Migration of Academic Staff to and from the UK – an analysis of the HESA data

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International academic mobility from HESA data

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1. This paper report the results of analyses of the HESA staff record undertaken to inform the HEPI report Migration of Academic Staff to and from the UK. It is based upon estimates of immigration and emigration made using data from the HESA Individualised Staff Record supplied by HESA. Data tables, showing the estimates from which the charts and tables have been derived and a fuller account of the process used to produce the estimates are to be found in annex A.

Immigration and Emigration

2. The period from 1995-96 to 2002-03 saw an increase in migration in both directions. There was a steady increase in the level of emigration throughout the period but the last two years of the period saw a fairly steep decline in immigration from the peak of 4209 hit in 2000-01. In 2002-03 there were an estimated 3671 immigrants and 3082 emigrants giving a net immigration of 589 (the lowest of the period studied).





<u>Grade</u>

3. Migration is overwhelmingly a phenomenon affecting junior staff. Staff on researcher grades account for roughly two thirds of migration in both directions. The absolute numbers of emigrants and immigrants at senior levels are not high.

¹ By immigration is meant staff joining UK HEIs from employment outside the UK; by emigration is meant staff leaving for employment outside the UK. The basis for the estimates is set out in annex A.

	Immig	grants	Emigrants			
	2002-03	1995-96 to	2002-03	1995-96 to		
		2002-03		2002-03		
Professor	114 (3)	1080 (4)	97 (3)	518 (2)		
Senior lecturer/	121 (3)	1067 (4)	140 (5)	844 (4)		
researcher						
Lecturer	655 (18)	5911 (21)	463 (15)	3349 (16)		
Researchers	2372 (65)	17339 (61)	2134 (69)	13994 (67)		
Other	409 (11)	3010 (11)	248 (8)	2077 (10)		
Total	3671	28407	3082	20781		











Nationality

4. Whilst there is still substantial net immigration, it appears to be a downward trend. It is immediately noticeable that the two years after 2000-01 saw a marked decline in the UK's net inflow of non-UK nationals whilst there has been a net outflow of UK nationals since that year.





Migration rates

5. As noted above, there are very low rates of migration amongst lecturers, senior lecturers and professors (emigration remains under 1% throughout the period). The immigration figures for these staff are generally a little higher and are more volatile. It is probable that the timing of senior appointments is affected by the RAE cycle and it is therefore difficult to draw firm conclusions about trends in academic immigration from a few years' data.

6. Both emigration and immigration rates for researchers are very much higher than for faculty grades. The most meaningful comparisons are between years at the same stage of each cycle: 1995-96 with 2000-01; 1996-7 with 2001-02 and 1997-98 with 2002-03. When these comparisons are made, it remains noticeable that the 1996-2001 RAE cycle was characterised by consistent growth in the number of researcher grade immigrants whereas the current cycle seems to be characterised by a decline.







Emigration rates by grade and year



Who are the migrants?

Where do they come from and where do they go?

7. The rest of the EU accounts for more than twice as much immigration and emigration as the US. On the basis of current trends, this is likely to continue: the number of staff leaving for the rest of the EU has increased by 71% over the eight years to 2002-03 and the number joining from the US has actually fallen. There is a steady increase in migration to and from the rest of the world but without examining country and/or regional breakdowns it is difficult to draw meaningful conclusions from this.

	Immigrants from (percentage change 1995-96	Emigrants to (percentage change 1995-96 to 2002-03
	to 2002-03 in brackets)	in brackets)
EU 15 (not UK)	1626 (20)	1322 (71)
US	605 (-16)	633 (25)
Other overseas	1440 (35)	1127 (30)

Table 6: Immigrants and emigrants by world region

Nationality

8. Unsurprisingly, foreign nationals are strongly represented amongst both immigrants and emigrants. Taking only those whose nationality is known, over the period 1995-96 to 2002-03, 74% of immigrants and 63% of emigrants were non-UK nationals. Of particular interest are the numbers of foreign nationals amongst emigrants. In the context of overall net immigration, these figures suggest that many of those who leave the UK have previously entered the country in order to take up academic posts - which hardly supports the characterisation 'brain drain'.

9. Also of interest are the numbers of UK nationals coming into the UK from overseas. Between 1995-96 and 2002-03, 7027 immigrants (26% of the total whose nationality was known) were known² to be UK nationals although their numbers were 13% lower in 2002-03 than in 1998-99. This suggests that UK nationals resident overseas remain an important element in the UK's recruitment of academic staff from overseas and by extension in its ability to exploit ideas, techniques and networks developed overseas. Some of these people may have spent their entire academic careers overseas but it is reasonable to assume that a good many previously left the UK for the purpose of study or academic employment.

10. In 2002-03, 48% of the estimated emigrants and 53% of the estimated immigrants whose nationality was known were non-UK nationals on researcher grades. This strongly suggests that the overall figures for migration are heavily influenced by a large group of postdoctoral researchers who spend (and possibly intend to spend) only a limited time in the UK. Migration of this type would be unlikely to have disruptive effects upon UK academic departments as it would not involve staff the institution expected to retain. It is perhaps the most benign form of migration imaginable, offering the benefits of improved international contacts without the disbenefits caused by the loss of key staff at unpredictable moments. Therefore data which suggest that this may account for a high proportion of migration in and

² Additionally, the nationality of 1192 immigrants was not known. Some of these may have been UK nationals.

out of the UK should make policymakers more sanguine about the effect of current levels of migration on the UK HE sector.

Origins and destinations

11. The HESA data reveal that over the 1994-5 to 2002-03 period 44 per cent of immigrants arrived from elsewhere in the EU 15³, 19 per cent from the US and 37 per cent from the Rest of the World. Over the period the EU share of immigration was flat, the US share declined (in fact, immigration from the US ended the period lower than it began it in absolute as well as relative terms) whilst the rest of the world increased. Over the same period, 41 per cent of emigrants left for the EU, as against 23 per cent for the US and 36 per cent for the rest of the world. There was an increase in the absolute numbers of emigrants to all regions with emigrants heading to the EU increasing fastest.



Table 7a
 Immigration from and emigration to other countries in the European Union

³ The EU 15 comprises the following countries (excluding the UK): Austria, Belgium, Denmark, Finland, France, Germany, Greece, Republic of Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden







Table 7b Immigration from and emigration to the United States of America

Institutions and subjects

12. Immigration is concentrated in research-strong universities which see themselves recruiting and retaining staff in an international labour market. In 2002-03, four institutions were responsible for employing 31 per cent of academic immigrants and 12 for recruiting 50 per cent⁴

13. Academic mobility is concentrated in certain disciplines: 37 per cent of immigrants and 41 per cent of emigrants⁵ in 2002-03 were in biological, mathematical and physical sciences – in short, the disciplines associated with high levels of grant funding. Only 19 per cent of staff as a whole are in these subjects. Given the prevalence of researcher grade staff in migration and the role of grant funding in creating opportunities for these staff, the prevalence of health disciplines and physical sciences in the migration statistics is perhaps predictable. What is surprising, given the level of grant funding in medical research is that medicine dentistry and health account for a smaller proportion of migrants (in both directions) than of staff in general. It is unlikely that this reflects immobility amongst laboratory academics in medical subjects but it may be that clinical and/or nursing academics have low levels of mobility which bring down the average.

⁴ These analyses are produced on a slightly different basis to others in this report. They are based on those reported as having been employed overseas in the previous year without reference to estimates of the distribution of those whose previous employment is not known

⁵ As footnote 4

Table 8:	Percentag	e of emi	grants,	immigrants	and all	staff e	mploy	/ed in	each	subject
area (2002-03)	-		-	-						

	Immigrants	Emigrants	Population
Medicine, Dentistry and Health	23	21	26
Agriculture, Forestry and Veterinary Science	2	2	2
Biological, Mathematical and Physical			
Sciences	37	41	19
Engineering and Technology	15	14	13
Architecture and Planning	1	0	2
Administrative, Business and Social Studies	12	10	17
Language Based Studies	5	4	4
Other Arts	4	4	9
Education	2	2	6
Other	0	0	1

Annex A

Description of the procedure used to estimate emigration and immigration

 The Higher Education Statistics Agency (HESA) collects annually from all UK HEIs an individual staff record (ISR). For academic staff this records personal characteristics (age, gender etc) and employment (department, grade etc). It also records their previous or subsequent employment if they have arrived or left since last year. From this source HESA created for the study a dataset for the years 1994/95 to 2002/03 with the numbers of immigrant and emigrant academics distinguished by

Location (EU except UK, USA, Rest of the World) Institution Discipline (by 9 academic departments) Gender Nationality (UK, non-UK) Grade (Professors, Senior Lecturers and Researchers, Lecturers, Researchers, Others) Primary employment (teaching, research, teaching and research)

- 2. This data were analysed to provide aggregate data on inward and outward mobility over the 9 year period and to disaggregate the flows by location, discipline, institution, gender, grade and primary employment.
- 3. The quality of returns from institutions to HESA on staff movement is uneven. Over the nine years of the dataset the proportion of migrant staff for whom their previous or subsequent location abroad is not known is 20% for immigrants and 66% for emigrants. In order to allow proper analysis, the data were therefore reanalysed as described in Annex A

Estimating immigration

- 4. We received custom data from HESA from the staff record for the academic years 1995-6 to 2002-3.
- 5. For each year, the previous year's employment of recorded staff was broken down as follows:

Not changed institution UK employment EU employment USA employment Other overseas employment Other Not known

- 6. On the advice of HESA we treated 'other' staff as having joined the institution in the past year but assumed that they were not recruited from overseas. One consequence of this assumption is that our estimates are of staff recruited from employment overseas and do not include staff recruited from overseas but not previously in paid employment
- Also on the advice of HESA we presumed that 'not known' staff had joined the institution in the previous year. Their numbers were distributed amongst the five categories of 'joiners' (UK employment, EU employment, USA employment, other overseas employment and other) in proportion to the numbers of staff known to fall in each category⁶.
- 8. If known immigrants and those whose previous employment was not known had very different characteristics, then allocating the numbers of the former to the latter on a pro rata basis could produce a misleading result. To ensure that proper account was taken of the distribution of UK and non UK nationals and of different staff grades amongst known immigrants and to allow a more detailed picture of immigrants to be constructed, the procedure described in paragraphs 3-4 was carried out *separately* for fifteen categories of staff (producing an estimate of the number of staff coming to work in UK HE from employment in the US, EU and other overseas location for each category and year). The categories were:

⁶ So for example, to calculate the level of academic immigration from employment in the EU we calculated what proportion of those recruits whose previous employment was known had come from the EU. This gave the share of the 'not knowns' to be assumed to have come from employment in the EU. This was multiplied by the total number of not knowns to give the absolute number of not knowns assumed to have come from EU and this was added to those already known to have come from employment in the EU.

In crude algebra, the procedure can be described thus: EU/(UK+EU+US+other overseas+other)*not known + EU

Professors (UK nationals) Professors (non-UK nationals) Professors (nationality not known) Senior lecturers and researchers (UK nationals) Senior lecturers and researchers (non-UK nationals) Senior lecturers and researchers (nationality not known) Lecturers (UK nationals) Lecturers (non-UK nationals) Lecturers (nationality not known) Researchers (UK nationals) Researchers (non-UK nationals) Researchers (non-UK nationals) Others (UK nationals) Others (non-UK nationals)

9. These estimates have been aggregated to produce estimates of total immigration (and of total immigration amongst different grade groups and amongst UK and non-UK nationals). This produces a more sophisticated estimate than simply distributing the staff whose previous employment is not known between the other the various groups of staff whose employment is known on a pro rata basis because it allows fully for any differences in the nationality and grade profile between known immigrants and staff whose previous employment is not known.

Estimating emigration

- 10. We received data from HESA from the staff record for the academic years 1995-6 to 2002-3.
- 11. For each year the destination of recorded staff was broken down as follows:
 - Not left institution UK employment EU employment USA employment Other overseas employment Other Not known
- 12. These breakdowns are equivalent to those given for previous employment. We were able to estimate emigration using the same procedure used to estimate immigration (which is described above).
- 13. However, it is important to recognise that the proportion of staff whose previous employment is given as 'not known' and 'other' is much higher in the data on staff destinations than it is in the data for previous employment. Therefore, if the

assumptions used to allocate the numbers of these staff to other categories are flawed they have the potential to distort the figures for emigration to a greater degree than the analysis of immigration. However, the steps described above should minimise any distortion. They are unlikely to be accurate to a fine degree, but they are a reasonable approximation.

Data tables

- 14. The tables attached give separate estimates for immigration and emigration for professors, senior lecturers and researchers, lecturers, researchers and other grades of UK, non-UK and unknown nationality. Each estimate has been produced by allocating numbers of staff whose previous employment was not known to other categories (including categories which are not shown such as 'UK employment') in proportion to the number of known staff. Each estimate is further broken down between those previously employed or moving to the EU, US and rest of the world.
- 15. These figures have been used to produce all of the figures in this report excepting those presented in paragraphs 11 and 12 and table 8, all of which are simple percentages based on those whose previous employment or destinations are known.

Nationality	Grade	Immigrants from	1995-6	1996-7	1997-8	1998-9	1999-0	2000-1	2001-2	2002-3	Total
UK	Professor	EU	17	3	6	9	12	16	9	5	77
		US	24	7	15	19	22	27	13	13	140
		Other overseas	24	17	17	15	29	17	14	14	148
Senio	or lecturer/researcher	EU	20	14	11	12	9	7	8	14	96
		US	13	14	14	14	12	13	19	15	114
		Other overseas	26	15	15	19	43	22	23	19	181
	Lecturer	EU	91	78	66	83	92	74	75	76	634
		US	117	95	65	74	83	63	56	51	604
		Other overseas	125	98	106	128	123	108	90	76	854
	Researcher	EU	145	147	149	165	136	162	155	162	1221
		US	141	141	105	140	109	107	138	105	986
		Other overseas	140	158	147	185	167	175	168	157	1297
	Other	EU	22	36	50	29	30	19	26	67	278
		US	15	13	16	16	19	12	8	10	110
		Other overseas	34	37	36	49	32	26	23	50	287
Non UK	Professor	EU	24	3	20	18	53	42	22	20	203
		US	32	15	18	37	40	45	23	34	245
		Other overseas	19	27	18	20	40	45	27	20	217
Senio	or lecturer/researcher	EU	29	20	15	31	43	59	35	30	262
		US	16	14	14	18	27	34	22	20	164
		Other overseas	30	16	17	19	40	36	30	20	209
	Lecturer	EU	154	101	138	187	211	232	159	162	1344
		US	113	102	95	128	123	148	88	90	887
		Other overseas	134	140	130	160	159	193	191	178	1284
	Researcher	EU	606	662	785	832	835	998	942	875	6535
		US	194	183	165	197	235	222	210	226	1633
		Other overseas	421	436	526	555	726	882	900	774	5219
	Other	EU	160	181	137	182	146	177	193	146	1321
		US	28	22	25	13	24	20	15	21	168
		Other overseas	58	37	60	51	68	75	80	65	494

Estimated immigrants (HESA staff record. Figures include staff whose previous employment not known allocated to other categories on a pro rata basis)

Nationality	Grade	Immigrants from	1995-6	1996-7	1997-8	1998-9	1999-0	2000-1	2001-2	2002-3	Total
Nationality not known	Professor	EU	2	1	0	0	1	4	3	1	12
		US	0	1	3	3	4	0	1	4	17
		Other overseas	2	2	1	1	7	5	0	3	21
Senio	or lecturer/researcher	EU	0	0	2	0	0	3	0	1	6
		US	3	0	0	0	1	0	0	0	4
		Other overseas	15	1	0	5	1	3	4	1	31
	Lecturer	EU	35	11	8	17	20	19	14	5	129
		US	20	10	5	7	8	7	8	7	71
		Other overseas	22	9	7	8	22	9	15	9	102
	Researcher	EU	35	17	26	22	14	29	34	32	209
		US	3	6	6	2	16	13	11	8	65
		Other overseas	8	14	8	24	29	23	37	32	174
	Other	EU	15	15	19	22	24	32	15	29	170
		US	5	15	6	0	12	11	7	0	56
		Other overseas	5	15	19	29	12	0	22	21	123
			3143	2949	3094	3546	3861	4209	3933	3671	28407

Estimated immigrants (continued from previous page)

Nationality	Grade	Emigrants to	1995-6	1996-7	1997-8	1998-9	1999-0	2000-1	2001-2	2002-3	Total
UK	Professor	EU	7	3	7	11	4	6	17	5	59
		US	4	5	5	3	14	10	16	25	82
		Other overseas	9	13	7	9	10	8	16	18	91
Senior lectur	er/researcher	EU	15	11	12	14	16	20	20	13	121
		US	3	7	18	21	21	15	23	18	126
		Other overseas	16	22	15	21	24	36	41	47	223
	Lecturer	EU	39	42	47	71	43	67	74	51	435
		US	34	24	26	33	47	62	60	51	337
		Other overseas	110	76	112	77	90	75	127	99	766
	Researcher	EU	143	158	187	205	203	177	200	225	1497
		US	181	208	138	173	162	210	202	181	1455
		Other overseas	200	166	165	175	198	243	244	232	1623
	Other	EU	33	21	29	19	28	16	35	14	194
		US	3	11	7	19	0	12	7	3	62
		Other overseas	20	26	20	9	18	28	38	21	180
Non UK	Professor	EU	5	2	7	5	11	9	10	17	67
		US	13	8	12	28	17	17	21	22	138
		Other overseas	3	6	7	7	9	9	12	9	62
Senior lectur	er/researcher	EU	8	9	8	9	8	13	22	32	108
		US	2	9	10	22	13	21	15	12	103
		Other overseas	14	17	8	13	18	13	23	15	121
	Lecturer	EU	62	69	47	96	66	95	100	109	644
		US	32	38	39	34	49	51	31	48	321
		Other overseas	81	77	116	70	66	62	84	91	648
	Researcher	EU	348	428	413	474	538	575	617	685	4078
		US	198	206	235	204	232	237	202	226	1740
		Other overseas	313	352	311	352	385	410	457	519	3099
	Other	EU	98	137	135	104	132	114	120	136	975
		US	18	18	18	21	6	28	11	21	142
		Other overseas	46	47	35	60	45	35	44	42	354

Estimated emigrants (HESA staff record. Figures include staff whose destinations are not known allocated to other categories on a pro rata basis)

Nationality	Grade	Emigrants to	1995-6	1996-7	1997-8	1998-9	1999-0	2000-1	2001-2	2002-3	Total
Nationality not known	Professor	EU	0	0	0	0	3	0	0	0	3
		US	0	0	0	0	1	6	0	2	9
		Other overseas	0	0	1	0	0	0	6	0	7
Senior lectur	er/researcher	EU	0	2	0	0	2	0	2	0	6
		US	0	0	4	2	2	3	2	2	16
		Other overseas	4	0	2	0	4	0	7	2	19
	Lecturer	EU	7	17	0	8	5	0	20	0	57
		US	7	8	11	0	3	3	13	0	45
		Other overseas	7	11	16	18	5	11	13	14	97
	Researcher	EU	11	15	13	21	19	18	41	25	163
		US	11	15	22	17	11	14	16	22	128
		Other overseas	34	29	13	13	26	43	35	18	211
	Other	EU	0	6	20	10	9	10	19	10	84
		US	0	6	0	0	0	0	0	0	6
		Other overseas	12	0	20	0	9	29	9	0	80
Grand total			2149	2326	2322	2447	2572	2811	3072	3082	20781

Estimated emigrants (continued from previous page)

All Stall	stan (neon stan record: rightes used to calculate migration rates)										
	1995-6	1996-7	1997-8	1998-9	1999-0	2000-1	2001-2	2002-3	Total		
UK	98810	101329	102038	103593	105937	107847	109116	111809	840479		
Non											
UK	16760	17338	18077	19489	21384	23747	25588	27758	170141		
Not											
known	9859	8306	7345	7452	7715	7587	7695	5942	61901		
	125429	126973	127460	130534	135036	139181	142399	145509	1072521		

All staff (HESA Staff record. Figures used to calculate migration rates)