The Economic Costs and Benefits of International Students

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Introduction

1. During the second half of the last century, and continuing this, there has been a steady upward trend in the numbers of international students – from the EU and beyond - studying in UK HEIs. This report examines the economic benefit the UK receives from the presence of these international students and in the case of EU students compares these benefits with the substantial subsidy they receive from the UK taxpayer[1].

2. The full benefits these students bring to the UK economy (and society in general) are impossible to quantify, and some (for example cultural) have no readily measurable economic value. There is already a body of literature examining the theoretical effects that international students have on the host country, and this report does not seek to add to this, nor to provide a full economic analysis. Rather, it seeks to identify the main costs and benefits, and to estimate their orders of magnitude, in order to arrive at some policy conclusions. 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.

3. This section of the report briefly outlines the number of international students in the UK, other relevant background factors, and how these have changed in recent years, and then gives a brief overview of some of the issues relating to the examination of the economic impact of international students. The second section quantifies the direct effects of expenditure on tuition fees and other living costs[2]. The third section examines the possible effects of international students remaining in the UK to work following graduation. The final section assesses the policy implications of the conclusions of the report.

4. In the early 1990s Greenaway and Tuck investigated the magnitude of the injection into the economy resulting from the presence of international students by examining the amount of money entering the UK to pay for tuition fees and other expenditure.

5. In 1992 – the year on which Greenaway and Tuck's analysis was based – there were 95,900 full time international students in UK HEIs. That number increased steadily to 240,390 in 2004-05 (318,400 including part-time students). Of these, 100,005 were from EU countries, whilst the remaining 218,395 were from countries outside the EU. Table 1 below

[1] Some non-EU students also receive UK government grants to study in the UK, but this to a small minority.

[2] This section serves as an update to a similar study: David Greenaway and Jacqueline Tuck, *Economic Impact of International Students in UK Higher Education*.

shows the breakdown of these two groups into undergraduate and postgraduate, and into full time and part time students.

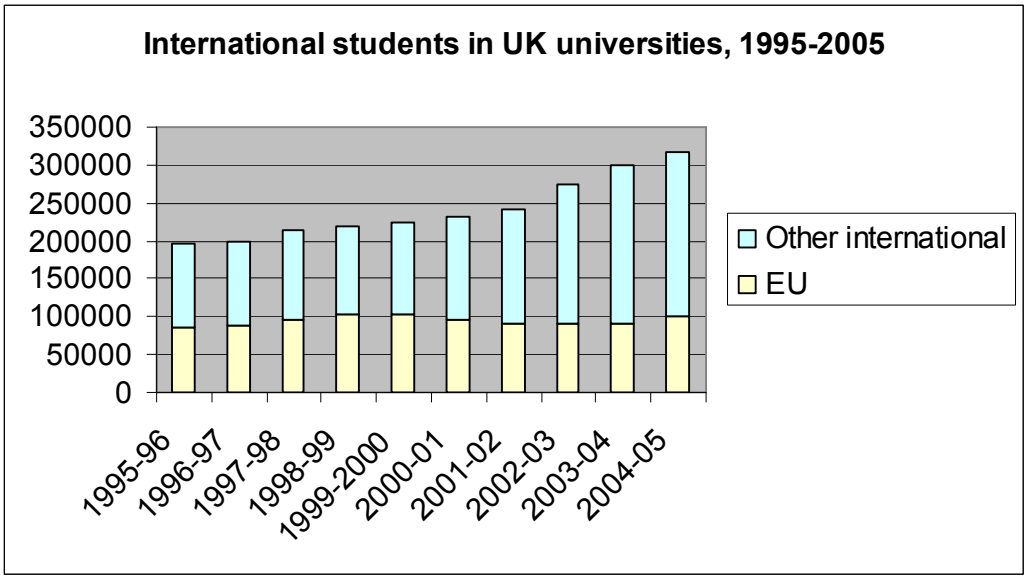
Table 1: Summary of international (including EU) students present in UK universities in 2004-05

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

Source: HESA

6. 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 2 below.

Figure 2: Growth in international student numbers



Source: HESA

7. The growth in international student numbers has been remarkable, and is in part as a result of policy initiatives originating from the former Prime Minister (the Prime Minister's Initiative, or PMI) which sought among other things to streamline the administration involved in the application process for international students, and also to improve the marketing effort of UK institutions abroad.

The direct financial flows from international students

8. This section of the report aims to quantify the direct financial flows resulting from the presence of international students, building largely on the work done by Greenaway and Tuck over a decade ago.

9. The discussion follows the same methodology as that used by Greenaway and Tuck, allowing not only the current situation to be examined, but also the present to be compared directly with the situation just over a decade ago (the figures used in their report are from the 1992-93 academic year, and the figures in this report are from the academic year 2004-05 wherever possible). 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.

Basic framework of analysis

10. The presence of international students in the UK is a form of export from the UK (to the extent that the funds for tuition fees and cost of living originate from outside the UK). As with any other export, money flows in from abroad to pay for UK produced goods and services[3].

11. 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. There is no precise estimate of this multiplier effect, whose value depends upon a range of variables, such as the current state of the economy, and the nature of the industry generating income. The excellent Universities UK

[3] Unlike most other export markets, however, it is likely that there are additional positive externalities resulting from educating international students. The presence of international students in the UK will likely have a range of positive benefits above and beyond those resulting purely from the financial flows generated. These include, for example, the benefit to exports of large numbers of people abroad who have lived in the UK and are familiar with UK brands, and the benefit to international relations and diplomacy of having highly placed elites in other countries, who spent their formative years in this country. And more directly, a number of university departments – particularly in the sciences and engineering – would very likely be unviable without international students to help support them. These secondary benefits are not measured here.

report "The economic impact of UK higher education institutions"[4] gave a range of different multipliers, including a multiplier of 2.52 for income generated by the higher education "industry". The outputs of higher education do not of course work in the HE industry, but in the full range of industries, and for the purpose of this report – and in keeping with the intention of creating conservative estimates – we have used a multiplier of 1.5 throughout (i.e. for every £1 of direct output a further £0.50 is generated elsewhere), which is at the lower end of the range identified in the Universities UK report.

12. It is worth noting here that the effects of an injection into the economy from exports will necessarily have a positive impact on the economy, regardless of the level of employment (although the exact effects will differ). In a situation where there is not full employment, and there is an injection into the economy, unemployed resources are absorbed by the increased demand for exports, and there is a resulting increase in national income. In a situation where there is full employment, and there is an injection into the economy from exports, there will be a reorganisation in the composition of the economy. Greenaway and Tuck state that: "Expanding output in such [export] activities allows the system to adjust by contracting output in areas of comparative disadvantage and importing the commodities concerned. The labour released by the contracting sector is more effectively employed in the export sector". This is an intuitive conclusion drawn from the theory of comparative advantage, whereby international trade results from the different relative efficiencies of different countries in producing and providing different goods and services.

Tuition fees

13. The first factor to look at, and the easiest to quantify, is the injection into the economy from tuition fees originating from abroad. International students – especially those from outside the EU – pay high tuition fees. Since the majority of these funds originate from outside the UK, these can clearly be viewed as injections into the economy.

14. The income from tuition fees paid by students from non-EU countries is reported annually in the HESA published statistics. In the academic year 2004-05 non-EU students paid just under £1.5 billion in tuition fees. Unfortunately, HESA does 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.

[4] Universities UK, March 2006. Available at http://bookshop.universitiesuk.ac.uk/downloads/economicimpact3.pdf

15. As far as EU students are concerned, the exact tuition fees they pay are not reported by HESA – rather since they pay the same tuition fees as UK domiciled students, the figures are aggregated with those of the UK tuition fees paid. Moreover, although the HESA data report the income from those paying Standard Rate fees and Non-Standard Rate fees separately, it is not known how many UK and EU students fall into each category. We do not know the exact proportion of each group accounted for by EU students, and can therefore not determine the exact value of the tuition fees paid by students from EU countries.

16. If we take the total value of tuition fees paid by all UK and EU students, and adjust this to represent the proportion of the total for which EU students account[5], we can derive an approximate figure of their contribution to tuition fees. This will understate their true contribution, as it assumes that the same proportion of EU students pay (lower) Non-Standard Rates as UK students, whereas it is likely that in fact a lower proportion pay the Non-Standard Rate, which would give our estimate a downward bias.

17. Using this method, we can derive separate figures for EU undergraduate and postgraduate students. This gives figures for the value of tuition fees paid by EU undergraduate and postgraduate students of £79 million and £101 million respectively – a total of £180 million.

18. Adding the totals for EU and non-EU students gives a total value of around £1.68 billion. Not all of this, however, originates outside the UK – at least some will have come from scholarships and bursaries from UK sources. A UKCOSA[6] survey of international students in the UK concluded that "17 per cent of students received funding from a UK source". In the case of tuition fees, therefore, by concluding that 17 per cent of international students had their tuition fees paid by UK sources (the figure quoted does not state that all the 17 per cent had their tuition paid for entirely, but by using this figure we can be sure of not overstating the contribution of international students), we can determine the actual injection into the UK economy resulting from spending on tuition fees from international students.

19. The adjusted total (with 17 per cent deducted) is £1.39 billion – compared to the figure in Greenaway and Tuck of £310.6 million (£430.2

[5] The figures used here for proportions of total UK and EU students are from the 2004-05 data.
[6] *Broadening our horizons: international students in UK universities and colleges* (Report of the UKCOSA survey, 2004).

million in 2005 prices[7]), reflecting the dramatic increase in international student numbers over the period[8].

20. The actual value of tuition fees paid per student (in real terms) increased slightly over the period (before taking into account the deduction resulting from UK sourced funds): it increased from £4,485.70 (in 2005 prices) in 1992-93 to £5,276.40 in 2005-06. However, because the figure used in this report for the proportion of tuition fees paid by UK based sources is higher than that used by Greenaway and Tuck (17 per cent compared to 11 per cent), the resulting injection into the economy from each student is closer to the figure derived by Greenaway and Tuck: £4,379 in 2004-05 compared to £3,992 in 1992-93 (in 2005 prices). The other thing that changed between 1992-93 and 2005-06, of course, is that in the meantime EU undergraduates, as well as EU postgraduates, began to pay a fee.

21. 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. The actual fees paid per student averaged £1,454 and £2,205 for EU undergraduates and postgraduates respectively, and £6,868 for non-EU students (we do not have separate figures for non-EU undergraduate and postgraduate student fees).

22. These figures are summarised in Table 3 below.

Table 3: Total tuition fees paid by international (including EU) students

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

Other expenditure

23. 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. International students are also likely to be quite heterogeneous in their spending patterns: those from wealthy countries are likely to have very different

[7] For the purpose of this analysis, when accounting for inflation, we measure the change between the start of the relevant academic years (i.e. from September 1992 to September 2005 in this example).
[8] The fact that, unlike Greenaway and Tuck, this report also includes part time students is also a contributing factor, though there are only relatively small numbers of part time students.

spending patterns to those from developing countries, for example. However, using data obtained from surveys about the cost of living for students, it is possible to estimate the average expenses students face in the UK, and therefore total expenditure on general living expenses.

24. The UNITE Student Experience Report 2006[9] has a breakdown of students' weekly expenditure. Table 4 shows this breakdown in detail. The first column shows average expenses of the entire sample, and the second column shows values adjusted for international students. Only two adjustments have been made. Firstly, the survey data gave different levels of expenditure on rent and food for those living in university-owned accommodation and those renting private properties. The International Student Experience Report 2006[10] states that "34 per cent [of international students] rent from the universities, mainly in halls of residence", with the remainder presumably in private rented accommodation. The value given for expenditure on rent and food by international students takes this into account, and shows an average, weighted by these proportions. Secondly, the International Student Experience Report also shows the dramatically different levels of expenditure on alcohol for UK and international students (with a greater proportion of UK students drinking, and those that do, spending significantly more on alcohol). Using the figures given for average weekly spend on alcohol, the figure for "Going Out" has been reduced for international students accordingly.

[9] UNITE Student Experience Report 2006, available at: www.theworkbank.co.uk/MORI2006.pdf. The most authoritative survey of student expenditure is the Student Income and Expenditure report produced by the DfES, available at http://www.dfes.gov.uk/research/data/uploadfiles/RR725.pdf. However, that report does not contain the disaggregation of expenditure shown here, but the totals are very similar to those shown here.

[10] The International Student Experience Report 2006, UNITE, available at: www.hero.ac.uk/resources/unite_international_stexp_2006.pdf

Table 4: Expenditure per student on living costs

	Home Students (£):	International Students (£):
Essential Items:		
Housing:	79* / 66**	70.42
Food:	26* / 29**	27.98
Travel & Transport:	14	14
Toiletries:	6	6
Other Weekly Expenses:	10	10
Course Related Expenses:	12	12
SUB TOTAL:	147* / 137**	140.40
Non-Essential Items:		
Mobile Phone:	7	7
Clothes:	8	8
Music:	2	2
Film/Movies:	2	2
Going Out:	30	20.17
Internet Access:	2	2
SUB TOTAL:	51	51
TOTAL:	198* / 188**	181.57

* students in university halls

** students in private rented accommodation

25. Greenaway and Tuck adjusted their figures to account for the fact that international students were likely to be away from home for a greater proportion of the year (whilst many domestic students return to their parents' home over the Christmas, Easter, and Summer breaks, international students are less likely to do so). Since the figures in this report are shown as weekly expenditure, rather than annual (as in Greenaway and Tuck), it is not necessary to adjust them. Instead an assumption is needed about how long students remain in the UK that accounts for the fact that they are less likely to return home over the shorter breaks. If we assume that international undergraduate students remain in the UK for the whole academic year, but are not present for any of the summer months, whereas postgraduate students remain in the country for the full year, a reasonable approximation of the annual

expenditure of international students can be made. We therefore assume a figure of 36 weeks per year for undergraduate students (and 52 weeks for postgraduate students), and multiply weekly expenditures accordingly to determine the average annual expenditure.

26. Table 5 below summarises the detailed implications of these estimates:

Table 5: 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)

27. Together, undergraduate and postgraduate international students spent over £2.5 billion on living costs in 2004-05. Greenaway and Tuck found an annual expenditure per student of £4,752 in 1995, which represents around £6,581.52 at 2005 prices – almost exactly the same figure as the undergraduate figure in 2004-05, but significantly less than the postgraduate figure. Based on this, Greenaway and Tuck were able to conclude that international students incurred a total expenditure on living costs of £455.7 million (equivalent to £614.7 million at 2005 prices), compared to £2.563 billion in 2004-05.

28. Again, not all this money will originate outside the UK, as some scholarships include an allowance for living costs. The UKCOSA paper cited earlier states that "just over half of students receiving support for fees from a UK institution or UK government source did not get any support from these sources for living costs". If we simplify, and say that half of the students receiving financial support for covering their tuition fees (17 per cent of the total) also have all their costs of living paid for by UK sources (i.e. 8.5 per cent of the total), we can work out the proportion of international student expenditure that comes from outside the UK. This assumption would mean that the overall injection into the UK economy resulting from expenditure by international students amounts to approximately £2.35 billion for the academic year 2004-05.

29. Separating these figures into EU and non-EU students, and into undergraduate and postgraduate students, the injections into the economy are shown in Table 6 below.

Table 6: Total expenditure on living costs by international (including EU) students

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

Summary of direct effects

30. 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 in 2005 prices: 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).

31. Applying the multiplier discussed in paragraph 11[11], this suggests that the total impact of direct spending by international students in 2004-05 was no less than £5.5 billion.

The impact of recent international graduates on the economy

32. 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.

[11] Paragraph 11 explains that "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 assumed for other industries.

33. This analysis, therefore, takes as its starting point the literature on the economic impact of immigration into the UK, which provides valuable insights into factors likely to result in a net fiscal and economic gain and factors likely to result in a net fiscal and economic loss. Although there is limited information on the exact economic impact of different groups of immigrants, the literature does describe the factors that are likely to determine whether there is a net gain or loss from immigrants with a varying range of characteristics[12]. It is therefore possible to compare the characteristics of recent graduates against these, to get a better picture of the extent of the net cost or benefit of these individuals to the economy.

34. This analysis first examines the smallest of the effects – the likely impact of recent graduates on the Government's revenue and expenditure, and whether they provide more in tax revenue than they absorb in benefits and consumption of government provided goods and services (called the fiscal impact below). It then looks at the impact of recent graduates on the domestic labour market, and how this may affect the employment and wages of UK workers. It concludes by estimating the effect of these graduates on GDP (described here as the economic impact).

Fiscal impact

35. The fiscal impact of immigrants is a function of a number of characteristics described at Annex A.

36. Based on this analysis, a Home Office report[13] states that "we estimate that the foreign-born population contributes around 10 per cent more to government revenues than they receive in government expenditure". Since there is such a degree of heterogeneity within the migrant population in the UK in terms of skill levels, this is likely to be far too high an estimate of the levels of consumption of government goods and services for recent graduates. As illustrated in Annex A, migrants who have recently completed their higher education in the UK have characteristics that are likely to lead to a substantial net fiscal gain (e.g. they will tend to be young, of working age, with high skill levels, unlikely to have dependants, and have a good command of English). Coleman and Rowthorn, who are otherwise sceptical of the claims made for the economic benefits of migration, nevertheless believe that "highly skilled ... immigrants pay far more in taxes than they receive from the Government"[14]. Just how much government goods and services they

[12] See especially *Migration: an economic and social analysis* (Home Office, RDS Occasional Paper No 67, 2001)
[13] *ibid*
[14] See Coleman and Rowthorn "The Economic Effects of Immigration into the United Kingdom" in *Population and Development Review 30(4)*

consume is unknown though, and so we examine below the fiscal effects over a range of levels of consumption of government spending.

37. A reasonable estimate for the range of consumption of government spending would place a level of tax revenue between 1.5 and 3 times the associated public expenditure. 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 examine below 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.

38. We have assumed an average starting salary for graduates in the UK of £21,000[15]. If we assume a value for average annual wage increases of 5 per cent per annum, we can work out what salary a graduate is likely to receive in each year following graduation[16]. We can therefore also work out roughly the amount the Government is likely to receive in income taxes and national insurance, and make assumptions about the proportion of the remaining income that the Government will receive in other forms of taxation (such as VAT, etc)[17].

39. Since we do not know the average length of stay for recent graduates (from both EU and non-EU countries), we examine what the fiscal impacts would be for a range of different average lengths of stay[18].

40. 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

[15] Estimates of starting salary range from £17,000 in 2005 from the Destinations of Leavers from Higher Education survey carried out by HESA (which includes temporary employment) to £23,000 in 2007 from the Association of Graduate Recruiters. We have used a figure nearer the top than the bottom of this range because international graduates are unlikely to stay on in the country to do non-graduate jobs.

[16] It is difficult to tell whether these assumptions are likely to accurately represent the wages received by international students remaining in the UK following graduation. Since the majority of those staying in the UK to work are employed in industries in which there are shortages of UK workers, it is possible that the salary they receive would be higher than the average UK graduate salary in order to attract workers in the first place. Also, individuals employed in the City are likely to receive much higher starting salaries, and within a few years could be earning significantly more than those involved in non-finance related industries. The value of 5 per cent annual increase is probably an overestimate of the average, but given the nature of the graduate job market, may not in fact overstate the wage increases experienced.

[17] For the purposes of this model, we assume that 10 per cent of individuals' after-tax income is paid to the Government in indirect taxes.

[18] The measure we use is supposed to approximate to the average length of stay: some would stay longer, and some would stay a shorter amount of time. If we were to take this into account, it would indeed have an impact on the total tax revenue received, but it would complicate the model unnecessarily. If the actual observed length of stay was normally distributed about the mean value, taking the distribution into account would increase our figure for total net fiscal gain. We can therefore be confident that this simplification will not lead us to overstating the net fiscal benefit.

available, so we need to make a plausible approximation[19]. 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). In Table 7 below the net fiscal impact of those EU graduates who remain is considered, adjusting all figures to their present value, with the base year being the year they started studying[20]. From this analysis of EU graduates estimates can then be made of the impact of non-EU graduates.

[19] It is, incidentally, extraordinary that the Home Office is 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.

[20] When discounting the figures, it is assumed that undergraduates studied for three years, whilst postgraduates studied for two years on average. This ought to roughly balance out the length of stay of those taking one year Masters degrees, and those taking longer postgraduate qualifications. The discount rate used is 3.5 per cent - the rate used by the Government in their cost-benefit analyses.

Table 7: Net fiscal effects of EU graduates who stay on and work, in £millions

Number of years of employment after graduation from a UK University	Public spending as a proportion of tax revenue		
	⅔	½	⅓
1	13.5	20.3	27.0
2	27.4	41.1	54.8
3	41.6	62.4	83.2
4	56.2	84.3	112.4
5	71.1	106.7	142.3
6	86.5	129.7	172.9
7	102.1	153.2	204.2
8	118.1	177.2	236.3
9	134.5	201.8	269.0
10	151.3	226.9	302.5

41. Looking first at the effect of EU students, if the number who stay on to work continues at the present level, 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 £106 million per year. Keeping the average length of stay constant, if it is assumed that public spending on these individuals amounts to only a third of the tax revenue they provide, the net fiscal gain is over £142 million.

42. For non-EU students, assuming the total number of non-EU students is the same as for EU students (which represents a rate of stay of less than half that of EU students, as there are more than twice as many non-EU students as there are EU students), again assuming that individuals stay for 5 years on average and consume half the value of the tax they pay as government provided goods and services, the net fiscal gain is also £106 million. Looking at the situation if we use the upper bound estimate for the proportion of non-EU individuals remaining in the UK following graduation (i.e. where the proportion staying on is the same as for EU students), if students stay for five years, and consume half the

value of their taxes in public goods and services, the net fiscal gain is more than £210 million.

43. 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[21], 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.

The labour market effects of recent international graduates

44. The literature on the effect of immigration on the labour market offers several hypotheses relevant to the situation under examination here. There is a general perception that immigration worsens the labour market conditions for domestic workers, in the form of lower wages and decreased levels of employment for the domestic workforce. Whilst this may be the case for low-skilled workers (as found in several empirical studies)[22], it is less clear what the effect of immigration of high-skilled workers would be. Immigration of very highly-skilled workers (such as fully qualified, practising, doctors and engineers for example) is generally considered to be of economic benefit to the country[23], and these perhaps even "create jobs for the less-skilled sections of our economy".

45. As with any market, however, the effect of increased supply of a product or service will be determined by whether or not there is currently a shortage or an excess. This is no different in the labour market – the effect of an increased supply of workers caused by the presence of recently graduated international students will depend on the current labour market conditions - not aggregated across the whole labour market, but for workers with given skills or skill-levels. For example, it would be unlikely that allowing some of the many international students studying engineering to stay and work in the UK upon graduation would have a detrimental impact on the labour market conditions for recently qualified engineers in the UK. Looking at the UK graduate job market as a whole, there is currently a relatively low level of unemployment, indicating

[21] 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.
[22] See Coleman and Rowthorn, *op cit*, although Blanchflower, 2007, suggests that there is no evidence that this has been so, even in the case of unskilled workers.
[23] Coleman and Rowthorn, *op cit*

that the presence of recently graduated international students is unlikely to be detrimental to the employment prospects of recent graduates from the UK, or to their salary levels[24].

46. 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.

47. 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[25]. 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

48. 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[26]. 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

[24] Similar considerations apply to their participation in higher education in this country in the first place. If international students were taking places that would otherwise be taken by home students, the impact would be negative. However, there is no indication that any qualified UK students fail to obtain a higher education place, and as far as postgraduate students are concerned, thee are courses whose very survival depends on the presence of international students.

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

[26] This is not the case in Scotland, where the entire cost is subsidised. However, because England accounts for nearly 85 per cent of the total, and because taking account of the Scottish exception would only make a difference at the margin, no account is taken of that here, and the costs are therefore slightly understated.

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.

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

Benefits

50. 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 B 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.

51. Or, put another way, on average:

- Each FTE EU student brings a net cash benefit of about £9,900 per year
- Each FTE EU student brings a fiscal benefit of about £1,200 per year
- Each FTE EU student (averaged across all students, whether or not they work subsequent to graduation) makes a contribution to GDP of about £12,400 per year
- 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 (averaged across all students, whether or not they work subsequent to graduation) makes a contribution to GDP of about £5,500 per year.

Policy implications

52. 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.

53. 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 default on the repayment of their loans[27].

54. For 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.

55. 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

[27] 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.

of individual universities. In the circumstances, it would be in the national interest for the taxpayer to subsidise 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 over 250,000 international students in Germany cost the State upwards of £1 billion per year[28], yet the German Government is willing to pay the universities to take the students because of the even greater benefits they bring.

56. 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 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[29], 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.

57. 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 PMI 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

[28] 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.

[29] 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.

continue to benefit from the presence of international students in large – and possibly larger – numbers[30].

[30] 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: Characteristics of immigrants and their impact on government revenues and expenditure[31]

Age

The single most important factor in determining whether a new immigrant will be a net fiscal asset or a burden is their age on arrival. Individuals require the highest levels of government spending in childhood and in old age, as they require education as youngsters, and more healthcare and pensions in their old age. Also, those of working age contribute more to tax revenues as well as requiring a lower level of government spending. Individuals of a working age are therefore most likely to be a net fiscal asset to the economy. The majority of students remaining in the UK following graduation are young, and so are likely to lead to a net fiscal gain.

Skill level

The skill level of immigrants is another important factor in determining their net fiscal effect. Those with higher skill levels are likely to be employed in better paid professions, and as a result are more likely to be a net fiscal contributor. It is also important for the skills of immigrants to match the skills gaps in the host country's labour market. Recent graduates can be classified as high-skilled workers, meaning that they are likely to enter relatively well-paid professions, and thus act as a net fiscal contributor.

Employment

Since it is difficult for unemployed non-EU individuals to renew work permits, there is unlikely to be any significant number of recent international graduates in the UK who are not in employment – further reducing their likelihood of needing support from the Government in the form of benefits, and thus being more likely to be net fiscal contributors.

Dependants

Because children require a huge amount of expenditure from the Government, immigrants with children often lead to a net fiscal loss (at least in the short term). It is likely that the vast majority of recent graduates do not have any dependants, and so are more likely to lead to a net fiscal gain than those with dependants.

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

Annex B: 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 Table 7)
Contribution to GDP from graduate employment	1,038,000,000	(from paragraphs 46-47)

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 Table 7)
Contribution to GDP from graduate employment	1,038,000,000	(from paragraphs 46-47)

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