

International student migration to the UK:
Training for the global economy or simply another form of
global talent recruitment?

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Introduction: Scientists and Engineers in the UK - trends and issues

Investment in Research and Development (R&D) is an important driver of economic productivity. It is also widely believed that availability of high quality scientists and engineers is a pre-requisite to the success of research and development work. The UK government is concerned that over recent decades UK businesses have invested less in research and development than many other advanced nations (among the G8 nations the UK was one of only two economies where the percentage of GDP expenditure on R&D fell between 1981 and 1999). The UK government has therefore, introduced a number of measures to counter this trend. This has included an attempt to address the perceived skills gap in science and engineering so that the mismatch between supply and demand is reduced both through training and education of the domestic labour force and through student and worker immigration.

There is evidence that the UK demand for scientists and engineers has been rising at a time when the domestic supply of new graduates in some areas of science and engineering has been falling or static (Roberts, 2002). Such evidence includes, for example, the higher earnings achieved amongst engineering and technology graduates on taking up their first job compared with other graduates (UK Labour Force Survey, 2001); more rapid rates of salary increase for people with these skills and reports by employers of difficulties in recruitment, especially to jobs in R&D. Mason (1999) reported that 43% of recruiters in R&D faced some difficulty in finding staff of appropriate quality and one in six UK engineering companies claim to have 'hard to fill vacancies' (Connor and Bates, 2000). The most recent UK Department for Education and Skills survey suggests, however, that by 2003 the proportion of firms with hard to fill vacancies had dropped somewhat (DfES, 2005).

It was in the context of the strong demand in the UK for science and engineering graduates of the late 1990s and the poor investments levels in R&D that the UK government decided to intervene in a strategic fashion. In the area of training science and engineering graduates a new policy emerged that was nested within a wider strategy to increase the proportion of young people in Higher Education. At about the same time, a new immigration policy emerged that had amongst other results the effect of increasing the flow of scientists and engineers to the UK.

This paper explores these issues in more depth, starting with a contextual discussion of how UK policy on the numbers of students in Higher Education has evolved. This is followed by a review of recent developments in UK immigration policy. Following the policy analysis, it becomes possible to interpret trends in skilled immigration, trends in student numbers and specifically trends in international student migration to the UK. The paper has an intentional focus on international student migration to the UK, a topic that has received remarkably little attention, both amongst policy makers and also academics (King and Ruiz-Gelices, 2003).

Students in UK Higher Education Institutions

According to the UK Higher Education Statistics Agency (HESA), the number of students attending UK Higher Education institutions rose from 1,720,000 in 1995/6 to 2,247,000 in 2003/4 (an increase of 30.6 %). The very dramatic rise evident in Table 1 reflects many factors, but the single most important is UK government policy, sustained throughout the 1990s and the first five years of the 21st century, to increase the proportion of school leavers entering Higher Education. UK HESA statistics, on which Table 1 is based, are issued approximately two years in arrears. As a result at the time of writing, year 2003/2004 is the most recent one available. The increase is evident both amongst UK and overseas domiciled students. We return to the topic of student migration later in this report, but for now what is important is to notice the overall trend shown in Table 1.

Table 1: Students in UK Higher Education Institutions, 1995-2004

Year	Total HE students	Postgraduates		Undergraduates	
		Domicile UK	overseas	Domicile UK	overseas
2003/2004	2247440	367275	156550	1580110	143500
2002/2003	2175115	357335	140165	1542515	135100
2001/2002	2086075	349425	120425	1493895	122330
2000/2001	1990625	337335	111365	1422425	119505
1999/2000	1856330	313140	95480	1318530	129180
1998/1999	1845757	314562	88778	1311910	130507
1997/1998	1800064	305069	81932	1281731	131332
1996/1997	1756179	285843	77729	1272272	120335
1995/1996	1720094	287695	82424	1236053	113922

Source : HESA, 2005, 9

2003/04 definitions: **Higher education (HE) students** are those students on programmes of study for which the level of instruction is above that of level 3 of the National Qualifications Framework, i.e. a level higher than courses leading to the Advanced Level of the General Certificate of Education (GCE A-levels), the Advanced Level of the Vocational Certificate of Education (VCE A-levels) or the Advanced Higher Grade and Higher Grade of the Scottish Qualifications Authority (SQA) Advanced Highers/Highers). **Postgraduate programmes** of study are those leading to higher degrees, diplomas and certificates (including Postgraduate Certificate of Education (PGCE) and professional qualifications) and usually require that entrants are already qualified to degree level (i.e. already qualified at level 3 of the National Qualifications Framework). **Higher degrees** include doctorates, masters degrees and higher bachelors degrees. **Other postgraduate** includes postgraduate diplomas, certificates and professional qualifications, Postgraduate Certificate in Education (PGCE), institutional postgraduate credits and no formal postgraduate qualifications

Between 1995/6 and 2003/4 there was a sharp rise in the total numbers in Higher Education, a rise in the number of undergraduates and postgraduates and an increase in both the UK and overseas student population. The greatest absolute increase was in the numbers of UK domiciled undergraduates, but the rise in overseas postgraduates was the single largest proportionate increase.

Not shown in Table 1, but hidden within the overall upward trend, is a rise in the number of science and engineering students. In 2003/4 they made up 24% of the student body, up 3 percentage points on the level in 1999/2000. More details will be reported later, but it is interesting to note that in comparison with other OECD countries UK fares well in its production of scientists and engineers. It is ranked fourth highest (amongst OECD countries) in terms of the number of science and engineering graduates per 10,000 persons in the labour force (OECD, 2005).

Despite this generally encouraging situation, not all subjects in science and engineering are popular. Table 2 (covering both postgraduate and undergraduate students and students of all domiciles attending UK HEIs) reports the student populations for the years 1999/2000 and 2003/4.

Table 2: Students in UK Higher Education Institutions, 1999-03 and 2003-2004 by subject studied (UK domiciled and Overseas; undergraduate and postgraduate; full-time and part-time)

Subject of study	Total HE Students, 1999-2000	Total HE Students, 2003-4
Medicine & dentistry	43100	52970
Subjects allied to medicine	193820	288585
Biological sciences	90740	147360
Veterinary science	3570	4080
Agriculture & related subjects	14760	15330
Physical sciences	69540	73730
Mathematical sciences	20310	30770
Computer science	91540	137655
Engineering & technology	123910	134805
Total Medicine, Science, Engineering	651290	885285
Other subjects	1205090	1362145
Total	1856380	2247430

Source : HESA, 2005

Taking all students into account, both the absolute number and the proportion of students in science, engineering and medicine grew over these years. However, it proved harder to recruit new UK domiciled students (than it was to add to overseas student numbers) with the total registered UK domiciled student population oscillating from year to year.

Table 3: Student enrolments on full-time first degree HE courses (HEIs only), selected subjects, UK, 1994/95, 1998/99 to 2003/04 (thousands)

	1994/95	1998/99	1999/00	2000/01	2001/02	2002/03*	2003/04*
Business studies	90	105	106	107	110	132	135
Engineering	84	77	74	72	73	71	70
Creative art	54	74	76	79	83	96	101
Biological sciences	48	64	65	65	66	89	93
Languages	59	58	58	56	55	73	72
Physical sciences	49	48	47	45	43	46	46
Computer science	36	48	51	57	63	75	72

*A new method of coding the subject of study was introduced in 2002/03, hence figures are not directly comparable to earlier years. (source: DfES, 2005)

Sharpening the focus by looking only at the figures for enrolments on full-time undergraduate courses Table 3 shows a rather dramatic pattern. While some disciplines like computing and biological sciences saw a healthy growth in student numbers, others declined (physical sciences) and in engineering there was a drop from 84,000 in 1994/5 to only 70,000 students in 2003/4. More detail on these subject specific trends is given later in this report (see Tables 15, 16 and 17).

What is clear therefore is that the UK, while in a moderately healthy position with regard to its internal labour market and the stock of science and engineering graduates, faces severe problems for the future in certain areas of skill development. In particular, recent upward trends in student numbers have not been matched by increased numbers of UK domiciled students studying engineering subjects. The government, aware of these trends has therefore taken steps to increase supply in this sector, both by encouraging the inflow of students from abroad and by seeking to give incentives to UK domiciled students to become science and engineering graduates.

The report now turns to reviewing the evolution of government policies on international student migration and skilled labour migration. It then comments on trends in student migration and skilled labour migration to the UK in general.

UK Policies on Labour Migration and International Student Recruitment

UK government policy on immigration changed dramatically following the election of the Blair Labour government in 1997. The UK government case for a positive immigration policy, especially towards temporary skilled immigration, is well captured by the words of the former UK Immigration Minister, Barbara Roche:

'Britain has always been a nation of immigrants. ...It is British openness and tolerance, and migrants' ability to adapt and thrive, that I believe will help us to meet the challenges of the 21st century... The market for skilled migration is a global market - and not necessarily a buyer's market. ...The UK needs to have a policy that meets modern needs... it is important that we preserve and enhance the flexible and market-driven aspects of the current work permit system.' (www.homeoffice.gov.uk, 2000)

This was not a claim that one would have been likely to hear from UK government ministers under the Thatcher or Major administrations of the 1980s or early 1990s (Kleinman, 2003). It marked the opening up of a new phase of managed migration that encouraged significant increases in labour immigration to the UK (Findlay, 2006). Those defending the policy were quick to point to the safeguards attached to the government's approach to labour market 'openness' within the global economy (Spencer, 2003) and noted that the policy was accompanied by new responsibilities being placed on immigrants to live within the laws and norms of UK society and with the expectation that new labour migrants while adding to the diversity of the UK population, would either be only transient employees returning home after the expiry of their Work Permits or would be set on a course towards integration in UK society (Home Office, 2002). Detailed review of the many channels through which labour immigration became possible (eg the Work Permit scheme, the Seasonal Agricultural Workers system, the Working Holiday Maker scheme, the Highly Skilled Migrant Programme, the Sector Based scheme) is not given here since they have been more than adequately synthesized by other authors

(Dobson et al 2001; Findlay, 2001, 2006), but the consequence was a very significant rise in the numbers of labour migrants and especially skilled migrants entering the UK.

The positive approach to labour immigration was launched at more or less the same time as the UK government announced its intention to expand the number of foreign students. In June 1999 Prime Minister Blair announced plans to attract significantly more international students, setting UK Higher Education Institutions the target of capturing 25% of the global market share by increasing by 100% the number of international students. Significantly this policy was promoted not as a means to increase recruitment to the UK labour market of overseas talent, but as a means through foreign student fees to bring *'money that feeds into our institutions (of higher education) and helps our goal to open up opportunities for more people (within UK) to study'* (Blair, 18 June 1999; DFES press release). The expansion of international student numbers was therefore projected as a means of financing the government's objective of opening higher education to a larger proportion of the UK population without increasing taxes (or at the time, of introducing top-up fees for students). A subsidiary objective was to promote trade: *'People who are educated here have a lasting tie to the country. They promote Britain around the world, helping our trade....'* (Blair, 18 June 1999, DFES press release). It follows that this secondary objective implied the return of international students at the end of their studies rather than any plan to integrate their skills in the UK economy. Indeed, traditionally, UK immigration legislation insisted that international students return home after their studies, and it was only later when this stance was seen to be a hindrance to the objective of recruiting international students that immigration legislation was modified.

Blair's student immigration policy was implemented a year later, with visa and entry procedures being streamlined to facilitate student entry to the UK higher education system. A marketing exercise was launched revolving around the branding of the excellence of UK Higher Education (Blackstone, 26 January 2000). The worldwide campaign was financed by the UK government to the tune of £5 million. By 2000 it was being announced that potential students who wanted to take paid employment in the UK while studying could do so and for those staying a year or more their spouses and dependents were also allowed to work. Transfer from a student entry visa to the UK's Training and Work Experience Scheme was also eased. At the end of the period of study, the expectation remained however that students and their families would return to their countries of origin or move to work in another part of the global economy. And compared with the US, only a tiny proportion of overseas students were recruited after their studies into the UK labour market (Li et al, 1996; Findlay, 2001).

The statistics presented elsewhere in this report confirm that Blair's initial ambitions were more or less achieved within a five year period. According to the British Council, by 2004, the UK had an estimated 24% of the global market in English-speaking countries. With the total number of overseas students in the global market place set to treble by 2020, the British Council was also calling for further government investment to offset increasing competition by the Higher Education systems of Europe, India and the Far East in order simply to maintain the UK's position. In addition the British Council Germany and France were actively recruiting postgraduate science students from Poland

and other east European countries and that the UK economy was in danger of losing out unless it adopted a more pro-active policy for recruiting within the EEA.

It was not until 2004 that a policy shift on the employment of students after their studies became apparent. The shift followed a review of the shortage of supply of people with science and engineering skills (Roberts, 2002) that suggested that skill scarcity in these sectors were damaging the UK economy. In October 2004 a scheme for Science and Engineering Graduates was launched that allowed non-EEA nationals who had graduated from UK higher education institutions to stay in the country for up to 12 months after their studies.

In the following year, in the run up to the Blair government's third general election victory, tensions began to emerge with public concern being expressed over the scale of labour immigration and with several public scandals emerging in relation to the management of the immigration system. Although there was clear demand from employers such as in the National Health Service for extra foreign labour and from UK Universities to maintain the policy favouring a strong flow of students from abroad, there was also political pressure to reform the immigration system. As a result Blair promised a review of immigration policy.

It took till March 2006 before this was complete (Home Office, 2006). The new policy abandoned the previous plethora of labour immigration channels by phasing in a points based immigration policy similar to that in place in Australia. The scheme allocates points against five migration tiers (Tier 1: Highly skilled, individuals contributing to economic growth and productivity; Tier 2: Skilled workers with a job offer to fill gaps in the UK labour force; Tier 3; low skilled workers needed because of temporary labour shortages; Tier 4: students; Tier 5: Youth mobility and temporary workers largely linked to non-economic motives).

The migration policy is interesting in several respects. First, it directly integrates student migration as one part of the wider strategy. Second, it is clearer than in earlier policies that gains of highly skilled workers is seen as a net benefit to the UK. Evidence from employers (Dench et al, 2006) and other stakeholders is cited from the very outset of the policy in support of the view that *'a properly managed migration system ... is a good and necessary thing for the UK's continued economic growth'* (Home Office, 2006, 6). Third, the case for simplifying the previous myriad of schemes within a points system is to maintain 'the UK's competitive position as a destination for the brightest and the best migrants' (Home Office, 2006, 8). Fourth the scheme specifically gives more points to those with PhD's, Masters and Bachelors degrees and significantly under Tier 1 bonus points attach to those with degrees from UK Higher Education Institutions. Most scientists and engineers will enter the UK as employees within Tier 2 with skills shortage in these sectors being allocated points as a result of the regular review of demand in the UK labour market by a skills advisory board.

Despite pressures in the run up to the 2005 general election to reduce overall labour immigration levels to the UK, there were also regional tensions working in other

directions. The devolved powers in the UK began to lobby for special regional policies designed to reflect regional labour market needs. In the case of Scotland this meant amongst other things, encouraging students to stay after their studies, in the hope that this would help offset natural demographic decline and act as a catalyst to economic growth. The policy was championed by the devolved Scottish parliament under its Fresh Talent Initiative (Scottish Executive, 2004) and gained a place in the UK's new immigration policy (Home Office, 2006) through recognition within the points based system of regional labour market needs and the desirability of making the points system responsive to regional drivers. One arm of Scotland's pro-immigration stance was to launch in June 2005 a scheme that permits non-EEA domiciled graduates (in any subject area) of Scottish Universities to stay and work for up to two years after graduation.

The tensions in UK immigration policy are well illustrated by the fact that at the same time as these developments were being rolled out in Scotland in 2005, Blair was stressing within a week of his re-election that foreign students illegally overstaying their visas would be subjected to more stringent enforcement of immigration controls (work permit.com, 16 May 2005). There was also a tightening of the places that could qualify as legitimate locations of study. This was achieved through the compilation of a list of accredited student courses and colleges. Any educational institutions not on the list would be ineligible to register overseas students. The cost of extending student visas was also raised from £155 to £250 in 2005. The new points-based system announced in March 2006 actually recognised three different types of students (general students spending 20 hours or more studying full time in Higher Education, school students in fee-paying institutions, and study through work students) under Tier 4 of the policy (Home Office, 2006).

If there are tensions in the UK in relation to whether foreign students should be encouraged to stay or to return home at the end of their studies, there seems to be no debate as to the value of international students in boosting the Higher Education sector. The country's Higher Education Statistics Agency provides annual statistics on the financial flows to sector that arise from course fees. In 2002/3 non-EU students contributed £1 billion in course fees, an increase of 24% on the 2001/2 level. This rose to £1,275 million in 2003/4 (Table 4)

Table 4: Income to UK HEIs from non-EU domiciled student fees

	Fee income to UK HEIs (£million)
1994/5	455
1995/6	507
1996/7	563
1997/8	622
1998/9	636
1999/2000	672
2000/01	746
2001/02	875
2002/03	1085
2003/04	1275

Source: Universities UK, 2005

By 2006 the government claimed that overseas students were worth £5 billion a year to the UK economy. This figure clearly includes not only fee earnings, but the much wider expenditure associated with these students living (and working) in the UK. Although the government allowed individual institutions to set their own fee level for overseas students within certain broad bands, as Table 5 shows, most chose to set overseas student fees for science and lab-based subjects at between 8 and 10 times the level of UK student fees, thus guaranteeing a significant financial surplus from recruiting from abroad.

Table 5: University fee bands for selected UK Universities, 2005/6 (£ sterling)

University fees band	Undergraduate UK	Overseas science based
Bristol	1175	11700
Durham	1175	11160
London School of Economics	1175	10980
Manchester	1175	10750
Portsmouth	1175	8700
Sussex	1175	8340

Source: Universities UK, 2005

There are many different ways of trying to estimate both the future demand by populations around the world for access to the international education market and also the proportion of students likely to choose to study in the UK. Within the UK great store has been placed on the statements made by the British Council that by 2020 there will be 5.8 million people seeking to gain international educational qualifications and that 800,000 of these might be expected to come to the UK (British Council, 2004). Demand is expected to be strongest for postgraduate qualifications from the UK, but it is inevitably very hard to estimate how stiff international competition will be to provide courses for this market in other countries and to assess how students from different cultures trade off the differential international costs of university fees, difficulty of obtaining visas to study abroad and perceptions of the international standing of studying in different countries.

The impact of these policy changes are now investigated. Attention turns first to skilled labour migration before focussing on international student mobility.

Trends in skilled migration to the UK: from brain exchange to brain gain

Several comprehensive studies have recently been undertaken of skilled immigration to the UK (Dobson et al, 2001; Findlay, 2002; Glover et al 2000; Lowell and Findlay, 2002; Lowell, Findlay and Stewart 2004; Findlay, 2006). As a result only the main trends are identified here, leaving the reader to consult other sources for more detailed empirical material.

The overall migration balance of the UK has changed significantly over the last ten years. Using United Nations definitions of international migration, the UK recorded a net gain of between 105,000 and 127,000 non-British nationals in the mid-1990s (1995-7). By 2000, the net gain was over 200,000 persons per annum and by 2004 it has soared to

342,000. (See Table 6). Paradoxically, as the stream of immigrants has risen so too has the outflow of British nationals.

Table 6: Net International Migration to the UK of non-British Nationals (thousands)

	Non-British nationals	British nationals
1995	+127	-52
1997	+106	-60
2000	+220	-57
2001	+225	-53
2002	+244	-91
2003	+236	-85
2004	+342	-120

Source: International Passenger Survey: Office of National Statistics

Within these overall trends, skilled migration balances have also changed markedly. Dobson et al (2001) show that during the 1990s UK skilled migration flows in and out of the country moved from being almost in balance to providing a significant net gain to the UK. Professional and managerial migration became an ever greater proportion of the net inflow of employed migrants, with gains being made from all parts of the global economy (Findlay, 2001, 2006).

As noted in the previous section, between 2002 and 2006, migrants were able to enter the UK under a bewildering array of schemes. Changes in the emphasis of UK Immigration Policy following the election of the first Blair government resulted in particular a growth in the number of Work Permits issued year on year. This continued unabated up until 2002. Taking short and long-term permits together (and excluding dependents) the number rose from 33,200 in 1994 to 53,600 in 1999 and 85,600 by 2002 before dropping slightly thereafter to 82,700 in 2004. If dependents of work permit holders are also included the total numbers rose from 76,180 in 1999 to 124,310 in 2004. Table 7 suggests that the number of longer-term permits reached a peak in 2002, while the number of short-term permits has continued to rise year on year. It should be remembered that all work permits are temporary, and only a fraction of work permit holders seek to extend their stay in the UK.

Table 7: Admissions of Work Permit Holders and their dependents to the UK, 1999-2004

	1999	2000	2001	2002	2003	2004*
Permit for 12 months or more	25,090	36,290	50,280	51,525	44,480	42,265
WP for less than 12 months	28,445	30,785	30,785	34,095	36,870	40,450
Dependents of WPs	22,645	24,970	27,760	34,495	37,830	41,595
Total	76,180	92,050	108,825	120,115	119,180	124,310

Source: Home Office 2005, 18 (NB: excludes EEA citizens)

*Includes nationals of the 10 EU accession countries up until the end of April, but excludes them thereafter.

Table 8 shows the most important countries of origin of work permit holders given admission to enter in 2004. It can be seen that the Work Permit scheme was a migrant entry channel that effectively linked the UK to the global economy allowing short-term exchanges of professional and managerial staff with the USA and Japan (remembering

that the data excludes the EU with which the UK undoubtedly also had intense linkages). While migration links with the core of the global economy involved admission of many short-work term work permit holders, Table 8 also shows longer-term engagement with other skilled migrants (largely coming to jobs in the UK service economy) from India, South Africa and the Philippines (Findlay, 2006).

Table 8: Selected origins of Admissions to the UK with Work Permits, 2004

	Long term permits*	Short term
India	10,200	6,960
USA	4,540	13,100
South Africa	2,720	1,550
Philippines	2,670	505
Australia	2,100	1,290
Bangladesh	1,780	385
Japan	1,570	830

(Source: Home Office, 2005, 34) *Definition as in Table 7

Analysis of the occupational categories of work permit holders by Dobson et al (2001, 245) shows that particular sectors of the UK labour market became increasingly global in their search for skills. These were health, education and IT. While the Philippines became the main source for international nurses to the UK, South Africa became an important and problematic source of teachers (Lowell, Findlay and Stewart, 2004) while India became the main overseas supplier of IT staff as well as of significant numbers of engineers and technologists. There was not however a major flow of qualified scientists and engineers (outside the IT sector) into the UK under the Work Permit scheme, at least as far as can be detected from the occupational categories reported by the UK Home Office (Home Office, 2005).

Trends in student migration to the UK: from training to skill recruitment

General trends evident from the International Passenger Survey

Many definitional problems inhibit comparative research on student migration. This section of the report sets these problems on one side, by looking at the evidence relating to trends in student migration in relation to two specific data sources: the International Passenger Survey and Home Office statistics for the number of students admitted to study in the United Kingdom. Great care needs to be applied to comparing these statistics with other sources as explained later.

Britain's International Passenger Survey (a sample survey carried out at major UK airports and seaports) is used by government and most UK planning authorities as the main source of information to estimate the scale of migration flows into and out of the country, but the data is based on sampling procedures and is subject to sample errors. In addition it relates only to purpose of entry as declared by travellers at the point of arrival and does not equate precisely with immigration statistics. The latter relate to visas for work and residence purposes as determined by the Home Office.

Table 9, based on a 25 year run of data from the International Passenger Survey identifies in, out and net student flows of British and non-British citizens over a 25 year period. The data is of value because it permits comparisons to be made over a long time period and it allows moves of non-British citizens to be compared with British movers. It also is of value since it includes statistics for non-British citizens from within the EU who come to the UK to study, while Home Office data only record students entering the UK from outside the European Economic Area. Table 9 records moves whose duration was intended to be for one year or longer and the term ‘student’ relates to all types of study, not only study at higher education levels. ‘Study’ is identified by the International Passenger Survey as a reason for migration in terms of all those attending a formal course of study in the UK (or for those leaving the UK it refers to study in other countries). It therefore includes unaccompanied school children. Reasons for migration by accompanied children are not listed since these are assumed to relate to their parents’ reasons for moving.

Table 9: Student flows (all categories of study) to and from the UK by citizenship in thousands, 1975-2003

Years	British Citizen			Non-British Citizen			All Citizens
	Inflow	Outflow	Balance	Inflow	Outflow	Balance	Balance
1975-79	30.5	30.8	-0.1	122.8	52.2	71.9	71.6
1980-84	35.3	35.7	-0.3	103.3	89.3	14.0	13.5
1985-89	51.6	51.1	0.6	139.0	97.5	41.4	42.0
1990-94	55.9	61.5	-5.5	169.0	136.2	33.0	27.4
1995-99	44.7	64.2	-19.6	314.3	129.3	184.9	165.4
2000-03	35.0	56.2	-21.2	359.0	136.4	222.6	201.4
Total	253.0	299.5	-46.1	1207.4	640.9	567.8	532.1

Source: Office of National Statistics, 1992-2003.

Note: It should be noted that while most rows in the table relate to a five year period, the last flow is for a four year period because the 2004 flow data had not been released at the time this report was being prepared.

There has been an upward trend of both British citizen outflows and non-British citizen inflows. However, the upward trend in British citizen student outflows is dwarfed by the quantity of non-British citizen student inflows. The inflow of students who were non-British citizens was four times the level of British citizen outflows in 1975. By 2000-2003, for every student with British citizenship who was leaving, six non-British students were entering the UK. Two key trends are therefore evident – first an overall increase in all kinds of student mobility, and second a growing disparity between the numbers of British students leaving the country and the number of non-British students entering the UK.

The statistics in Table 9 for 2000-2003 are particularly interesting. They show that in the first four years of the new millennium the total non-British inflow of students already well exceeded the total for any previous five year period. There was already a record net gain of non-British students pointing towards the existence of drivers of mobility over the last few years that have accentuated the attraction of the country as a destination for international students.

Table 10 shows the pattern of flows in 2003 relative to the place of origin. It shows that the dominant sources of students were New Commonwealth countries (such as India) and ‘Other foreign’ sources such as China. Student flows from (and to) the so-called Old Commonwealth (countries such as Canada and Australia) are small according to the International Passenger Survey.

Table 10: International mobility for study to/from UK, 2003, by country of origin/destination (thousands)

	EU	Old Commonwealth	New Commonwealth	Other foreign
Inflow	20.4	3.1	39.2	61.5
Outflow	0.4	2.6	0.6	5.3

Source: Office of National Statistics, 2004.

Returning to Table 9, an interesting feature is the imbalance between non-British citizen student inflows and outflows. The traditional UK view of admitting foreign students to the country was that this was a temporary flow of people, the vast majority of whom would return home at the end of their studies. This view seems in line with the remarkably low net balance of non-British citizens in the 1980s and first half of the 1990s. Note that the net balance over these years was equivalent of between 14 and 30% of the total inflow of non-British students. By contrast after 1995 the net gain from non-British student migration soars in absolute terms (59% between 1995 and 1999 and 62% for the period 2000-03). These figures point to an increasing tendency for overseas students to stay in the UK on completion of their studies, corroborating the view that international student migration to the UK involves much more than just the training of the best minds from around the world and that to some extent it contributes to the UK making a net brain gain as a result of being a major player in the internationalisation of education.

Trends in student migration as recorded by the UK Home Office

Discussion turns now to more detailed analysis of the migration channels through which non-British students enter the UK. Under the terms of the EU students are, like other members of the community, entitled to free movement and so no entry visas or government controls restrict their entry. On the contrary there are many political drivers that favour student mobility within the EU, such as the Socrates-Erasmus programme which funds and organises exchange a major student exchange programme. The UK Home Office does however record all students who enter the country from outside the EU (who come to study in the secondary and tertiary education systems as well as on short courses relating for example to enhanced skills in English language communication). The Home Office datasets are of interest not only because they provide a separate check on trends in student mobility over time, but because they provide a measure of the relative significance of international student moves compared with other forms of managed migration.

As table 11 shows, over recent years students have been by far the largest group of non-British citizens permitted to enter the country. Not only is the student entry channel the largest one in terms of entry to the UK, but it is also the channel that saw the greatest rise in numbers between 1999 and 2002. Student entrants rose from 272,000 in 1999 to

369,000 in 2002, but interestingly thereafter they decline once again. Note that in most years there were four times as many students as work permit holders. Home Office data also indicates that in most years there were more than twice as many students as asylum seekers given leave to enter the UK (Findlay, 2006), which is remarkable given the heated public debate that has surrounded the presence of asylum seekers and the minimal press coverage given to student numbers.

By 2004 it is evident that the level of student migration to the UK from outside the EU had slumped almost to 1999 levels, reflecting increased competition from other countries seeking to recruit overseas students. The apparent slump may have been one of the reasons for the British Council calling in 2004 for more government investment to secure the UK's share of what is perceived to be a lucrative global market with potential for much further expansion (a trebling of numbers by 2020). The decline in numbers shown in Table 5 did not however feed through to there being fewer non-EU students in UK Universities and Institutes of Higher Education as shown later from an examination in University registration data. One reason for the reduction is the effect of the enlargement of the EU to include 10 new member states from Eastern Europe. Students from these countries are excluded from the dataset from 1st May 2004 on account of their change of status relative to the UK's migration controls.

Table 11: Selected channels of migrant entry to UK in terms of those given leave to enter (thousands)

	1999	2001	2002	2003	2004**
Students*	272	339	369	319	294
Working holiday makers	46	36	42	46.5	62
Spouses and fiancés	30	29	30	31	35
Au pairs	15	12	13	15	6
Settlement on arrival	2	3	2	3	5
Work permit holders*		81	86	81	83

Source: Home Office Statistical Bulletin, 2005, 17. The home office provides data for other channels not included above.

*Students and Work permit holders excluding dependents, **From May excludes nationals of ten East European states that became members of the EU from 1st May 2004

Table 12 shows the changing geography of student migration according to Home Office data. From 1998 to 2002 there was a remarkable growth in numbers fuelled by a rise in Indian and other Asian nationalities entering the UK to study. It is clear from the table that, while European numbers declined in 2004, an equally large downward shift took place from the 'rest of Asia'. This category includes the single largest source of overseas students coming to the UK – China. The Indian sub-continent by contrast continued to grow as a point of origin.

Table 12: Admissions of students excluding EEA nationals by nationality, 1998-2004

	1998	2000	2002	2004*
Europe	71,500	69,800	76,000	37,100
Americas	82,800	99,100	101,000	92,700
Africa	16,400	20,300	27,600	24,700
Indian sub-continent	7,800	10,400	19,600	31,200
Rest of Asia	84,300	110,000	141,100	104,700
Oceania	1,900	2,000	2,300	2,300
Other	1,500	900	1,200	1,000
All nationalities	266,200	312,500	368,800	293,700

Source: Home Office Statistical Bulletin, 2005, 18.

*From May excludes nationals of ten East European states that became members of the EU, from 1st May 2004

A final dimension of international student mobility captured by Home Office data is the trend in number of students seeking and being granted leave to remain in the UK (Table 13). The numbers follow a pattern already familiar from Table 13, rising to a peak and then tailing off. Not surprisingly the peak is however later than for student entry, coming a year later. While not all foreign students study for just one year in the UK, as data from the Higher Education Statistics Agency will show later, many do seek a one year Masters degree. Taking the statistics for entry and relating these as a ratio to the numbers seeking a year later to remain another interesting feature emerges (Table 13). While in 2001 the ratio is 1:4, the ratio rises thereafter to 1:2 in 2003 and 2004. The measure is of course an imprecise one, but it suggests that over the time period under consideration, not only did the number of students (from outside the EEA) entering the UK rise, but the proportion seeking to remain after their studies also increased (in fact doubled).

Table 13: Decisions on applications for an extension of leave to remain in the UK and settlement (excluding EEA nationals), 2000-2004

	2000	2001	2002	2003	2004
Decisions on students	70,600	83,200	121,700	184,800	149,400
Decisions as a ratio to student admissions the previous year	1:4	1:4	1:3	1:2	1:2

Source: Home Office Statistical Bulletin, 2005, 20.

*From May excludes nationals of ten East European states that became members of the EU, from 1st May 2004

Analysis of student immigration

According to the UK Higher Education Statistics Agency (HESA) during the period 1995/6-2003/4 overseas students grew in number from 206,000 to just over 300,000 (227,000 full-time and 73,000 part-time). Overseas students represented over 13% of the entire UK Higher Education student population and full-time non-UK students made up 16.7% of the total full-time population (Table 14). Students from outside the EU were the main source of overseas students (210,510) with almost 60% of these (121,705) coming from Asia. All the figures would, of course be much higher if students studying in other institutions (outside higher education) were included in the dataset (for example, if one were to use Home Office statistics for persons issued with a student visas to study at any level in the UK education system.)

There were interesting differences in the rates of growth of EU and non-EU student numbers during these years. This in itself is not surprising given the differences in university fee levels charged to students from different origins and the presence of EU-sponsored student mobility schemes such as Socrates-Erasmus. However the differentials in trends are not those one might expect (ie one might expect a more rapid growth of EU students registered in the UK). On the contrary it is non-EU student numbers that have grown most rapidly. Overseas non-EU students (full-time and part-time) grew from 122,000 in 1999/2000 (the year in which Prime Minister Blair announced the intention that the UK should significantly increase its market share in terms of training international students) to 210,510 by 2003/4 (an astonishing 72% increase in just five years compared with an increase of 19% in UK domiciled students). During the same years EU student mobility into the UK fell substantially for a diverse range of reasons (King et al 2004). As a consequence, one can conclude that it was the rapid rise in the number of non-EU students that was responsible for the overall upward trend in foreign students registered in UK Institutions of Higher Education. By 2003/4 non-EU students accounted for no less than 6% of all undergraduates registered in the UK (almost twice the number of EU undergraduates) and 31% of postgraduates.

Table 14: All HE students by gender, mode and domicile 2003/04

	UK	Other EU	EU accession countries	Other EEA countries	Other Europe	Africa	Asia	Australasia	Middle East	North America	South America	Non-EU unknown	Non-UK sub-total	Total
Full-time	1134905	65010	4965	3395	5930	20020	99545	1325	8760	14830	2765	785	227340	1362245
% by domicile	83,3	4,8	0,4	0,2	0,4	1,5	7,3	0,1	0,6	1,1	0,2	0,1	16,7	
Part-time	812475	24530	2335	590	2430	6655	22160	895	4155	7345	1250	370	72720	885195
All students	1947385	89545	7300	3985	8360	26680	121705	2220	12920	22175	4015	1155	300055	2247440
% by domicile	86,6	4,0	0,3	0,2	0,4	1,2	5,4	0,1	0,6	1,0	0,2	0,1	13,4	

Source: HESA, 2005, 10

Full-time students are those normally required to attend an institution of higher education for periods amounting to at least 24 weeks within the year of programme of study, on thick or thin sandwich courses, and those on a study-related year out of their institution. During that time students are normally expected to undertake periods of study, tuition or work experience which amount to an average of at least 21 hours per week. **Part-time** students are those recorded as studying part-time, or studying full-time on courses lasting less than 24 weeks, on block release, or studying during the evenings only.

HESA annual reports show the imbalanced nature of the composition of UK, EU and non-EU domiciled students in terms of their subjects of study. Tables 15 and 16 (covering both postgraduate and undergraduate students) report this for the years 1999/2000 and 2003/4. Taking all students into account, both the absolute number and the proportion of students in science, engineering and medicine grew gently over these years, but in some subject areas it was hard to recruit new UK domiciled students with

numbers registered oscillating from year to year. For example, in engineering the number of UK domiciled students rose to 99940 in 2001/02, but by 2003/4 the total had fallen back again close to the 1999 level. Indeed in engineering the total number of students of from all domiciles was the same in 2003/4 as in 1996/7 with this static position only being maintained because of increased overseas recruitment. As table 15 shows, non-EU students accounted for no less than 19.6% of all engineering students registered at UK Institutions of Higher Education in 2003/4 compared with only 13.3% in 1999/00.

Table 15: Students in Higher Education Institutions, 2003-2004 by subject and domicile

Subject of study	Total HE Students	Domicile		
		UK	EU	Non EU
Medicine & dentistry	52970	45870	1765	5335
Subjects allied to medicine	288585	272425	5880	10280
Biological sciences	147360	134820	5580	6960
Veterinary science	4080	3595	125	360
Agriculture & related subjects	15330	13270	865	1195
Physical sciences	73730	64880	3515	5335
Mathematical sciences	30770	26065	1190	3515
Computer science	137655	115275	5145	17235
Engineering & technology	134805	96835	11525	26445
Total Medicine, Science, Engineering	885285	773035	35590	76660
Other subjects	1362145	1174350	53950	133845
Total	2247430	1947385	89540	210505

Source: HESA, 2005

Table 16: Students in Higher Education Institutions, 1999-2000 by subject and domicile

Subject of study	Total HE Students	Domicile		
		UK	EU	Non EU
Medicine & dentistry	43100	37580	1380	4140
Subjects allied to medicine	193820	183010	5280	5530
Biological sciences	90740	81620	5350	3770
Veterinary science	3570	3060	120	390
Agriculture & related subjects	14760	12520	1220	1020
Physical sciences	69540	61760	4490	3290
Mathematical sciences	20310	17620	1220	1470
Computer science	91540	81720	4090	5730
Engineering & technology	123910	92960	14440	16510
Total Medicine, Science, Engineering	651290	571850	37590	41850
Other subjects	1205090	1059850	64940	80300
Total	1856380	1631700	102530	122150

Source: HESA, 2002

Table 17 shows that while the absolute number of non-EU students in all subject areas grew over time, the proportion in medicine, science and engineering rose at the expense of other disciplines. In 1999 this group accounted for 34% of all non-EU students, while by 2003/4 the proportion had risen to over 36%. Non-EU students in Science and Engineering grew especially rapidly, almost doubling over this five year period and rising from 7.8% to account for 11.2% of all students taking these disciplines. EU student numbers dropped in absolute terms during this same time period, although in relative terms as a proportion of all EU students those studying science and engineering stayed the same (Table 18). Amongst the UK domiciled student population, the proportion

registered as studying in medicine, science and engineering faculties rose from 35.0 to 39.7% over this five year time span, but much of the increase was in medicine in 2003/4 and the proportion of the UK student population studying in science and engineering rose only modestly (Table 19).

Table 17 *Non-UK Non EU Higher Education students (undergraduate and postgraduate) in Higher Education Institutions, 1999/00-2003/04 by subject area*

Year	Total Non EU (all disciplines)	Total non EU Medicine / Science/ Engineering		Total non EU in Other disciplines		Total non EU in Science and engineering		
		Total Number	As a % of total non EU	Total number	As a % of total Non EU	Total Number	As a % of total Non EU	As a % of all students Science/Engin
1999/2000	122150	41850	34,26	80300	65,74	32180	26,34	7,77
2000/2001	136285	49720	36,48	86565	63,52	37615	27,60	8,49
2001/2002	152630	56005	36,69	96625	63,31	42480	27,83	9,36
2002/2003	184685	67825	36,72	116860	63,28	53350	28,89	10,51
2003/2004	210505	76660	36,42	133845	63,58	61045	29,00	11,23

Source: HESA

Medicine comprises: Medicine & dentistry as well as subjects allied to medicine

Science comprises: Biological sciences, Veterinary science, Agriculture & related subjects, Physical sciences, mathematical sciences and computer science-

Engineering comprises: Engineering and technology

Other comprises: Architecture, building & planning, Social, economic & political studies, law, Business & administrative studies, Librarianship & information science, Languages, Humanities, Creative arts & design, Education, Combined.

Table 18: *Non-UK EU Higher Education students (undergraduate and postgraduate) in Higher Education Institutions, 1999/00-2003/04 by subject area*

Year	Total EU students (all disciplines)	Total EU Medicine / Science/ Engineering		Total EU in other disciplines		Total EU in Science and engineering		
		Total Number	% of total EU	Total Number	% of total EU	Total Number	% of total EU	% of all students Science/Engin.
1999/2000	102530	37590	36,66	64940	63,34	30930	30,17	7,46
2000/2001	94570	37395	39,54	57175	60,46	30340	32,08	6,84
2001/2002	90130	35540	39,43	54590	60,57	28440	31,55	6,27
2002/2003	90575	36615	40,43	53960	59,57	29360	32,42	5,79
2003/2004	89540	35590	39,75	53950	60,25	27945	31,21	5,14

Source: HESA

Note: Definitions as for Table 5

Table 19: UK Higher Education students (undergraduate and postgraduate) in Higher Education Institutions, 1999/00-2003/04 by subject area

Year	Total UK students (all disciplines)	Total UK Medicine / Science/ Engineering		Total UK disciplines Other		Total UK Science and Engineering		
		Total Number	% of total UK	Total Number	% of total UK	Total Number	% of total UK	% of all students Science/Engin.
1999/2000	1631700	571850	35,05	1059850	64,95	351260	21,53	84,77
2000/2001	1759755	635640	36,12	1124115	63,88	375340	21,33	84,67
2001/2002	1843310	654575	35,51	1188735	64,49	382805	20,77	84,37
2002/2003	1843310	654575	35,51	1188735	64,49	424805	23,05	83,70
2003/2004	1947385	773035	39,70	1174350	60,30	454740	23,35	83,63

Source : HESA

Note: Definitions as for Table 5

So far the tables that have been presented relate to student registration data (ie those studying in universities and other institutes of higher education in the UK). Not surprisingly statistics for the achievement of student qualifications show similar but not identical trends (Tables 20 and 21). In 1995/6 full time overseas students accounted for 12% of all those receiving qualifications from UK Higher Education Institutions. By 2003/4 the proportion had risen to 21%. Some 14.5% of the total was awarded to full time students from outside the EU in 2003/4 (Table 22).

Table 20: Full time HE qualifications obtained in the UK by domicile, 1995/96

Student's domicile	Total HE obtained	Total first degree	Total higher degrees
UK	271232	205805	11164
Overseas	37056	20821	10776
Overseas as a % of total	23,92	9,19	49,12

Source: HESA

Table 21: Full time HE qualifications obtained in the UK by domicile, 2003/04

Student's domicile	Total HE obtained	Total first degree	Total higher degrees
UK	320660	229250	31660
Other EU	28155	12645	12265
Non EU	61525	18555	35100
Overseas as a % of total	21,86	11,98	59,94

Source: HESA

Table 22: Full time HE qualifications per nationality, as a percentage of the total full time HE qualifications, 1995/6 – 2003/4

Year	UK as % of total HE	Other EU as % of total HE	Non EU as % of HE	Overseas as % of HE
1995/1996	87,98	-	-	12,02
1996/1997	86,76	-	-	13,24
1997/1998	85,22	-	-	14,78
1998/1999	84,67	-	-	15,33
1999/2000	84,15	-	-	15,85
2000/2001	82,21	-	-	17,79
2001/2002	81,60	-	-	18,40
2002/2003	80,40	7,15	12,46	19,60
2003/2004	78,91	6,62	14,47	21,09

Source: HESA

Table 23 shows the qualifications achieved for all students by mode and domicile in 2003/4. This indicates once again the higher proportions of non-UK domiciled students taking higher degrees relative to the numbers graduating with first degrees.

Table 23: Qualifications obtained by level of qualification, mode and domicile 2003/04

	All qualif.	Higher degree (research)	Higher degree (taught)	Other postgrad.	First degree	Other undergrad.	Of which, Foundation Degree
All students	595640	18175	92535	71370	292090	121465	3135
% of all qualifications	100,0	3,1	15,5	12,0	49,0	20,4	0,5
UK domiciled	493060	11270	46125	63455	258560	113650	2870
Non-UK domiciled	102580	6905	46410	7915	33530	7815	265
% non UK domiciled	17,2	38,0	50,2	11,1	11,5	6,4	8,5

Source: HESA

Further detail on the geographical origins of students attending higher education institutions in the UK can be found in Table 23. This table shows that in 2003/4 amongst 300,055 non-UK domiciled students only 89,545 came from within the EU (29.8%). Greece (22,825), the Republic of Ireland (14,715) and Germany (12,095) contributed most of the EU flow (55.4% of all EU students from these three countries). British universities in receiving no premium in terms of fees for educating these students, have instead been much more interested in recruiting the high fee paying group of non-EU students. In this non-EU category, Asian countries, (especially China and India) sent more than 121,705 students, a pattern that reflects not only the demographic dominance of these origins, but the recruiting efforts made by UK universities to source students in these developing markets. The importance of Asian students is especially evident in the taught higher degree market, where there were more than double the number of Asian students relative to students from the EU (other than the UK).

Table 24: Non-UK domiciled students by domicile and qualification aim 2003/04

Domicile	Higher degree	Other PG	All UG
Total non UK domiciled	143310	13245	143500
EU	36275	5110	48160
EU Accession	3065	365	3870
Other European Economic Area Countries	1315	185	2485
Africa	12400	1240	13030
Asia	61565	3710	56425
Middle East	6980	625	5315
Other non-European regions	21715	2010	14225

Source: HESA

Higher degree comprises higher degree research and taught

All UG consists of First degree and Other UG

Table 25 compares selected origins of non-UK domiciled students registered at Institutes of Higher Education in 2000/1 with the pattern three years later. Over this short period of time the pattern of student origins has altered significantly. It can be seen that the absolute number of EU students declined by over 5000 students, but this fall was more than accounted for by the collapse of just one country of origin: Greece. By contrast the Chinese student population in the UK grew by nearly 300% over the same period and the Indian group rose by 200%. As indicated earlier in the report, numbers in the Chinese population would be expected to be much lower when the 2004/5 HESA data is released. The USA also features in Table 25 as being amongst the top ten sending countries with 13,380 students registered in 2003/4 at a UK Higher Education Institute. It is interesting that only four of the top ten countries were European.

Table 26: Non-UK domiciled students in 2000/01 and 2003/4 for selected origins (Top 10 origins in 2003/4)

Domicile	2000/1 total	2003/4 total	% change
Total non-UK domiciled	230870	300060	+30.0
All European Union countries*	94575	89545	-5.3
Greece	31150	22825	-26.7
Republic of Ireland	13510	14715	+8.9
Germany	11370	12095	+6.4
France	9950	11295	+13.5
USA	9425	13380	+42.0
China	12095	47740	+294.7
India	4875	14625	+200.0
Malaysia	10005	11805	+18.0
Hong Kong	8335	10575	+26.9
Japan	6470	6395	-1.2

Source: HESA, 2005, 36

*European Union countries defined in terms of the 15 countries that made up the EU in 2000/1. Figures include specific countries such as France and Greece listed lower in the table.

The rapid shift towards Asia as a major source of overseas students evident in Table 25 was synchronous with the trend towards overseas students becoming an ever more critical proportion of those studying subjects such as engineering and technology. Table 26 confirms the subject shift of non-EU students into these areas (up from 14.0 to 19.6%

between 2000/1 and 2003/4) as well as into physical sciences, computer science and mathematics. Data do not yet exist to confirm whether this change has fed through to produce more graduates from overseas countries entering the UK labour market in these key areas, but certainly the shift in government policy in October 2004 to encourage overseas students in science and engineering to have preferential access to jobs in the UK would suggest that this is one of the governments goals.

Table 26: Percentage distribution by subject area of non-United Kingdom and non-EU domicile students 2000/1 and 2003/04*

Subject	Percentages			
	% non-UK 2000/1	% non-EU 2000/1	% non-UK 2003/4	% non-EU 2003/4
Medicine & dentistry	13.0	9.8	13.4	10.1
Subjects allied to medicine	5.6	3.3	5.6	3.6
Biological sciences	9.7	4.2	8.5	4.7
Veterinary science	13.3	10.1	11.9	8.8
Agriculture & related subjects	15.8	8.6	13.4	7.8
Physical sciences	11.4	5.5	12.0	7.2
Mathematical sciences	13.0	7.5	15.3	11.4
Computer science	11.8	7.7	16.3	12.5
Engineering & technology	24.9	14.0	28.2	19.6
Architecture, building & planning	14.9	8.4	16.3	10.7
Social studies	14.0	8.1	14.3	10.0
Law	16.3	10.5	17.2	13.0
Business & administrative studies	18.0	11.5	24.0	18.5
Mass communications & documentation	13.2	6.9	13.2	8.4
Languages	16.5	9.0	14.9	9.8
Creative arts & design	11.0	5.8	11.0	6.6
Education	7.4	5.2	6.7	4.7
Combined	4.9	2.9	3.3	2.5
Total - All subject areas	11.6	6.8	13.4	9.4

* Non-UK refers to non-UK EU students plus non-EU students

Discussion and conclusions

This paper has been heavy on empirical detail and light on theory. It is now useful to stand back from the data and to search for wider conclusions. There seems little doubt that the experience of the UK over the last decade has been one of shifting from a negative to a positive stance on labour migration and from a passive to an active policy in encouraging international student migration. The paper has argued that these dual shifts have been interconnected in a complex but very real way. The shift to a positive policy on immigration has been underpinned by an evidence-based rhetoric that argued that skilled and highly skilled migration was beneficial to the UK economy. Although the UK did not start from a position of disadvantage in terms of global competition for specific science and engineering skills (OECD, 2004), weak recruitment of UK domiciled students into these subjects, meant that not only was it desirable to incentivise individuals to train in these areas, but it was also beneficial to encourage skilled immigration to areas with a skills shortage and to favour international students to study in those areas. Policies on overseas students evolved from a position in which the extra income from fees was seen as a benefit to UK institutes of Higher Education to one where it was shown to be beneficial to encourage students with specific skills to stay on after completion of their studies to contribute to the economy. Thus over time policies on international student migration have become entangled in wider labour migration policies.

The consequence of these policy shifts has been a double transition in the skilled labour and student migration. The first transition has been from the UK engaging in brain exchanges in the global labour market in the mid-1990s to the UK becoming a major net beneficiary as a result of skilled international migration. The second transition has been associated with a growth in international student migration with the increase in numbers running concurrently with an increasing proportion of overseas students staying in the UK after the end of their studies. This could be equated with a change from migration for short-term study to student migration for longer-term engagement in the UK labour market. This double transition is particularly evident for students from non-EU origins studying subjects in science and engineering.

Much of the evidence presented here is compatible with theories linking skilled migration trends with the globalization both of labour markets and of the higher education sector (Stalker, 2000). Kuptsch and Fong (2006) argue that competing for global talent (both highly skilled labour and students) has become a vital route to amassing human capital in knowledge-based economies. It is a policy that may widen the gaps between rich and poor countries and in which new policies are constantly being devised to increase competitive advantage. The rhetoric of the UK's new points-based immigration policy certainly is couched in these terms and includes student migration as one of five channels bringing talent into the country. It fits well with Abella's (2006) argument that knowledge economies have switched their migration policies first by easing the restrictions on those workers they wish to attract, but then more strategically by redesigning talent attraction programmes to actively target the skills they seek. Encouraging science and engineering students from other parts of the globe to study and

later to work in the UK appears to be a particularly powerful example of this policy switch.

Unlike the past it is clear that international student mobility to the UK is now seen, and is being advertised, as a channel that connects to other routes into the UK labour market. Overseas students have been repositioned (from being a source of fees to subsidize the UK Higher Education sector to being a rich source of global talent) and increasingly are seen as future global talent that will be of benefit to the UK economy. The UK has done particularly well, perhaps helped along by circumstances in other parts of the world such as the US reticence about issuing overseas student visas in the wake of 9/11, in recruiting overseas students in subject areas such as science and engineering. This has been fortunate given the continuing difficulty in persuading UK domiciled students to take these disciplines at University. It is perhaps still too soon to say what the long term implications will be in terms of retaining these overseas students as key players in the UK's need for skilled workers capable of taking forward research and development activities within the economy.

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