The prosperity of English universities and colleges: Income growth and the prospects for new investment

1. This report investigates the short-term revenue growth prospects for English Higher Education Institutions and in the light of those prospects, investigates the feasibility of improvements in what they provide, and staffing levels in particular. It concludes that universities are likely, in most cases, to have more money available for discretionary projects than they have in the past but that despite the impact of higher fees, this is unlikely to be sufficient to enable major reductions in staffing ratios. However, it also notes that if the Government is serious about closing the gap between the funding of Higher Education in the UK and the US then the resultant revenues would be sufficient to contribute to a major improvement in the quality of university teaching.

2. The analysis is based upon aggregated projections of revenue from:

    - Public sources covered by the Government's science and innovation investment strategy
    - Other public sources including HEFCE teaching funding
    - Regulated fees payable by full-time home and EU students[1]
    - Fees from students from outside the EU
    - Other non-public sources including fees from home and EU part-time and postgraduate students, funding from EU government and voluntary sources and all other revenue streams

3. In producing estimates of income the following data have been used[2]:

[1] In some of the analyses presented in this report, income from regulated full-time home student fees is counted as public income. This is factually correct (because most fees are paid to universities by the Government in the form of the student loans company). It also reflects the reality that fee income is ultimately dependent upon government support because an undergraduate degree remains a very heavily subsidized product which means that the ability to increase fee income depends upon the willingness of the Government to support additional students as well as the demand from the students themselves. However where it is interesting to do so, regulated fee income is shown separately.

- Trends in revenues up to 2003-04 as set out in HESA publications
- Early figures for student numbers in 2004-05 and 2005-06 from HESES
- Institutions' own estimates of additional revenue from regulated fees and associated expenditure on bursary payments after 2006-07 as provided to the Office of Fair Access
- Targets contained in the Government's science and innovation investment strategy
- Information on recent and near future public budgets taken from announcements by HM Treasury, the Department for Education and Skills and the Higher Education Funding Council for England
- Estimates of the real growth in public funding from 2007-08 as given by the Chancellor of the Exchequer in the 2005 pre-budget report.

4. A fuller account of the data – and assumptions – employed in the analysis can be found in the main report and annex A. The model itself is reproduced as a separate annex (annex B). Both the report and annexes are available online at www.hepi.ac.uk.

5. There will be a strong increase in the income of English universities and colleges between 2003-04 and 2010-11. That increase is estimated at £5.4 billion per year in real terms (equivalent to 39 per cent). Table 1 shows the projected increases in greater detail.

[2] Sources which have informed the commentary in this report but not the central statistical projections are referenced separately at the appropriate point in the text.

Table 1: Projected university revenues 2003-04 to 2010-11 (£millions, 2003-04 values)

	03-04	**04-05**	**05-06**	**06-07**	**07-08**	**08-09**	**09-10**	**10-11**	**% growth 03-04 to 10-11**
Public (science)	2,266	2,341	2,555	2,651	2,773	2,900	3,034	3,173	40
Public (nonscience excluding fees)	4,568	4,916	4,987	5,129	5,216	5,268	5,321	5,374	18
Total public (excl fees)	6,834	7,257	7,543	7,780	7,989	8,168	8,354	8,547	25
Regulated FT fees	1,090	1,112	1,143	1,485	1,803	2,094	2,100	2,164	99
Total public (incl reg fees)	7,924	8,369	8,686	9,265	9,791	10,263	10,454	10,711	35
Total nonpublic	5,967	6,283	6,616	6,967	7,336	7,725	8,134	8,565	44
Grand total	13,891	14,652	15,302	16,231	17,127	17,987	18,589	19,277	39

6. Whilst all projections are speculative, it is highly likely that the general conclusion (strongly increasing revenues) will be borne out. Making a series of plausible but pessimistic assumptions it is possible to cut the increase from 39 per cent to 20 per cent.

7. The projections highlight a curious fact. Public discussions about the investment priorities of the HE sector tend to focus upon a rather limited question: 'what should universities do with the income from higher fees'. Net regulated fee income (discounting bursaries), is responsible for only 12% of projected 2010-11 revenues in those institutions for which estimates are available – as table 2 shows. What is more, a growing proportion of the Government's Higher Education budget is absorbed by student support payments and by subsidising the rate of interest on student loans – meaning that the student contribution to the costs of Higher Education is partially offset by what is, in effect, a substantial contribution by universities to student maintenance.

Table 2: Fee revenue and total income by type of institution (2008-09)[3].

	Total income[4]	Gross additional income from regulated fees[5]	Estimated Total fee revenue	Fee revenue as % of total income
'New, new' university[6] or HE college	785,531	113,908	189,846	24.2
Post-1992 university	4,463,604	494,629	824,381	18.5
Specialist institution	575,251	43,564	72,607	12.6
Pre 92 university (excl Russell Group)	3,599,464	251,308	418,847	11.6
Russell Group	7,178,024	295,381	492,302	6.9
English HEIs for whom data available	16,601,874	1,198,790	1,997,983	12.0

Source: HEFCE/OFFA

8. It is not difficult to imagine a conflict between full-time undergraduate students who have been encouraged in the belief that their fees are making the dominant contribution to financing the university and institutions conscious that they have a much wider range of increasingly demanding paymasters to satisfy. Representatives of the Higher Education sector have a difficult job to do in explaining that English students continue to be the recipients of a highly subsidised product and that their financial contribution contributes just over one tenth of the revenues of the average university (and a much smaller proportion of the revenues of a research intensive university).

9. Universities, however, are unlikely to make too much of this. For one thing, it is hard to deny that the Government's practice of making funding for research more competitive than funding for teaching has encouraged universities to prioritise the former over the latter – and in this sense more demanding students can be seen as a useful counterweight. But more

[3] Based on those institutions for whom 2008-09 income data and estimates of additional investments as a result of fee changes are available. Institutions planning to charge fees below £3000 excluded.
[4] From HEIs' financial forecasts provided to HEFCE. Institution level data remains confidential.
[5] As supplied to the Office of Fair Access. Estimated bursary payments not discounted.
[6] Universities created after 1992.

fundamentally, students have real options and arguments about financing are not going to prevent them from exercising them.

Are funds available to invest in improving teaching provision?

10. Most of the additional monies are either earmarked for other specific purposes[7] or likely to be absorbed by exceptional cost increases. Identifiable factors are sufficient to account for 60 per cent of the projected increase and other plausible contingencies could increase that figure to 80.5 per cent. Each of the elements of increased expenditure in the table below is discussed fully in the main document.

Table 3: Calls on additional revenues

	Percentage of projected increase
Additional salary and staffing cost[8]	17.0
Earmarked public research funding	27.0
Non-public research funding	9.0
Non-academic pay	3.6
Commercial activities	9.9
Other non-pay costs	-
Doubling of utilities costs	3.5
Total of non-hypothetical items	**60.0**
Stopping of capital funding (hypothetical)	14.9
3 per cent increase in pension contribution rates (hypothetical)	4.2
1 per cent increase in employers' NI contributions (hypothetical)	1.4
Grand total	**80.5**

11. So there is no £5.4 billion bonanza. Having said that the remaining sums are not negligible. It should be noted that these factors include salary costs (reflecting the recent pay award and reform to payscales); higher utilities costs and even the potential impact of the complete cessation of

[7]The analysis assumes that *all* income from research and commercial activities needs to be reinvested in those activities. Because of this, it is probable that some of the funds shown here as unavailable for discretionary spending in teaching will be available for discretionary spending on other activities.

[8] Assuming the maintenance of current student:staff ratios, and their application to the increased number of students projected in 2010-11.

government funding for capital projects. Table 3 (above) also incorporates the assumption that additional revenue for research or commercial activities will be have to be recycled as investment in those activities and will not be available for discretionary expenditure. These factors, whilst they greatly reduce the scope for discretionary investment, do not eliminate it completely.

12. The residual increase in annual spending power is between £2.16 billion and £1.05 billion per year – assuming the revenue projections are met. Increases at this level whilst substantial are low enough to be eliminated by adverse contingencies: it is not therefore *absolutely certain* that English universities will have more money available for discretionary spending in 2010-11 than they did in 2003-04 – but it is highly probable. Of course much of that revenue will already be committed in the short term but the figures illustrate the potential to finance new priorities.

Further investment

13. This raises the question of how English Higher Education might differ if very substantial additional sums were available.

14. English universities are exposed to a genuine international market in teaching no less than in research. Some universities may fail if they lose the ability to attract international students. Furthermore, students (of all sorts) are not limited in their choice of institution in the same way as those seeking highly specialised research. The consequence of higher fees for home students and greater dependence upon revenue from international students is that any perceived decline in teaching quality has the potential to affect a university's bottom line more quickly in the future than it has in the past.

15. Student:staff ratios have risen consistently for many years. In 1994 (just after the admission of the former polytechnics to the university system) they stood at 16.5. The most recent figure is 18.2 and rising – at a time when university finances are getting better (http://www.dfes.gov.uk/trends/index.cfm?fuseaction=home.showChart&cid=4&iid=22&chid=86). There have, of course been developments in teaching practice and in facilities over the same period and it is arguable

that these might in part offset increases in staff ratios; but many would see an improvement in student:staff ratios as a highly desirable contribution to an improvement in teaching provision, and the following calculates the costs of reversing the upward trend in student:staff ratios.

Student:staff ratios

16. On the basis of HEPI projections of changes in student demand, the numbers of extra FTE staff necessary to reduce student:staff ratios are as shown in table 4:

Table 4: Academic staff required to achieve given student:staff ratio (SSR)

	2005-06	**2010-11**	**2020-21**
SSR=18.2	2,036	5,310	4,,099
SSR=16	12,300	16,018	14,643
SSR=14	24,556	28,806	27,234
SSR=12	40,897	45,855	44,022
SSR=10	63,775	69,725	67,525

Source: HESA/table 16

17. Estimates of staff cost, except where stated, are based on the following assumptions, and are subsequently referred to as the middle projection:

- There will be a one-off increase of 4 per cent in academic pay as a result of the new payscale. This increase will be felt between 2003-04 and 2005-06
- Real pay increases will run at a rate of 0.8 per cent per annum in 2004-05 to 2005-06 (consistent with increases of 3.3 per cent per annum – the current trend rate – and general inflation of 2.5 per cent)
- Real pay increases over the period covered by the recent pay deal will amount to 5.5 per cent (consistent with a 13.1 per cent increase in pay and general inflation of 2.5 per cent in the first two years and 2 per cent in the third year)
- Real pay increases in 2009-10 and 2010-11 will average 1.3 per cent per annum

- The impact on the pay bill of staff moving up their payscale will be balanced by the retirement of staff at the top of the scale and their replacement by staff commanding lower salaries.

18. These assumptions reflect a real increase in academic salaries well above the rate of inflation, and ahead of increases in recent years. In the context of a discussion about improvements in provision, and the need to maintain the competitiveness of the UK's higher education sector, then increasing staff salaries in this way seems a reasonable proposition. On this basis, the total increase in the academic pay bill associated with reductions in staffing ratios are as shown in table 5. The figures include both the cost of employing extra staff and the costs of paying higher wages to new and existing staff alike.

Table 5: Total increase in pay bill under middle projection (£000)

	2005-06	**2010-11**
SSR=18.2	350,628	917,530
SSR=16	832,357	1,461,660
SSR=14	1,407,602	2,111,419
SSR=12	2,174,595	2,977,764
SSR=10	3,248,385	4,190,647

19. Additional estates costs would also be incurred - just under £1 billion in capital costs and a much smaller sum (£36m) in annual revenue costs**.**

20. If academic pay is to increase at rates which enable it to keep pace with other professions, there will need to be substantial increases in expenditure on pay in the second decade of this century. Depending on the level of pay increases, achieving a student:staff ratio of 16 whilst increasing pay by a real annual rate of 2.5% throughout the second decade of the century would require that approximately £2.8 billion more was spent on academic staff costs in 2020-21 than was spent in 2003-04 (2003-04

prices) despite the fact that demographic trends suggest a modest fall in student numbers.[9]

21. Substantial improvements in pay or staffing levels, therefore, are very expensive and it is clear that universities cannot be expected to make across the board improvements in staffing ratios on their own (unless some cavalier assumptions are made about the amount of money available for discretionary expenditures). If, however, both funders (principally government and students) and universities themselves place a high priority on the quality and quantity of academic staff it may be that, for the first time in living memory, staffing ratios could begin to fall.

22. When compared with its own recent historic levels of income, the UK Higher Education sector is relatively well funded; but when compared to its main international competitors it is poorly funded. The OECD gives the figure of 1.1 per cent[10] of GDP for UK spend on tertiary education. This is much lower than the figures given for the US (2.6 per cent) and Scandinavian countries (1.8 per cent).

23. This matters not just to universities but to society as a whole for two reasons. Firstly because the outputs of English Higher Education – graduates and research - have to be competitive if England is to compete; and secondly because the sector itself has rapidly become a major export earner – a status it will lose if it is seen to fall behind other countries. The Chancellor of the Exchequer has been reported as saying that he regards the current proportion of GDP devoted to higher education as inadequate,

[9] Figures include above inflation pay increases for existing as well as additional staff. Also take account of fall in student numbers predicted for years 2010-11 to 2020-21.

[10] The figure for the UK is probably an underestimate. According the UK national accounts for the first quarter of 2006, (http://www.statistics.gov.uk/pdfdir/qna0606.pdf) UK Gross Domestic Product was £1177 billion in 2004 (at current prices). In 2004-05 UK HEI revenues were £16.9 billion making HEI revenues equivalent to approximately 1.4 per cent of GDP. It is true that UK HE revenues increased strongly in the early years of the current decade but even if this calculation is repeated for earlier years it still gives a figure somewhat higher than the OECD figure. The discrepancy probably arises because the OECD has to produce figures which are comparable from one country to the next, which requires a degree of ingenuity as no two countries collect identical data. Therefore, whilst they may not provide the best description of Higher Education *as we understand it in the UK* the OECD figures probably remain the best basis for making international comparisons.

when compared to other countries[11] and that there is a need for a debate as to how it can be increased.

24. On the basis of our revenue projections, a start is already being made. If the revenue projections are borne out UK HE revenues will increase relative to GDP. If it is assumed that from 2004, GDP increases at a rate of 2.5 per cent per annum (generally accepted as the upper figure for UK trend growth), GDP will be 19 per cent higher in 2011 than it was in 2004. The central projection for English HE revenues has them 39 per cent higher. Under this scenario English HE revenues would increase by 17 per cent relative to UK GDP – sufficient to increase the share of GDP from 1.1 per cent to 1.3 per cent or half the US figure. The fact that only one fifth of that modest improvement is the result of higher regulated fees should be sufficient to demonstrate that further fee increases are not going to make a major contribution to closing the funding gap between the UK and the US.

25. It is worth pausing over these figures. Closing *half* of the remaining gap between UK and US rates of investment in HE would involve an increase of 50 per cent in HE revenues over and above the projected increase. For this to happen by 2010-11, annual English HE revenues would need to be £28.9 billion at 2003-04 values: 50 per cent higher than the projected £19.3 billion – which itself represents a 39 per cent real increase on 2003-04 level of £13.9 billion. Achieving such massive increases in such a short timescale is not remotely realistic but it does show that any significant progress towards the Government's ambition of US levels of HE investment will free large sums of money for improvements in English Higher Education.

26. No-one seriously expects increases on this scale but the implications are worth considering. If the funds available to universities for discretionary spending are increasing and if the Government is serious about closing the funding gap with other countries which requires further large increases and if there are good reasons to suppose that teaching quality should be a top priority for both government and institutions, there must be some scope for both sides to work together to increase investment in teaching.

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[11] '*Brown urges debate on fees income'* The Guardian 5 June 2006

27. Under the middle projection, reducing student:staff ratios from 18.2 to 16 whilst substantially improving pay levels would involve spending £1.5 billion more on estates and academic staff in 2010-11 than in 2003-04 (in real terms) in addition to an outlay on non-academic staff which is not quantified here but which is likely to be very substantially less than the outlay on academic staff and a one-off capital outlay of £932m. In theory, a proportion of the increased annual income of £1.05 billion-£2.16 billion likely to be available on the basis of the estimates of income and commitments shown above could be used to meet part of the bill[12]. Alternatively, were it to be solely funded by new money, over and above this, and assuming GDP growth of 2.5 per cent per annum, it would imply an increase of 0.13% in HE's share of GDP (or 0.14% if the capital costs are spread over seven years and included in the calculation)[13] – far more modest than the kind of increase the Government has said that it desires. So long as the Government is prepared to play its part and so long as universities are prepared to give teaching the same priority they have given to research over recent decades, substantial investments in teaching quality are in no way an outlandish goal.

28. None of this implies that a target should be set to improve student:staff ratios. Student:staff ratios are nothing more than a useful quantitative indicator of a student's academic experience and of the costs of investing to improve it. They should not become an end in themselves.

29. What is more, even if it were agreed that staffing levels are the overriding priority student:staff ratios are a flawed measure. At present, they are calculated by dividing the number of students by the number of staff with teaching responsibilities. For the purposes of the calculation, staff who spend 100 per cent of their time on teaching are treated in the same way as staff who spend most of their time on research or other activities. If improvements in student:staff ratios are to have a real impact upon teaching, however, it will be necessary to ensure that they support

[12] In practice most of that money will already have been committed by institutions for the next few years, the predictions are not precise enough to depend upon the extra money and institution-level effects will be uneven. It would not remotely be possible, therefore to base *public policy* on the assumption that all universities can afford to put substantial additional monies into improving teaching ratios in the next few years

improvements in teaching rather than an increase in the time devoted by teacher-researchers to research. Student:staff ratios are used to give an indication of the costs of making measurable improvements in teaching inputs (and, one would hope, quality). Their use does not imply that investment in staffing should take priority over investment in other parts of the teaching process (equipment, estates etc). That is very much a judgement which should be left to individual institutions and the professionals within them.

30. On the basis that output measurements are always preferable to timesheet-based input measures, the simplest and most effective way to do this would be to use student surveys to verify that the quality and quantity of teaching was actually improving.

[13] Assumes GDP of £1.2trn.