The Economic Costs and Benefits of International Students

Phil Vickers and Bahram Bekhradnia

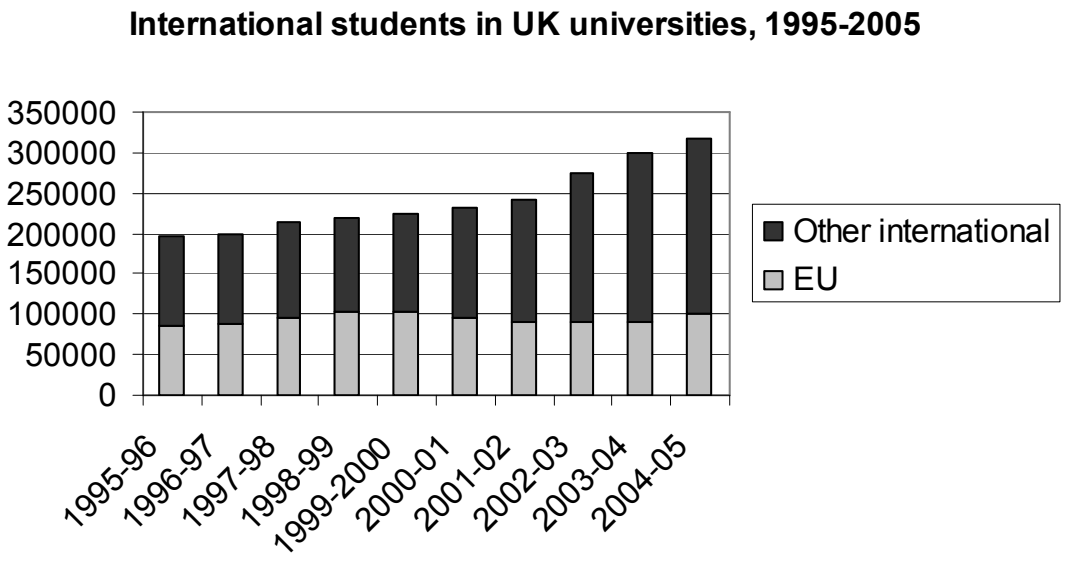
1. This report examines the economic benefit the UK receives from the presence of international students and in the case of EU students compares these benefits with the substantial subsidy they receive from the UK taxpayer. Some of the main benefits are non-economic, and are not considered here. The report seeks to identify the main costs and benefits, and to estimate their orders of magnitude, in order to arrive at some policy conclusions.

2. Throughout this analysis, where we are trying to quantify something but are unsure of the exact value, we estimate the lowest plausible figure, so as not to overstate the impact and thus arrive at a prudent estimate of the impact of international students on the UK. The best recognised of the economic effects is the impact of international students' spending on tuition fees and living costs. Also, since several thousand remain in the UK each year to work, having graduated from a UK HEI, the report also quantifies the impact that this has on the UK economy.

Numbers

3. The UK's international market share of international students stood at around 11 per cent in 2004, having reduced from 16 per cent or so in 1998. In terms of market share the UK remains second to the USA (which has also lost market share, but which still dominates the market with a share of over 20 per cent). Despite this reduction in market share, the number of international students globally has been increasing to such an extent that the number of such students in this country has grown rapidly, as is shown in Figure 1 below.

Figure 1: Growth in international student numbers



4. Table 2 below shows the breakdown of the 318,000 international students present in the UK in 2004-05 between undergraduate and postgraduate, full time and part time and EU and non-EU students.

Table 2: Summary of international students present in UK universities in 2004-05

	EU:	non-EU:
Full time:		
Undergraduate:	44980	82095
Postgraduate:	27610	85605
Part time:		
Undergraduate:	9210	16320
Postgraduate:	18205	34375
Total:	100005	218395

Direct economic effects

Tuition fees

5. In the academic year 2004-05 non-EU students paid just under £1.5 billion in tuition fees. Unfortunately, official statistics do not separate this figure into fees received from undergraduate and postgraduate students, so it is not possible to examine these separately. For non-EU international students, therefore, postgraduate and undergraduate fees are considered together.

6. As far as EU students are concerned, again official statistics do not report the data in a form convenient for this analysis, but it is possible to estimate that the value of tuition fees paid by EU undergraduate and postgraduate students is £79 million and £101 million respectively – a total of £180 million.

7. Adding the figures for EU and non-EU students gives a total value of around £1.68 billion. Adjusting this total to allow for students who receive assistance from a UK source results in a net figure of £1.39 billion. This compares with an equivalent figure in a study conducted in 1995 by Greenaway and Tuck[1] of £310.6 million (£430.2 million in 2005 prices), reflecting the dramatic increase in international student numbers over the period, but also the fact that in the meantime EU undergraduates, as well as EU postgraduates, began to pay a fee.

8. Separating the total of £1.39 billion between EU and non-EU students, injections into the economy arising from tuition fees paid by EU students were £149 million, and by non-EU students £1.245 billion. These figures are summarised in Table 3 below.

Table 3: Total tuition fees paid by international students

	EU (£ million)	non-EU (£ million)
Undergraduate	66	-
Postgraduate	83	-
Total	149	1245

Other expenditure

9. The other direct source of injection into the economy from the presence of international students is their spending on living costs whilst in the UK. This is more difficult to quantify than tuition fees, as spending is less standardised and not reported to the same extent. However, there are surveys that report average expenditure by students, and in particular the UNITE Student Experience Report 2006[2] has a breakdown of students' weekly expenditure, from which it is possible to estimate that international students spend an average of £181.57 per week on living costs.

[1] David Greenaway and Jacqueline Tuck, *Economic Impact of International Students in UK Higher Education* (Committee of Vice-Chancellors and Principals of the Universities of the United Kingdom, 1995)

[2] Available at http://www.theworkbank.co.uk/MORI2006.pdf.

10. Table 4 below summarises the detailed implications of these estimates:

Table 4: Summary of expenditure on living costs

Undergraduate Students

Weekly expenditure per student	£182
Estimated average number of weeks present	36
Total expenditure per student per year	£6,537
Total number of undergraduate students	152,605
Aggregate expenditure of undergraduate students	£997 million (rounded)

Postgraduate Students

Weekly expenditure per student	£182
Estimated average number of weeks present	52
Total expenditure per student per year	£9,442
Total number of postgraduate students	165,795
Aggregate expenditure of postgraduate students	£1.565 billion (rounded)

11. Together, undergraduate and postgraduate international students spent over £2.5 billion on living costs. This compares with the total found in the 1995 study of £615 million at 2005 prices. Allowing for the fact that some of the students concerned will have scholarships from UK sources, it can be estimated that the net injection into the UK economy resulting from expenditure by international students amounts to approximately £2.35 billion for the academic year 2004-05.

12. Separating these figures into EU and non-EU students, and into undergraduate and postgraduate students, the injections into the economy are shown in Table 5 below.

Table 5: Total expenditure on living costs by international students

	EU (£ million)	non-EU (£ million)
Undergraduate	324	589
Postgraduate	396	1,037
Total	720	1,626

Summary of direct effects

13. Combining the figures for tuition fees and other expenditure, the total net injection into the economy by international students in 2004-05 was around £3.74 billion: £866 million by EU students and £2.87 billion by non-EU students. The figure found by Greenaway and Tuck was £716.4 million, which represents around £978 million at 2005 prices, showing that the injection into the economy resulting from international students in higher education increased almost four-fold over the period in real terms. This

expenditure can all be regarded as a UK export. Higher education is an extremely significant export industry in this country, outstripping the export value of, for example, alcoholic drinks (£2.8 billion in 2005), textiles (£2.8 billion), clothing (£2.5 billion), publishing (£2.3 billion) and cultural and media industries (£3.7 billion in 2006).

14. To these raw totals needs to be applied a multiplier[3] to reflect the secondary effect of this initial injection into the economy. Altogether the total impact of direct spending by international students in 2004-05 is unlikely to have been less than £5.5 billion.

The impact of recent international graduates on the economy

15. Every year, several thousand international students remain in the UK to work following graduation from a UK HEI. This clearly has an impact on the UK economy. It can be assumed that the majority of these individuals would not have moved to the UK had they not studied here, and therefore this impact can be viewed as a direct result of the UK hosting them as international students. In fact, students remaining in the UK and entering the labour market following graduation are likely to have the same impact as new immigrants. The impact is two-fold: first, they pay tax and consume welfare benefits – the fiscal impact; and second their economic activity contributes to the nation's GDP – here called the economic impact.

Fiscal impact

16. A Home Office report[4] that considered the characteristics of immigrants and how these impacted their demand for public services concluded, unsurprisingly, that those who were young, unattached and highly educated were likely to make a significant positive contribution greater than their consumption of benefits. Again no single estimate is available, but on the basis of that report we examined the fiscal effects over a range of levels of consumption of Government spending, ranging from a level of tax revenue between 1.5 and 3 times the associated public expenditure[5].

17. Assuming an average starting salary for graduates in the UK of £21,000, we can work out roughly the amount the Government is likely to receive in income taxes and national insurance, and make assumptions about the

---

[3] National income circulates around the economy – between households and firms. An injection into the economy (such as one arising from exports of UK higher education), therefore, will also circulate, leading to an overall effect greater than the initial injection. For the purpose of this report a multiplier of 1.5 has been used, at the bottom end of that shown for other industries in a recent Universities UK report: *The economic impact of UK higher education institutions* (Universities UK, March 2006, available at http://bookshop.universitiesuk.ac.uk/downloads/economicimpact3.pdf)

[4] *Migration: an economic and social analysis* (RDS Occasional Paper No 67, Home Office, 2001)

[5] This would mean that for every pound paid in tax, these individuals would consume between one third and two thirds of that value in public goods and services. We therefore examined what the net fiscal impact would be for different levels of public spending within this range, with a central assumption that they consume half as much as they pay.

proportion of the remaining income that Government will receive in other forms of taxation (such as VAT, etc), for a range of different average lengths of stay.

18. In 2004-05, 6,595 EU students remained in the UK following graduation from UK HEIs to seek employment. Figures for the number of non-EU students remaining in the UK following graduation are not available, so we need to make a plausible approximation[6]. Because non-EU individuals wishing to remain in the UK need to pass stringent immigration controls, it is likely that a lower proportion of non-EU students will remain than EU students. The number of non-EU students studying in the UK is more than twice the number of EU students, so an assumption that approximately the same number of non-EU students remain in the UK as EU students may be a plausible estimate (as this represents a significantly smaller proportion of their total numbers).

19. If, therefore, the number of students who stay on to work continues at the present level in the case of EU students, and at the present assumed level in the case of non-EU students, and if those who do so stay in the UK for an average of five years upon graduation and consume half the value of the tax revenue they pay in the form of Government provided goods and services, there will be a net fiscal gain of over £210 million (£105 million each for EU and non-EU students). The full report shows the effects if different assumptions are made.

20. In addition to these fiscal benefits, there is – as discussed previously – a large injection into the economy from spending on tuition fees and other living costs. Whilst much of this spending is not taxable (tuition fees and spending on food, for example), the fact that the injection circulates around the economy means it is likely to have a significant fiscal impact nonetheless. The fact that universities spend the majority of their income on staff salaries means that a large proportion of income earned from international students will be received by Government in the form of income tax[7], for example. No further account is taken here of such considerations, which will have the effect of adding to the positive side of the balance sheet.

<u>Labour market effects</u>

21. As with any market, the effect of increased supply of a product or service – graduate labour in this case - will be determined by whether or not there is currently a shortage or an excess. Looking at the UK graduate job market as a whole, there is currently a relatively low level of unemployment, indicating that the presence of recently graduated international students is

[6] It is, incidentally, extraordinary that the Home Office are unable to say how many former international students stay on and work. These, after all, need to change their visa status in order to do so. In view of the importance of this question to developing a sensible and balanced policy on international students, it is important that they should begin to do so.

[7] Using a fairly crude calculation to demonstrate, say that universities spend half of their tuition fee income on staff salaries (in reality it is a greater proportion than this), and say that 20 per cent of this is paid by university staff as income tax, 10 per cent of tuition fees income goes directly to the Government as income tax.

unlikely to be detrimental to the employment prospects of recent graduates from the UK, or to their salary levels.

22. The fact that these individuals are unlikely to have any significant effect on the UK labour market means that their presence almost certainly contributes to net economic growth. Using the assumptions about numbers entering employment, starting salaries and wage increases described previously, if the average length of stay of recent graduates is five years, each year graduates from EU countries alone will earn a total of nearly £700 million in pre-tax wages, and, on the prudent assumption about staying on rates described above, non-EU individuals will earn the same - £1.4 billion in total.

23. So, assuming these individuals are not to the detriment of UK workers in any way (i.e. their presence does not affect the conditions of employment – the wages and level of employment, and the levels of consumption of UK citizens), their presence will result in a considerable net increase in GDP, and so in levels of consumption, and hence real economic growth throughout the economy. Their full contribution to GDP is much greater than this[8]. Adding the multiplier to these figures increases the total contribution of EU students to GDP to over £1 billion and the same for non-EU students - £2 billion in total. Although some of the income earned will be sent abroad as remittances, especially by non-EU students, thereby reducing the multiplier, that is allowed for in the low value that has been assumed for the multiplier in this study.

Conclusion

Summary of costs and benefits

Costs

24. There are two costs incurred from the presence of EU students. First, they benefit from the subsidised loan that is provided by the Government to enable students to pay undergraduate fees. This was estimated by the Government at the time of the passage of the Education Act at around 40 per cent of the level of the fee charged, and is now estimated to be 33 per cent. With an annual fee of £3,000, that amounts to a subsidy of £1,000 per full-time undergraduate student per year. Non-EU international students do not benefit from this loan, so this is not a cost attributable to such students.

25. The second cost, incurred in respect of both EU and non-EU students, is, quite simply, the cost that the university incurs in providing for the student. We do not yet have good information about teaching costs (though information is improving with the introduction of TRAC). For the purpose of these calculations it is assumed that the home and EU undergraduate fee plus the HEFCE grant equates to the cost of provision (HEFCE does not

[8] It is a reasonable assumption that employers pay their employees less than the additional turnover they achieve as a result of having employed them.

differentiate between undergraduate and postgraduate students, and funds them as if the costs are similar). The total average resource per student in 2004-05 was about £5,000.

Benefits

26. The economic benefits of EU and non-EU international students have been explored fully in this report, and arise from payments that students make for fees and living expenses, as well as the taxes paid and the contributions to GDP made by students who stay on in employment after graduating. Annex A shows the detailed calculations that underpin the conclusions that:

- The net direct cash benefit from the fee income and living expenditure of EU students amounts to at least £800 million per year
- The fiscal benefit arising from the presence of EU students who then go on and work after graduating is at least £100 million per year
- The increase in GDP arising as a result of the presence of EU students who then go on and work after graduating is at least £1 billion per year
- The net direct cash benefit from the fee income and living expenditure of non-EU students amounts to at least £3.3 billion per year
- The fiscal benefit arising from the presence of non-EU students who then go on and work after graduating is at least £100 million per year
- The increase in GDP arising as a result of the presence of non-EU students who then go on and work after graduating is at least £1 billion per year.

27. Or, put another way, on average:

- Each FTE EU student brings a net cash benefit of about £10,000 per year
- Each FTE EU student brings a fiscal benefit of about £1,200 per year
- Each FTE EU student makes a contribution to GDP of about £12,400 per year (averaged across all students, whether or not they work subsequent to graduation)
- Each FTE non-EU student brings a net cash benefit of about £17,900 per year
- Each FTE non-EU student brings a fiscal benefit of about £600 per year
- Each FTE non-EU student makes a contribution to GDP of about £5,500 per year (averaged across all students, whether or not they work subsequent to graduation).

Policy implications

28. It is clear that it is well worth maximising the number of both EU and non-EU international students. Even if there were no other benefit, both groups provide substantially more, financially, than they consume. And over and above these financial considerations, they provide other benefits – such as the pedagogic benefits that come from the creation of multicultural learning environments, and the goodwill we derive from having significant numbers of graduates of UK universities in leadership positions in overseas countries. These non-financial benefits are substantial and real, but are not the subject of this report.

29. For EU students, the argument against seeking to maximise numbers is that each EU student receives substantial subsidy – and so represents a cost to the taxpayer. But the taxpayer also benefits. There may be a cost to public expenditure, but the overall economic gain is substantial, and will be so even if all EU students were to default on the repayment of their loans[9].

30. For non-EU international students there is a problem, as fees are set by universities, in whose interest it is to maximise their income from fees, which they consequently set at a level that may deter large numbers of students from attending.

31. From the wider perspective of the national interest, a lower fee might be preferable, if that would attract more students. A lower fee might be in the wider national interest, but would be against the interest of individual universities. In the circumstances, it would be in the national interest for the taxpayer to subsidise non-EU international students – as is the case with EU students – in order to maximise the number who attend our universities, and so provide the greatest benefit to the country as a whole, looking beyond the narrow interests of universities. That is exactly what happens in many other countries. In Germany, for example, international students attend virtually free of charge – the more than 250,000 international students in Germany cost the State upwards of £1 billion per year[10], yet the German Government is willing to pay the universities to take the students because of the even greater benefits they bring.

32. It is remarkable that in the face of this sort of state subsidy – which in other areas would amount to unfair competition – UK universities have succeeded to the extent that they have in drawing in international students. Although numbers have been increasing impressively (albeit recently at a reduced rate), there should be no presumption that this will continue. As other countries begin to use English as the language of instruction, and as the

[9] The Government has not yet put in place convincing measures to ensure that loans provided to EU students are repaid, but as is demonstrated in this report, that is a relatively minor consideration.

[10] OECD Education at a Glance 2005 reports expenditure per student in Germany as $8,000 per year, while the 2006 edition reports that in 2004 there were 260,000 international students at all levels.

effects of the Bologna Agreement begin to take hold, eroding some of our competitive advantage; as other countries start to market themselves more aggressively; and as better information becomes available that enables students to compare the value they receive for their money[11], then it is quite possible that UK universities will begin to struggle to maintain numbers while charging the sorts of prices that are charged at present.

33. In such circumstances – and indeed before, if we want to increase international student numbers, as we should, and as is official policy – it would be in the national interest to subsidise international students. There is a limit to the extent to which marketing drives such as the Prime Minister's Initiative[12] can override the effects of relatively high costs. The impact of lower fees can be seen from our experience with students from the new EU accession states, who moved from one year to the next from the international fee to the domestic fee, and whose numbers more than doubled immediately. Universities cannot be expected to provide such subsidies from their current grants – to do so would be at the expense of UK students. So an explicit subsidy will be required from taxation, to enable the taxpayer to continue to benefit from the presence of international students in large – and possibly larger – numbers[13].

[11] One of the most worrying aspects of the HEPI survey of the Academic Experience of Students in English Universities last year was the finding that 30 per cent of non-EU international students thought that the value for money of what they had received was poor or very poor – something that is not surprising in the light of the sometimes very small amounts of contact with academic staff they appeared to receive in some subjects and in some universities.

[12] A wide-ranging initiative promoted by the former Prime Minister, to increase international student numbers.

[13] There would be a substantial amount of dead weight associated with such a subsidy, so care will be needed to ensure that it is only introduced in such a way that the increase in the number of students that it stimulates outweighs the cost of subsidising students who would have been willing to pay the full fee.

Annex A: Calculation of costs and benefits in £s

EU

Costs

30% of loan	44,530,200	
Cost of provision UG	243,780,500	Assumed to be the HEFCE grant + fee (average £5000)
Cost of provision PG	175,370,250	Assumed to be the HEFCE grant + fee (average £5000)
Total	463,680,950	

Benefits

Fee income	223,500,000	(from Table 3, with multiplier effect)
Living expenses	1,080,000,000	(from Table 5, with multiplier effect)
Total	1,303,500,000	

Net direct cash benefit	839,819,050	
Fiscal benefit	107,000,000	(from paragraph 20)
Contribution to GDP from graduate employment	1,038,000,000	(from paragraphs 23-24)

Non-EU

Cost of provision UG	443,931,000	Assumed to be the HEFCE grant + fee (average £5000)
Cost of provision PG	498,493,750	Assumed to be the HEFCE grant + fee (average £5000)
Total	942,424,750	

Benefits

Fee income	1,867,500,000	(from Table 3, with multiplier effect)
Living expenses	2,439,000,000	(from Table 5, with multiplier effect)
Total	4,306,500,000	

Net direct cash benefit	3,364,075,250	
Fiscal benefit	107,000,000	(from paragraph 20)
Contribution to GDP from graduate employment	1,038,000,000	(from paragraphs 23-24)