 - All staff by institution. NOMIS 2010, Annual Population Survey, 2009 data.

Figure 6: Relationship between higher level qualifications and business productivity (as measured by GVA growth rate), 1998-2007[8]

Source: NOMIS 2010, Labour Force Survey (Dec-Nov 1998 data); ONS, Regional Gross Value Added (1998-2007), own calculations

However, it is the location of job opportunities, rather than the location of a graduate's university, that will have the biggest influence on where a graduate goes after university.[9] This means that a university has a significant impact on enhancing the skills of the UK economy as a whole and on providing some skilled employment for the local population. But it is unclear whether simply having a university means that a city can capture the benefits of having a regularly refreshed pool of skilled workers, especially if there are other weaknesses within their economies.

Potential future research question: What impact does having a university have on a city's economy and its skills profile?

8. For a definition of buoyant and struggling cities see: Webber C & Swinney P (2010) *Private sector cities: A new geography of opportunity*, London: Centre for Cities
9. McCormick B (1997) 'Regional Unemployment and Labour Mobility' in *UK European Economic Review* 41; Faggian A & McCann P (2009) 'Universities, agglomerations and graduate human capital mobility' *Tijdschrift voor Economische en Sociale Geografie* 100 (2)

Implications for cities

The main impact of a university on its city economy is through the attraction of students as consumers and through their levels of employment in a city economy. It has an important role to play as an "anchor institution"[10], attracting students from both the UK and abroad and they are significant employers. This has positive implications for consumer spending.

Universities have an impact that goes far beyond the business base of their host city. Universities act as an important concentration of knowledge in a city. While currently only a small proportion of this knowledge is commercialised for the benefit of local businesses in most cities[11], the benefits of a university's much broader geographical reach should not be downplayed. These links have the potential to have a positive impact on innovation in cities.[12]

Universities' impact on city innovation goes beyond spin-outs. University spin-outs are high value but low in numbers. That said, spin-outs are only a part of the direct impact that universities can have on innovation in a city and cities should explore different ways of working with universities to make the most of opportunities for innovation created through proximity.

Over the next year we will be investigating the key questions highlighted above and trying to understand how changing policy, from tuition fees to Science Cities, may affect the relationship between a university and the city economy in which it is located.

10. The Work Foundation (2010) *Anchoring Growth: The role of 'Anchor Institutions' in the regeneration of UK cities*, Newcastle: The Northern Way
11. Although we note that it is difficult to quantify the impact they have through interactions such as networks and workshops which are not recorded in official data.
12. Huggins R *et al* (2010) *Sourcing knowledge for innovation: The international dimension*, London: NESTA

Acknowledgements

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