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## **Universities, Quality and the Future**

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By the middle of this century, I expect Britain to have many private universities and to be paying roughly the same kinds of salaries as offered by the top US universities. I expect us to be charging the same (very high) fees as American colleges. A global market in elite higher education will thus have emerged.

Whether these changes will happen more quickly, say by 2010 or 2020, is hard to predict. They may well.

Perhaps I sound like a dull economist, but I believe these changes will be driven by competition. They will be produced by market pressures writ global. No rocket science is involved. Today everywhere is only a plane ride away, and the English language is spoken more and more, and these things mean that most differences are going to be eroded through time.

### By the Highest Standards, British Universities are Not Good Enough

In the year 2003, Great Britain has comparatively few of the world's really top university researchers. I believe that this is serious for our nation and bad for students. And I think we are in denial about it.

Partly it is because of lack of money. But in my view our universities are also becalmed -- clinging to ideas on remuneration and institutional organisation that are virtually sunk. For instance I suspect that many British academics, deep down, would rather we were second-rate and equally paid rather than world-class and unequal. That will have to change. The dominance of US universities is worrying for our whole continent. It is time to act to rebuild the quality of our research: we have to start paying world-

class salaries to attract talent. In my subject of Economics, for example, young lecturers in the United States (where they are called assistant professors) now earn about £70,000 sterling. How can we hire the talent when we offer just £25,000 or so?

British science provides a vivid illustration.

The best source of information on the quality of British science comes from the Institute for Scientific Information. ISI is in the process of preparing a list of the top 200-250 researchers in a set of 21 fields. Of the approximately 110 personal records published to date in each of 11 categories, Great Britain shows up poorly compared to the United States. A list of star scientists -- leaving caveats aside these are the best 1200 or so scientists in the world today -- can be found on the internet at web address [isihighlycited.com](http://isihighlycited.com).

So how does Britain do? Nowhere nearly as well as the United States, but better than other European nations, is the answer.

### Unpleasant Facts

The data show that, of the 1200 top scientists around the globe, the great majority are in the US. We have approximately 80, Germany approximately 65, France 30, Japan 30, Switzerland 25, and Italy 15.

- Of the 100 top physicists in the world, only 2 are in Britain. On its own, Princeton University, a tiny Ivy-League university, has 8.
- In molecular biology and genetics, we have just 3 out of the leading 100 of the world's star researchers.
- In microbiology, 8 of the world's premier scientists are at Harvard Medical School alone, and 71 in the United States. By contrast, the British Isles has 6.
- In engineering, 4 of the top 100 researchers are working in British universities.

- In mathematics, 14 of the world's best 231 researchers are in Great Britain (in this field the names of many more than the leading 100 have been released by ISI). By contrast, the US has 161.

Eventually it will be realised that this is a problem for the European Union not just individual nations. Britain, France and Germany, when combined together, have only 9 of the globe's best 100 physicists. The United States has 72 of them. In molecular biology and genetics, three quarters of the world's approximately 100 top researchers are in the US. Britain has fewer than the Massachusetts Institute of Technology on its own.

Things are no better in Mathematics (where expensive equipment is generally not needed, so in principle the wealthy US might be expected to have a smaller advantage). Of the top 231 researchers listed on the ISI website, only 14 are from Great Britain. Cambridge University has 2, which seems low in a powerful and distinguished scientific university. London University -- admittedly across many colleges -- has 5.

### Not Quite Such Unpleasant Facts (But Still Not Great)

It is not thoroughgoing gloom. Chemistry and Pharmacology are quite strong in Great Britain. Of the 100 top scientists on the highly-cited list for chemistry, Britain has 11, the USA 64, Germany 6, France 3, Japan 2, Italy 1, and Switzerland 4. In pharmacology, Britain has 16 and the USA 37. Neuroscience is also encouraging. Of the top 115 researchers in the world, Great Britain has 14. The US has 57, which makes this area of science less overpowered by American accents.

Which British universities have lots of the world's top scientists? The short answer is none, but top of the list comes University College London, with a respectable 12 of the world's top 1200 scientists. There are 10 at Cambridge and 6 at Imperial College. Dundee, Edinburgh, Nottingham and Oxford each have 3 of the world's top 1200 scientists. That tally still beats nearly all British universities.

The new source, [isihighlycited.com](http://isihighlycited.com), is produced by the main provider in the world of citations data. The ISI organisation studies the

bibliographies (that is, the reference lists) of published articles. It counts which research is most commonly cited by others. In the world of academic discovery, there is an explicit requirement to cite people on whose work you build. Thus patterns of citations tell us about the twists and turns of intellectual influence through the generations.

The data set is large. ISI take 19 million articles between 1981 and 1999. These are divided into 21 different areas of science. ISI then run a computer count to establish, in each area of intellectual endeavour, the identities of the most commonly cited people. This process yields roughly 5 million authors who have contributed to scientific publications in the two-decade period. ISI focus on the star researchers. So far, only approximately the top 100 or so names in a dozen scientific areas are available for viewing on the website. One or two, however, like Maths, have the top 250 people listed.

Could one perhaps say that it does not matter if Britain is second-rate at science research? As long as someone does the work, it is not worrying if all the best people are now in the Californian sun or Harvard square?

That seems unpersuasive. First, brilliant researchers are usually best also at pedagogy. They are the inspiring and crystal-clear teachers. Here is one route by which students suffer the consequences if salaries do not keep up with world-levels. Second, this country has an intellectual responsibility to play our part in the advancement of knowledge, and global competition is good for the quality of global science. Third, if we give up on intellectual quality at the top of our universities, it will not be long before we have given up on it lower down. Brilliance rubs off; so inevitably do shoddy standards. Fourth, to accept the idea of second-class British universities is against our whole educational tradition; it would be moronic and oxymoronic.

Being practical, what should we do if we wish our universities to compete with the Ivy League powerhouses on the other side of the Atlantic? That comes down, in part, to sheer cash. We need more.

Our financial constraints bite fiercely and hold back quality. Comparative data show that our nation devotes less than one per

cent of Gross Domestic Product to higher education, whereas the United States devotes two per cent. The recent move to fees of three thousand pounds will not make a large difference.

Despite recent attempts by the British government to encourage merit pay among university scientists, most of our institutions of higher education refuse to offer internationally competitive salaries to the best people. There have been marginal attempts, but nothing on a big scale. While that continues, our nation will look second-rate compared to the United States. Britain's Vice Chancellors have to face up to a world labour market in which talented folk are mobile.

### Cash is Mostly At the Bottom of It

Government funding per student has -- extraordinarily an outsider would probably think -- been halved since the 1980s. We have been slowly destroying one of our greatest industries.

A British university gets about 5000 pounds a year to educate a typical undergraduate. Yet top US universities are in another league. Counting their fees and endowment income, they have about 25,000 pounds per year to educate a student.

Britain cannot have first-class universities on fourth-class funding.

There is little incentive for a politician to see powerful universities in a country: universities are expensive, elitist, difficult to control, and full of people who ask awkward questions and think the unthinkable.

### The Current System is Unfair on the Poor

The current British system is unethical, because the beneficiaries of university education, the students, hardly pay anything. This produces a barely discussed subsidy from the badly-off to the rich.

Every year, poor families contribute hundreds of pounds through their taxes to each undergraduate in Great Britain. That is immoral. A tiny minority of British people went to university. There is no reason why regular taxpayers should pay the bills of university students born clever. Remarkably, however, many left-wingers in Great Britain are

under the impression that defending the lack of university fees is somehow egalitarian.

Education should be free, is the rhyme of the day. That does not make sense.

The often-repeated argument that educated Britons go on to pay lots of income tax, so should have their education subsidised by normal taxpayers, is wrong. Footballers, hairdressers, pilots and London cabbies also go on to pay taxes; yet we do not subsidise their training. The idea that we should pay for young men and women to go to university because they will later pay income tax is muddled logic.

Setting a reasonable level of fees to the students from well-off backgrounds, such as perhaps 7000 pounds year, would allow our taxpayers' money to be diverted to where it is really needed – a giant scholarship fund available to those whose parents have not got much money to send them to university.

Universities need cash now. They are crumbling – in all senses. Most people in Great Britain prefer to see their taxes spent on schools and hospitals and roads, so there is no long-run future in hoping the state will pick up the bill for universities. Unless students pay, the quality of our universities will simply fall and fall.

### Should we Worry about the Consequences for Student Debt? Only Slightly

But one famous line of argument against my side of the case certainly deserves to be confronted. This is the claim, propounded by the National Union of Students, that the typical student ends university with worrying debt of 10,000 pounds. I have not seen real evidence for this figure. Nevertheless, say it is true.

#### *Should we be concerned about student debt?*

Four responses come to mind, and I fear they will not please the critics. No, not really, no and no.

Let's take them one at a time.

*No, number 1.* The argument that we should be sorry for students with debt faces a stark problem. Students drink and party their way through thousands and thousands of pounds a year. This is known to every British university teacher. It is particularly clear from the Student Income and Expenditure Survey run by the Department of Education and Skills. You can look up the data yourself in Social Trends, a fascinating booklet from the Office of National Statistics.

Here is one remarkable fact. One third of student expenditure in a year is on "entertainment". This figure is only a little less, according to the government statisticians who tabulated the survey numbers, than students' entire spending on accommodation, food and household bills.

A typical student's entire spend is 5400 pounds per annum. Of this, he or she blows 1800 pounds a year on going out, drinking, and having fun. That is fine by me; we live in a free society; even economics professors went partying once. Nevertheless, such big expenditure by British undergraduates on enjoyment means that pained claims about debt do not have a compelling ring. In total, according to the survey data, 2700 pounds a year of student spending is on inessential items. Over three years, that makes 8100 pounds. To avoid a large debt, therefore, our students merely have to give up things they do not need.

*Not really, number 2.* If students from low-income homes are put off going to university by the prospect of debt, then that would worry me a lot. Yet I know nobody on the side of high university fees who wishes to ignore this hazard. All those in my corner of the ring want to see scholarship funds for the poor (something that does not get mentioned by speakers at anti-fees rallies in Trafalgar Square).

Scholarships work.

They should be paid for by alumni donations and by using money contributed in high fees by those students who are from wealthy homes. That is a key attraction of high fees for the average student. An alternative approach is to bring back maintenance grants for

youngsters from low-income backgrounds. I could live with either. In any case, we should be concerned about debt among the really poor, but not among the numerous rest.

*No, number 3.* Investing in your future is rational. Young people routinely take out a mortgage on a house, for instance. They borrow a hundred thousand pounds to do so, which is a much larger debt than they would have to find to pay £7000 a year to go to university.

Investing in a mortar board is like investing in mortar: it makes financial sense. Plenty of my students, when one meets them years after graduation, have even happily and profitably borrowed to do an expensive Masters in Business Administration degree.

*No, number 4.* Young men and women are meant to be in debt. Ask any economist about the so-called life-cycle model of rational consumer behaviour.

Sensible folk borrow early in life and then pay back the cash in later years when their incomes become high. This is logical.

Debt pays off – in both senses.

### The Bottom Line

Things are changing and will go on changing.

Britain lacks world-class researchers in its universities. We have a few, but a few is not nearly enough (in my book). The [isihighlycited.com](http://isihighlycited.com) website makes clear the unpleasant facts.

Talented people are expensive. British higher education needs more money; it needs it now; and it is only fees greater than £3000 that will allow this. The same issues face public universities all over the world; the days of a plentiful supply of taxpayers' cash are ending.

Those who benefit from something should pay their own bills. Students themselves would be the winners.

I believe that global market pressures will slowly turn British higher education into one that looks rather like the United States system. This will be expensive and painful, but it will deliver quality. Universities have to be about quality.