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# *Toward Improved Data on Student Mobility in Europe: Findings and Concepts of the Eurodata Study*

Maria Kelo  
Ulrich Teichler  
Bernd Wächter

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*This article on student mobility data in Europe has a double objective: First, it investigates which data on international mobility of students are being compiled and made available—and which are not—both at the international, the national, and the programme level. Second, it presents some of the student mobility data identified, and—based on an analysis of these data—it tries to depict a picture of the main trends in international student mobility into and out of 32 European countries. Next to analysing and presenting the availability and quality of data on international student mobility, the article also makes recommendations for the improvement of student mobility statistics both at the national and international levels.*

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**Keywords:** *mobility data; students in tertiary education; Europe*

International student mobility has considerably gained currency as a major policy in Europe during recent decades. The promotion of internationalisation, and of international mobility in particular, have come to be regarded as important elements of higher education policy. This applies to higher education institutions and to national governments in Europe, but even more so it is true of the European Union (EU) and other supra-national actors in Europe. The earliest signs of such policies can be traced back to the recognition conventions of the 1950s, according to some observers. In the 1980s, the development received a big boost through the launch of the Erasmus Programme (1987), the original aim of which it was to enable a minimum of 10% of all higher education students in Europe to study for a period of time in another European country. The Sorbonne Declaration (1998) demands an increase in European mobility as a chief priority, and the Bologna Declaration (1999) continues in this vein. The EU's "Education & Training 2010" agenda, the educational manifestation of the Lisbon Process, likewise names mobility (and

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European cooperation) as one of its “concrete objectives” for European education. In parallel to these collective European efforts, national and (sometimes) regional governments have been trying to boost mobility into or out of their countries through scholarship or loan schemes, among others. Many governments have started campaigns that market their countries’ higher education institutions worldwide to attract students from other countries and regions.

As a result of the heightened political importance attached to international mobility, and the manifold practical attempts to increase it, there is an enhanced need for comprehensive, up-to-date, and reliable information on the phenomenon. Apart from information about the effects of mobility, this need concerns first and foremost statistical data on mobility. They are needed to measure progress—or otherwise—toward the various mobility goals set and thus inform the political actors of the impact of the programmes and other measures launched. A first glance at publications of national governments, specialised agencies, research institutes, and international organisations, such as the Organisation for Economic Co-operation and Development (OECD), United Nations Educational, Scientific and Cultural Organisation (UNESCO), or EU, conveys the impression that there is no shortage of quality data on international mobility. This impression is misleading: The available data are not (always) the data we need.

## **THE EURODATA STUDY AND ITS KEY FINDINGS**

It is for this reason that the Academic Cooperation Association, with support of the European Commission, produced the Eurodata study (Kelo, Teichler, & Wächter, 2006), which analyses both the strengths and weaknesses of the current data collections and proposes steps toward their improvement. This article presents some of the most important findings from this study.

Eurodata has a double objective. First, it investigates which data on international mobility are being compiled and made available and which are not, at the international and national level. As will be seen, the results of this enquiry are not only uplifting. Second, it also presents the student mobility data identified, and, based on an analysis of these data, it tries to depict a picture of the main trends in international student mobility into and out of 32 European countries. Because of the suboptimal situation of available data on international student mobility, the patterns drawn are necessarily somewhat blurry.

The Eurodata study covers 32 European countries: the 25 member states of the EU, the three countries (Bulgaria, Romania, and Turkey) that are “candidates” for joining the EU, and the EFTA countries (Iceland, Liechtenstein, Norway, and Switzerland). In the Eurodata publication as in this article, these countries are referred to as the “Eurodata countries” and their territory as the “Eurodata region” or “Eurodata zone.”

One of the most important findings of Eurodata, which confirms earlier work by Lanzendorf and Teichler (2003), is that the available “mobility statistics” do not, in most cases, report on mobility at all. Instead, they report on foreign students, using the foreign nationality of students as a measure of mobility. Only 10 out of the 32 countries included in this publication do collect (but do not always publish) data on genuine mobility (i.e., on students moving across country borders for the purpose of study). The use of “nationality” data as a measure of true mobility would not be a major problem if every foreign student (or at least the overwhelming majority) had also been mobile prior to taking up studies in the “host” country. But, as the present study confirms, this is far from being the case. In some cases, up to two fifths of all foreign students had already been residents in the country prior to taking up tertiary studies and/or obtained their upper-secondary school leaving certificate there. At the same time, there are sizeable numbers of own-nationality students enrolled in some countries who lived and/or went to school elsewhere and who entered their country of nationality for the express purpose of starting higher education studies there. These students do not appear as mobile in statistics that try to capture mobility by means of “foreign nationality.” The nonexistence of genuine mobility data in most countries severely limits the ability to measure progress in mobility. A recent publication of the European Commission (2005) proposing indicators in the context of the “Education & Training 2010” agenda suggests measuring the Union’s progress on international student mobility by means of “foreign nationality.” This is an expression of helplessness as a result of the lack of genuine mobility data. Instead of measuring what we would need to, we are measuring what we can.

It is important to note that the problem of missing mobility data does not stop at the national level but finds its way into the international statistics produced by UNESCO, OECD, and EUROSTAT (UOE). These organisations receive their data from national-level sources (national statistical offices and specialised agencies), whose limitations are therefore transported into international data publications. Of course, this effect is not limited to the nationality/mobility problem.

The paucity of data on actual mobility is the most severe problem but by no means the only one. On a fair number of politically highly relevant descriptors, no data are available from many European countries. This applies to the new Bologna degree structure, for example. In international statistics, the bachelor’s and master’s degrees are mostly classified in one and the same “level-of-study” category (International Standard Classification of Education [ISCED] 5A) and thus indistinguishable. UOE statistics, therefore, do not provide any information on the progress of enrollment in the new degrees, be that for mobile or for nonmobile students. The same goes for short-term mobility, for example, in programmes such as Erasmus. There are strong reasons to believe that up to half of all temporarily mobile students do not find their way into official statistics. There are more examples, as will be shown below in the Student Mobility Data section.

**Table 1** Regions of Nationality of Foreign Students Enrolled in Eurodata Countries 2002/2003

Countries	Number of Students
Eurodata countries	471,033
Other European countries	89,885
Russian Federation	21,547
North America	34,951
United States	27,235
Latin America/Caribbean	49,965
Mexico	6,820
Brazil	8,700
Africa	185,616
Asia	236,712
China	71,254
India	17,224
Japan	12,176
Oceania	3,506
Unknown	45,722
<b>Total foreign students</b>	<b>1,117,735</b>

Source: Kelo, Teichler, & Wächter (2006, p. 21).

## FOREIGN STUDENTS AND STUDY ABROAD STUDENTS

This section deals with international data on foreign students in the Eurodata region and on study abroad of Eurodata-country students abroad. It thus presents “nationality” data and not data on mobility. The overview is based on data provided by EUROSTAT (foreign students) and UNESCO (Eurodata students abroad). Unless otherwise stated, the reference year is 2002/2003.

There are 1.1 million foreign students enrolled at tertiary institutions in the 32 Eurodata countries. This number corresponds to almost 6% of all tertiary students in the Eurodata region.

Slightly more than half of these students are nationals of countries outside the Eurodata region (54%; 4% unknown). About 21% are Asians, 17% Africans, and 4% Latin Americans. Only 3% have a North American nationality (see Table 1).

The most frequent nationality of foreign students in the Eurodata region is Chinese, amounting to more than 6% of all foreign students. Germans and Greeks both account for more than 4% and French for exactly 4% of foreign students in Eurodata countries. Just more than 2% of foreign students enrolled at European universities are nationals of the United States. The largest communities of foreign students in individual Eurodata countries are Chinese in the United Kingdom and Turks in Germany (more than 30,000 and 27,000, respectively). The next largest

**Table 2 Eurodata Students Enrolled Abroad 2002/2003**

Host countries Countries of nationality	Total EURODATA		Other European countries		Non-European countries		...including USA		...including Japan		...including Australia		Total (73 countries)		
	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%	
<b>EURODATA countries</b>															
AT Austria	11 256	89.1	3	0.0	1 369	10.8	1 060	8.4	36	0.3	226	1.8	12 628	100.0	2.2
BE Belgium	10 468	91.0	0	0.0	1 034	9.0	847	7.4	40	0.4	98	0.9	11 502	100.0	2.0
BG Bulgaria	18 055	81.8	45	0.2	3 972	18.0	3 725	16.9	121	0.6	67	0.3	22 072	100.0	3.8
CH Switzerland	6 874	78.4	4	0.1	1 887	21.5	1 562	17.8	28	0.3	244	2.8	8 765	100.0	1.5
CY Cyprus	14 995	88.7	18	0.1	1 891	11.2	1 834	10.9	0	0.0	56	0.3	16 904	100.0	2.9
CZ Czech Republic	5 434	79.9	0	0.0	1 366	20.1	1 180	17.4	32	0.5	126	1.9	6 800	100.0	1.2
DE Germany	50 451	80.3	18	0.0	12 352	19.7	9 302	14.8	268	0.4	2 049	3.3	62 821	100.0	10.9
DK Denmark	5 400	80.2	0	0.0	1 333	19.8	901	13.4	25	0.4	307	4.6	6 733	100.0	1.2
EE Estonia	2 079	86.7	0	0.0	320	13.3	298	12.4	9	0.4	6	0.3	2 399	100.0	0.4
ES Spain	23 613	85.5	1	0.0	4 012	14.5	3 633	13.2	63	0.2	158	0.6	27 626	100.0	4.8
FI Finland	9 412	90.2	0	0.0	1 018	9.8	739	7.1	33	0.3	158	1.5	10 430	100.0	1.8
FR France	44 746	84.1	4	0.0	8 438	15.9	7 223	13.6	227	0.4	610	1.2	53 188	100.0	9.3
GB United Kingdom	13 442	47.0	2	0.0	15 152	53.0	8 326	29.1	370	1.3	5 968	20.9	28 569	100.0	5.0
GR Greece	47 808	95.1	8	0.0	2 468	4.9	2 341	4.7	18	0.0	80	0.2	50 284	100.0	8.7
HU Hungary	6 828	82.9	7	0.1	1 402	17.0	1 200	14.6	108	1.3	82	1.0	8 237	100.0	1.4
IE Ireland	14 241	90.0	24	0.2	1 558	9.9	1 055	6.7	18	0.1	471	3.0	15 823	100.0	2.8
IS Iceland	2 420	81.1	1	0.0	564	18.9	537	18.0	6	0.2	18	0.6	2 985	100.0	0.5
IT Italy	39 353	91.4	2	0.0	3 706	8.6	3 287	7.6	67	0.2	288	0.7	43 061	100.0	7.5
LI Liechtenstein	654	98.3	0	0.0	11	1.7	9	1.4	0	0.0	2	0.3	665	100.0	0.1
LT Lithuania	4 127	85.7	1	0.0	689	14.3	647	13.4	20	0.4	21	0.4	4 817	100.0	0.8
LU Luxembourg	6 428	98.7	0	0.0	85	1.3	73	1.1	3	0.1	8	0.1	6 513	100.0	1.1
LV Latvia	2 060	80.1	0	0.0	512	19.9	447	17.4	10	0.4	53	2.1	2 572	100.0	0.4
MT Malta	543	86.9	0	0.0	82	13.1	38	6.1	5	0.8	39	6.2	625	100.0	0.1
NL The Netherlands	10 232	81.9	1	0.0	2 253	18.0	1 672	13.4	62	0.5	450	3.6	12 486	100.0	2.2
NO Norway	9 785	63.3	4	0.0	5 664	36.7	1 568	10.2	21	0.2	3 859	25.0	15 453	100.0	2.7
PL Poland	23 153	88.1	33	0.1	3 081	11.7	2 744	10.5	77	0.3	227	0.9	26 267	100.0	4.6
PT Portugal	11 051	91.4	1	0.0	1 034	8.7	881	7.3	31	0.3	77	0.7	12 086	100.0	2.1
RO Romania	14 779	77.1	739	3.9	3 663	19.1	3 407	17.8	119	0.7	111	0.6	19 181	100.0	3.3
SE Sweden	9 534	62.5	1	0.0	5 719	37.5	3 709	24.3	58	0.4	1 665	10.9	15 254	100.0	2.7
SI Slovenia	1 966	82.4	145	6.1	274	11.5	238	10.0	9	0.4	19	0.8	2 385	100.0	0.4
SK Slovakia	13 686	94.9	0	0.0	743	5.2	610	4.2	23	0.2	109	0.8	14 429	100.0	2.5
TR Turkey	36 160	70.7	94	0.2	14 863	29.0	11 601	22.7	126	0.3	277	0.5	51 117	100.0	8.9
Subtotal	471 033	82.0	1 156	0.2	102 515	17.8	76 694	13.3	2 033	0.4	17 929	3.1	574 704	100.0	100.0

Source: Kelo, Teichler, & Wächter (2006, p. 21).

groups are Greeks in the United Kingdom and Chinese in Germany (more than 22,000 and 20,000, respectively).

About half of all foreign students are female. Their share is especially low in Cyprus, Turkey, and Lithuania (23%, 31%, and 34%, respectively), and it is especially high in Iceland (65%).

The number of students with Eurodata nationalities enrolled at foreign universities throughout world amounted to almost 575,000. This corresponds to 3% of all students with Eurodata nationalities enrolled in their home countries.

The total number of study abroad students with Eurodata nationalities is about half the number of foreign students in the Eurodata region. Therefore, the Eurodata countries together hosted about twice as many foreign students as there were students with their nationalities enrolled abroad. Students from Eurodata countries enrolled abroad concentrate on a limited number of foreign countries. The overwhelming majority studied in another Eurodata country (82%): 471,000 students

with Eurodata nationalities were enrolled at universities in Eurodata countries different from those of their nationalities (cf. Table 2).

The most frequent countries of study abroad of Eurodata students are Germany and the United Kingdom, hosting together 40% of all study abroad students from other Eurodata countries. In absolute numbers, more than 100,000 students from other Eurodata countries study in each of these two countries. France and Spain follow at a considerable distance. Among the non-Eurodata study abroad countries, only Australia and the United States host a considerable number of students with Eurodata nationalities. Almost 77,000 Eurodata students study in the United States. This figure corresponds to 13% of Eurodata students abroad. Australia, in turn, hosts 18,000 Eurodata students (3% of all Eurodata students abroad).

In the United Kingdom, students from other English-speaking countries (Ireland, the United States) constitute a considerable part of foreign students next to Chinese, Greek, German, and French students. In Germany, apart from Turkish and Chinese students, students from Eastern European countries (Poland, the Russian Federation, and Bulgaria) constitute the bulk of foreign nationals. In France, the foreign student population is dominated by African (Moroccan, Algerian, Tunisian, Senegalese, Cameroon) and Chinese students.

In terms of the proportion of foreign among all tertiary students, Liechtenstein (79%) and Cyprus (29%) stand out. Among the remaining Eurodata countries, another six have a foreign student rate exceeding 10%: Switzerland (18%), Austria (14%), Belgium, and the United Kingdom, Germany, and France (each 11%).

By far, Germany leads Eurodata countries with respect to the absolute numbers of students abroad (almost 63,000 or 11% of Eurodata students enrolled at institutions of tertiary education worldwide; see Table 2). It is followed by French, Turkish, and Greek students (each just more than 50,000 students enrolled in other countries of the world). However, study abroad is especially relevant in Liechtenstein and Cyprus, where the number of home-nationality students enrolled abroad exceeds the number of home-nationality students in national tertiary education. In Iceland, there are 2 students enrolled abroad per 10 home-nationality students at national universities, and in Bulgaria, there is 1 student abroad per 10 home-nationality students at national universities.

As already said, the 32 Eurodata countries together host about twice as many foreign students as students of their nationalities study abroad. A close look, however, reveals that for the majority of individual Eurodata countries, many of them small, the number of home-nationality students enrolled abroad exceeds the number of foreign students at institutions of tertiary education at home. The highest dominance of home-nationality students abroad over foreign students at national universities can be observed in Liechtenstein, Slovakia (both have 9 times more students abroad than foreign students at home) and Lithuania (7 times more students abroad than foreign students at home), followed by Iceland, Greece, and



Poland (in decreasing order), with 3 to 5 times more students abroad than foreign students at home.

Only 13 countries host more foreign students than home-nationality students are enrolled at institutions of tertiary education abroad. This is the case for most of the large Eurodata countries (Germany, Spain, France, United Kingdom) as well as for Austria, Belgium, Switzerland, Czech Republic, Denmark, Hungary, the Netherlands, Portugal, and Sweden. The United Kingdom has the lowest balance of foreign students to study abroad students: For 10 foreign students, there is only 1 British student enrolled for study abroad.

Information on the distribution of students among fields of study is only available for foreign students, not for those abroad. For Estonia, Spain, France, Greece, Ireland, and Portugal, even this information is not available. The remaining 25 countries (there are no data at all for Luxembourg) display a relatively homogeneous distribution of foreign students. In general, about half of foreign students study a subject belonging to one of the following fields: social and behavioural sciences, business and law, or humanities and arts.

The proportion of foreign students in the two fields of science and engineering is, in many cases, lower than the proportion of all tertiary students enrolled in these fields. Only in Finland and Germany does the proportion of foreign students in science and engineering exceed the proportion of all students enrolled in either of these two fields.

## **INWARDS- AND OUTWARDS-MOBILE STUDENTS**

Data on mobile students, with which this section deals, are far less often available than data on foreign nationality. Only nine Eurodata countries were able to provide data on inwards mobile as distinct from foreign nationality students. One country (Cyprus) also provided data on outwards-mobile students as distinct from national students enrolled abroad.

Inwards-mobile students are defined as either having lived permanently abroad before enrolling at a tertiary education institution in their current country of study or as having been awarded their entry qualification for tertiary education abroad. If data are available for a given country for both groups of students, only data referring to the country of entry qualification for tertiary education are reported here.

Two of the nine countries, Latvia and Ireland, have only mobility data but no overall information on foreign students. For the seven countries that collect both mobility and nationality data, this section compares the extent of inwards mobility to the number of foreign students enrolled at national institutions of tertiary education. With respect to tertiary student totals, the tables contain only those levels of tertiary education (ISCED levels) for which data on inwards-mobile or foreign students are available.

Inwards-mobile students can have any nationality, either a foreign one or the one of the country where they study. This means that students with home nationality



belong to the mobile student population if they lived or went to school or university abroad before enrolling at their current institution of tertiary education. Some national statistics, however, can identify mobile students only out of foreign student populations (among the nine countries in this chapter, this applies to Cyprus and Latvia).

Table 3 compares total numbers of inwards mobile with total numbers of foreign students in those seven countries for which data are available. In all cases, the number of foreign students exceeds that of inwards-mobile students, although inwards-mobile student totals in six countries include inwards-mobile students with home nationality ("inwards-mobile citizens"). The larger number of foreign compared to mobile students is primarily because of the fact that some foreign students already lived in their country of study before they enrolled at an institution of tertiary education there or received their entry qualification for tertiary education in the same country where they study.

Table 3 also illustrates that the difference between total numbers of foreign and inwards-mobile students amounts to between almost 90,000 students in the United Kingdom or 36,000 in Germany and more than 3,000 students in Austria and the Flemish community of Belgium. As a consequence, proportions of foreign students among all tertiary students exceed the proportions of inwards mobile among all students. The difference is particularly large for Cyprus and the United Kingdom, where the proportion of inwards mobile among all students is about four percentage points lower than the proportion of foreign students among all students.

In relation to foreign student totals, the differences between numbers of inwards-mobile and foreign students are highest in Spain and the Flemish community of Belgium, where they amount to more than 30% and 40%, respectively. Again, in relation to foreign student totals, the difference between numbers of inwards-mobile and foreign students is lowest in Austria, where it amounts to only 10%.

By way of analogy, Table 4 summarises the difference between the number of outwards-mobile students and the number of national students enrolled abroad. Data on outwards-mobile students are available only for Cyprus. They contain only students with Cypriot nationality, and thus students with foreign nationality who have their permanent residence in Cyprus and are enrolled at an institution of tertiary education abroad are not included. There is no significant difference between outwards-mobile students and Cypriot students enrolled abroad. Nevertheless, the ratio of outwards-mobile students to resident students in Cyprus is 10% lower than the corresponding ratio for nationality data (Cypriot students enrolled abroad in proportion to resident students with home nationality).

Table 5 provides detailed information on "unusual" subgroups of inwards-mobile and of foreign students for six countries. It refers to inwards-mobile citizens (i.e., students with home nationality among inwards-mobile students) and permanently resident foreign students. To complete the corresponding data, information on inwards-mobile students with foreign nationality has also been included.

*(text continues on page 206)*

**Table 3 Inwards-Mobile Student Totals Compared to Foreign Student Totals at Identical ISCED Levels in Selected Eurodata Countries (2002-2003)**

Country of Destination/ Study Abroad	Inwards-Mobile Students		Foreign Students		Difference	
	All Inwards-Mobile Students	% of Inwards-Mobile Among All Students	All Foreign Students	% of Foreign Students	Absolute	% of Foreign Students
AT Austria (ISCED 5A&6)	27,309	13.4	30,354	14.9	3,045	10.0
BE-NL Belgium Flemish Community (ISCED 5&6) <sup>a</sup>	4,513	2.6	8,095	4.6	3,582	44.2
CH Switzerland (ISCED 5A&6)	22,923	16.1	27,738	19.4	4,815	17.4
CY Cyprus (ISCED 5&6)	4,620	25.3	5,282	28.9	662	12.5
DE Germany (ISCED 5A)	190,782	10.0	226,931	11.9	36,149	15.9
ES Spain (ISCED 5A&6)	33,604	2.1	49,224	3.1	15,620	31.7
GB United Kingdom (ISCED 5&6)	308,060	13.6	388,365	17.6	88,300	22.7

Source: Kelo, Teichler, & Wächter (2006, p. 56)

Note: ISCED = International Standard Classification of Education.

a. However, certain programmes of tertiary education are excluded.

**Table 4 Outwards-Mobile Students as Compared to Home-Nationality Students Enrolled Abroad**

Country of Origin	Outwards-Mobile Students		National Students Enrolled Abroad		Difference
	All Outwards-Mobile Students	Ratio of Outwards-Mobile Students to Residents With Home Nationality	All National Students Enrolled Abroad	Ratio of National Students Enrolled Abroad to Resident Students With Home Nationality	
CY Cyprus	16,374	119.9	16,896	130.1	522
					<b>% of National Students Enrolled Abroad</b>
					3.1

Source: Kelo, Teichler, & Wächter (2006, p. 56).  
 Note: Mobility criterion is foreign country of permanent residence.

**Table 5 Inwards-Mobile Students With Home Nationality, Inwards-Mobile Foreign Students, and Permanently Resident Foreign Students in Select Eurodata Countries 2002/2003**

Countries of Destination/of Nationality	Inwards-Mobile Students With Home Nationality			Inwards-Mobile Students With Foreign Nationalities			Permanently Resident Foreign Students			% of Residents Among Foreign Students With a Particular Nationality		
	Total	% of Inwards-Mobile Students	Countries of Origin	Total	% of Inwards-Mobile Students	Countries of Origin	Total	% of Foreign Students	Countries of Nationality		% of Total	
AT Austria (ISCED 5A&6)	3,049	11.2	—	24,260	88.8	Italy	24.1	6,094	20.1	Germany	19.7	21.9
						Germany	17.7			Slovakia	7.6	33.8
						Bulgaria	5.9			Hungary	7.6	36.7
BE-NI Belgium Flemish Community (ISCED 5&6)	177	3.9	The Netherlands Luxembourg Germany	4,336	96.1	The Netherlands China India	32.0	3,759	46.4	—	—	20.3
						Germany	11.4					
						France	3.0					
CH Switzerland (ISCED 5A&6)	2,907	12.7	France Germany Italy	20,016	87.3	Germany France Italy	23.8	7,722	27.8	Italy	25.0	57.8
						Germany	13.8			Germany	17.7	22.2
						Italy	6.8			Spain	11.4	68.6
CY Cyprus	—	—	—	4,620	100.0	Bangladesh China Pakistan	33.6	662	12.5	India	22.7	48.5
						China	21.4			China	15.3	9.3
						Pakistan	9.2			Bangladesh	12.1	4.9

DE Germany (ISCED 5A)	27,604	14.5	Russian Fed. Poland	7.5	163,178	85.5	China	11.2	63,753	28.1	Turkey	28.8	76.2
				5.2			Poland	6.0			Greece	6.2	54.6
			Kazakhstan	2.9			Bulgaria	5.7			Croatia	6.2	83.2
ES Spain (ISCED 5A&6)	2,929	8.7	Andorra	13.8	30,675	91.3	Italy	17.5	18,549	42.8	Colombia	11.0	80.3
			Germany	8.3			France	16.0			Morocco	10.6	70.3
			France	7.7			Germany	13.9			Argentina	6.9	74.8
GB United Kingdom (ISCED 5&6)	12,815	4.3 <sup>a</sup>	China	26.6	286,550	95.52	China	16.6	101,815	26.2	Ireland	12.5	49.6
			France	7.6			Greece	9.0			Nigeria	6.1	57.2
			Germany	6.4			United States	6.3			Zimbabwe	3.9	57.9

Source: Kelo, Teichler, & Wächter (2006, p. 57).

Note: Mobility criterion is foreign country of prior education or foreign country of permanent residence. ISCED = International Standard Classification of Education.  
 a. For 0.2% of students (695 people).

**Table 6** Inwards-Mobile Students (ISCED 5A) Versus Foreign Students (ISCED 5A and 5B) in Germany 2002/2003

All students	All inwards mobile students	% of inwards mobile among all students	% of female among inwards mobile students	All students	All foreign students	% of foreign among all students	% of female among foreign students
1 902 408	190 782	10.0	50.0	2 242 397	240 619	10.7	49.3
ISCED levels				ISCED levels			
Inwards mobile students	5A	5B		Foreign students	5A	5B	
Absolute	190 782	*		Absolute	226 931	13 688	
%	100.0			%	94.3	5.7	
Countries of origin of inwards mobile students				Countries of nationality of foreign students			
Rank	Country	Absolute	%	Rank	Country	Absolute	%
1	China	18 519	9.7	1	Turkey	27 253	11.3
2	Poland	11 301	5.9	2	China (incl. HK)	20 141	8.4
3	Russian Federation	10 000	5.2	3	Poland	13 629	5.7
4	Bulgaria	9 396	4.9	4	Russian Federation	10 185	4.2
5	France	6 307	3.3	5	Bulgaria	9 960	4.1
6	Turkey	5 794	3.0	6	Italy	8 003	3.3
7	Ukraine	4 959	2.6	7	Greece	7 798	3.2
8	Spain	4 639	2.4	8	Morocco	7 616	3.2
9	Austria	4 486	2.4	9	Austria	6 880	2.9
10	Cameroon	4 423	2.3	10	France	6 499	2.7
Top ten countries		79 824	41.7	Top ten countries		117 964	49.0

Source: Kelo, Teichler, & Wächter (2006, p. 68).

Note: Mobility criterion is foreign country of prior education. ISCED = International Standard Classification of Education.

The table shows that students with home nationality make up significant proportions of inwards-mobile students in the six countries for which data are available. The range stretches from almost 15% in Germany to 4% in the Flemish community of Belgium. In absolute numbers, there are nearly 28,000 Germans among inwards-mobile students in Germany and almost 13,000 British among inwards-mobile students in the United Kingdom.

Table 5 also shows that permanently resident foreign students account for at least 20% of all foreign students. In the Flemish community of Belgium and Spain, they even make up more than 40%. The highest absolute numbers of permanently resident foreign students are found in the United Kingdom and Germany, with more than 100,000 and 60,000 permanently resident foreign students, respectively. A detailed overview on these two countries is provided in Tables 6 and 7.

Table 6 shows that there are almost 191,000 inwards-mobile students in Germany (data exclude nonacademic programmes in category ISCED 5B), exactly half of them female. Inwards-mobile students account for 10% of all students on ISCED 5A programmes. Almost 6,000 inwards-mobile students (3%) enrolled in newly established bachelor's programmes. In addition, more than 10,000 inwards-mobile students (5%)

**Table 7** Inwards-Mobile Students Versus Foreign Students (ISCED 5-6) in the United Kingdom 2002/2003

All students <sup>***</sup>	All inwards mobile students	% of inwards mobile among all students	% of female among inwards mobile students	All students <sup>2)</sup>	All foreign students	% of foreign among all students	% of foreign among all students
2 201 690	300 060	13.6	48.3	2 201 690	388 365	17.6	50.9
ISCED levels				ISCED levels			
Inwards mobile students	5A&6	5B		Foreign students	5A&6	5B	
Absolute	250 040	50 020		Absolute	309 770	78 595	
%	83.3	16.7		%	79.8	20.2	
Countries of origin of inwards mobile students				Countries of nationality of foreign students			
Rank	Country	Absolute	%	Rank	Country	Absolute	%
1	China	51 170	17.1	1	China	50 450	13.0
2	Greece	26 175	8.7	2	Greece	27 960	7.2
3	United States	18 625	6.2	3	Ireland	25 660	6.6
4	Germany	15 085	5.0	4	United States	21 010	5.4
5	France	14 780	4.9	5	Germany	17 700	4.6
6	Ireland	13 510	4.5	6	France	17 060	4.4
7	India	12 505	4.2	7	India	16 140	4.2
8	Malaysia	11 810	3.9	8	Malaysia	13 125	3.4
9	Spain	8 815	2.9	9	Spain	11 295	2.9
10	Italy	6 965	2.3	10	Nigeria	10 760	2.8
Top ten countries		179 435	59.8	Top ten countries		211 165	54.4

Source: Kelo, Teichler, & Wächter (2006, p. 72).

Note: Mobility criterion is foreign country of prior domicile. For 14,725 students, nationality had to be imputed from domicile so that the foreign student total can be a slight overestimate. Data exclude higher education students enrolled at colleges of further education. ISCED = International Standard Classification of Education.

participate in one of the newly established master's programmes. Data on inwards mobility cover students in courses preparing for university entrance (*Studienkolleg*) and students on short-term mobility in case they are enrolled at a university.

The countries of origin of inwards-mobile students are rather diverse. The top 10 countries cover only 42% of inwards-mobile students. The most frequent single country of origin (China) by far accounts for almost 10% of all inwards-mobile students. Central and Eastern European countries have a relatively strong weight: Poland, the Russian Federation, Bulgaria, and the Ukraine together account for about 19% of inwards-mobile students, whereas students from Turkey only account for 3% of incoming students. Among Western European countries, Spain and Austria are the most frequent countries of origin of inwards-mobile students. The majority of African students come from Cameroon.

Almost 28,000 inwards-mobile students are German. They obtained their entrance qualification for tertiary education in various countries, the most important ones being the Russian Federation, Poland, and Kazakhstan. In many cases, students from



these three countries have received German nationality when coming to Germany because of their legal right to receive it based on demonstrable German ancestry.

A comparison between the number of foreign students and the number of inwards-mobile students at ISCED Level 5A shows that there are about 36,000 more foreign than mobile students enrolled at German universities. Overall, there are nearly 64,000 permanently resident foreign students (28% of foreign students) in Germany. Almost one third of them (29%) are Turks. This is because of high numbers of Turkish labour immigrants whose descendants retain Turkish nationality, although they grow up and go to school in Germany. A similar but less marked phenomenon can be observed for Greek and Italian students: There are 4,000 Greek and more than 3,000 Italian resident foreign students. Among Croatian students in Germany, the share of resident students is especially high at more than 80% (or 4,000).

With about 300,000 inwards-mobile students at tertiary institutions, the United Kingdom receives by far the largest inflow of students in the Eurodata region. Inwards-mobile students account for almost 14% of all tertiary level students. Almost half of inwards-mobile students are female. A relatively large proportion (17%) of inwards-mobile students is enrolled on programmes at ISCED Level 5B. Fourteen percent of inwards-mobile students study toward a PhD (ISCED Level 6). Only 8% of all inwards-mobile students are credit mobile, but the proportion for the Eurodata countries is somewhat higher at 13%.

The range of countries of origin of inwards-mobile students is broad. By far the largest group of inwards-mobile students comes from China (including Hong Kong), accounting for 17% of all inwards-mobile students. The second most frequent country of origin is Greece, the share of which is, however, only half of that of China (9%). Germany and France each account for a further 5% of inwards-mobile students. Linguistic, cultural, and historical links are likely to be a cause for comparable numbers of inwards-mobile students from the United States, Ireland, India, and Malaysia, ranging between 6% and 4% of all inwards-mobile students. The numbers of inwards-mobile students from Hong Kong, included in the numbers for China, are also boosted by these factors.

Nearly 13,000 inwards-mobile students (4%) have known British nationality. A quarter of them comes from China (including Hong Kong). France, Germany, Ireland, and Belgium are other frequent countries of origin of inwards-mobile students with British nationality: Their shares range between almost 8% and 4%.

The total (known plus imputed) number of foreign students exceeds the total number of inwards-mobile students by more than 88,000. This number represents more than a fifth of foreign students (cf. Table 4). Ireland has by far the largest difference between inwards-mobile and foreign students.

Irish students form the biggest group among the approximate 100,000 permanently resident foreign students in the United Kingdom (almost 13%). Nearly half of the Irish students in the United Kingdom are permanent residents (nearly 13,000 students); so are more than half of Nigerian and Zimbabwean students, at about

6,000 and 4,000, respectively. At about 3,500 each, numbers of permanently resident French and German students are also large but, in each case, constitute only around one fifth of students of those nationalities.

In conclusion, it must be stressed that there are considerable differences between the data on mobile students and the data on foreign students. The frequent practise of equating foreign nationality with mobility is therefore questionable.

## **STUDENT MOBILITY DATA: METHODOLOGICAL ISSUES**

As noted earlier, the aim of the Eurodata study, and of this article, is to present and interpret the best available statistics on student mobility into and out of the 32 Eurodata countries as well as between these European countries and other parts of the world. These statistics on student mobility should help to show the extent to which student mobility takes place and how it is distributed between countries, higher education and sociobiographic characteristics, and mobility modes. Moreover, they should provide food for thought for the debates on barriers to mobility and about the impact of measures to facilitate and promote mobility in general.

However, as the previous sections have shown, the “best statistics available” leave much to be desired. The most comprehensive database available does not register genuine mobility; it registers only the numbers of foreign students and students abroad, which cannot be equated with mobility. Moreover, there is a broad range of problems regarding the definitions used, the quality of data collection, the coverage of the data collected, the descriptors used and the range of information. Impressive steps have been made to improve the database, but currently only a minority of countries provide genuine information on mobility, and there are even setbacks in efforts to improve the statistical base.

It does not come as a surprise, at times of reform and change, that the available statistics are not a good mirror of what goes on. Statistical information systems tend to be inherently conservative. They can only produce time series on social phenomena during a long period and thus can only meaningfully measure change over time if the system of data gathering is not changed every time a new political fashion is in the limelight of public debate. To some extent, historical stability of the modes of data gathering is therefore required and a virtue. But statistics have to be changed if new issues become highly relevant socially and politically. With regard to change, two issues of the current state of data deserve most attention: the lack of comprehensive data on “mobility” and the incomplete coverage of short-term mobile students.

## **International Student Mobility: Concepts and Measurements**

The international debate is not very controversial as far as the meaning of “international student mobility” is concerned. Internationally mobile students are

students who have crossed a national border to study or to undertake other study-related activities, for at least a certain unit of a study programme or a certain period of time, in the country to which they have moved. There are, however, a few related phenomena that the authors of this article exclude in their understanding of international student mobility, as follows:

- cross-border education, which seems to have spread substantially in recent years (i.e., mobility of study programmes and institutions). In doing so, we have set a rule for data collection according to which we consider a French student enrolled in a programme of a U.S. university delivered at a branch campus in France as a nonmobile student.
- mobility within countries (i.e., between fields of study or between institutions of higher education within one and the same country). Although we often talk in an abbreviated way of “student mobility,” we mean “international student mobility.”
- internationally oriented study programmes “at home” (e.g., foreign language, philology, area studies, foreign-language-taught study programmes, or generally “internationalisation at home”).

In some analyses, as already pointed out, the expression “student mobility” is used as an abbreviation for “international student mobility.” Recently, “cross-border mobility” or “trans-national mobility” has been introduced without adding substantially to the conventional “international student mobility.” Occasionally, one even finds the term “international student,” the wording of which does not indicate at all whether the students differ from the majority of students in terms of nationality and/or prior location of living, studying, or working.

In the international comparative statistics of UNESCO, OECD, and EUROSTAT (UOE), data are presented on foreign students for most countries and on mobile students for a minority only—for Ireland and the United Kingdom among the 32 Eurodata countries. The UOE Data Collection Manual (UNESCO-UIS, OECD, & Eurostat, 2004) defines as follows: “Students are non-national students (or foreign students) if they do not have the citizenship of the country for which the data are collected. Normally citizenship corresponds to the nationality of the passport which the student holds or would hold” (p. 23).

A “foreign student” could be equated with an “internationally mobile student” if and only if all students had actually lived in the country of their nationality prior to crossing a border for the purpose of study and if no students had changed their nationality during the course of study abroad to that of their country of study. Ironically, however, the more mobility becomes a frequent and relevant feature in the rapid process of Europeanisation, internationalisation, and globalisation, the less these conditions apply. Thus, the more that mobility grows, the more inadequate become data on “foreign students” or “study abroad” as valid indicators of “student mobility.”

There are several possible reasons why not all foreign students are mobile students and why not all mobile students are foreign students and, as a consequence, why foreign nationality does not necessarily serve anymore as an indication of border-crossing mobility for the purpose of study.

- *Foreigners since birth:* Persons might have been born in a country other than that of their nationality (this can be the case if their parents lived abroad at the time of their birth and if the nationality at the time of birth is not determined by the location of birth but by the parents' nationality), and they might have spent all their life prior to and during the period of study in that country.
- *Migrants:* At some time between birth and the start of current study, persons might have moved to another country, for example, because their parents sought employment in a country different from that of their nationality. In those cases, the persons are likely to be foreigners but to have passed through primary and secondary education in the country of study and possibly to have their permanent residence in the country of study.
- *Double nationalities:* Persons might have two nationalities, for example, as a consequence of having parents with different nationalities, being born in a country different from the nationality of their parents and where the nationality is awarded according to the location of birth, or preservation of the old nationality while acquiring a new one. According to UOE instructions, they should be counted as nationals, not as foreigners.
- *Change of nationality:* If mobile students are awarded the nationality of the country of study at the start of study, they will be registered as national students. If a student adopts the nationality of the host country in the course of study, he or she will no longer be registered as a foreign student but rather as a national student.
- *Move to or return to the country of study:* Persons might have lived in a country different from that of their nationality prior to study and eventually move to the country of their nationality for purposes of study.

To state that statistics on foreign students are no longer a reliable source of information on mobility does not mean that they have become completely irrelevant. For example, if only nationals of a country studying in that country are eligible for needs-based scholarships or if all foreigners have to pay higher fees than do national students, then data on the number of national students and foreign students are valid pieces of information.

The basic idea behind the growing emphasis on mobility as an educational right of students suggests, starting from the negative, that opportunities of study should be limited, as also national policies emphasise, neither by socioeconomic background, gender, and other possible sociobiographic barriers within a society, nor should they be limited by the typical barriers existing between national societies (i.e., rights of residence, work, etc.). Positively formulated, study away from the usual surroundings is viewed as widening the options of quality and diversity of

study provision not available in the vicinity. In parallel to and as a result of such policies, the modes of individual mobility for the purpose of living, learning, and working in a country different from that of one's nationality have diversified in recent decades. As a consequence, as noted above, the proportion of cases of mobility for the purpose of study, when mobility is not a move from education in the country of one's nationality to a country of another nationality, is clearly on the rise in Europe. If we look closely at European conventions for student mobility, we note the aim to facilitate the mobility from one stage of education to the subsequent one in another country and from education to employment in another country irrespective of the mobile person's nationality. This might change again in the future. We might move toward a genuinely spatial approach to mobility (i.e., to a geographical distance and move between different regions). We might also put more emphasis on a cultural approach to mobility. In this framework, we note that mobility between countries of the same or a similar language might be less difficult and challenging for learning from contrasts than a move within a country with different languages. Moreover, we note cultural islands within European nation states; for example, moving from education institutions dominated by ethnic minorities to institutions dominated by the dominant culture and ethnicity of the country might be equally difficult, challenging, and potentially beneficial as moving across national borders.

For a number of reasons, it is not easy to measure mobility. On the basis of various analyses of mobility (e.g., migration, intergenerational professional mobility, career mobility, or credit mobility), various approaches are conceivable. Persons can be asked

- at two points in the course of their lives, and changes identified between the different points in time could be viewed as indicating mobility;
- at a certain point in time about their current situation, for example, in this case the country of study and retrospectively about a certain prior situation;
- at several points in time about their country of nationality, school attendance, and enrollment in higher education or could be asked retrospectively about any "event" of change in those respects. In that case, one could establish eventual multiple mobility;
- about the motives of their moves.

In almost all of the 10 European countries collecting information on genuine mobility, the second approach is taken: Students are asked to provide information on a country with respect to a single issue (residence, prior education, etc.) different from that of the current country of study and possibly different from that of the nationality. They are not asked about their motives for mobility, and except in the United Kingdom, they are also not asked about possible multiple mobility. Thus, a different situation at two points in time serves as an indication of mobility, and this is measured through the institutions of higher education that collect retrospective information from

their students. The two most frequent ways of measuring international student mobility through retrospective surveying are the following (Lanzendorf & Teichler, 2003, p. 12):

- *The prior or permanent domicile approach:* Students are asked to provide information on their domicile prior to enrollment or about their permanent domicile, for example, understood as family residence, as valid at the time the information is gathered. For example, the UK student statistics record those students as mobile whose domicile prior to study in the country in question was different from the country of current study—independent of nationality.
- *The prior education approach:* Students are asked to provide information about the country where they successfully completed the kind of secondary education required for entry to tertiary education. Students having obtained their entry qualification in a country other than that of study can be viewed as internationally mobile students—independent of their nationality. Or one can combine information on nationality and mobility thus measured. For example, German statistics make a distinction between *Bildungsausländer* (i.e., students with foreign nationality having obtained the entry qualification in other countries) and *Bildungsinländer* (i.e., students of foreign nationality who have obtained their entry qualification in Germany). It is also possible to identify the number of inwards-mobile German students, or those moving from another country to Germany for the purpose of study.

Both of these approaches to measuring are by no means perfect. For example, the prior domicile might be the location of official registration or the domicile of the parents, whereas the students themselves could have lived, studied, or worked somewhere else, possibly even in the country of current study. Or a difference might exist between the country where secondary education was completed and the country where the entry qualification is obtained. Finally, students might have been internationally mobile between obtaining the entry qualification and current enrollment.

Lanzendorf and Teichler (2003) argued that a “prior education” approach is more valid than a “domicile approach” for measuring student mobility. The supranational organisations jointly collecting internationally comparative data on education (i.e., UNESCO, OECD and EUROSTAT), however, actually asked the European countries in 2005 to undertake a pilot data collection from 2003/2004 onward both regarding nationality and mobility in terms of prior education or prior domicile.

### Coverage of Data Collection

Statistics tend to look precise. But experts know that there are many limits to consistent definitions and data coverage. And these are bound to affect the precision of data on foreign and mobile students, as these are subgroups of the total number of students.

First, one has to allow for an error of a few percents—certainly varying by country—because of *data noise*: administrative problems of coverage and errors, incomplete reporting, and possible manipulation of data by the individual institutions of higher education. Some of these problems might apply, on a smaller scale, to statistical offices and to international data compilation as well. Because student numbers are often used as indicators with an impact on the reputation and the public funding of tertiary institutions, one cannot even exclude the possibility that the inclination to manipulate data is on the rise—and thus the overall margin of data error.

Second, the data might be incomplete in terms of the coverage of educational institutions providing tertiary education: In some countries, tertiary education students of the following institutional sectors are not included in the official education statistics:

- tertiary education institutions supervised by ministries other than that in charge of education (or of tertiary education, higher education etc.),
- education and training institutions primarily serving other education and training purposes but providing some tertiary education programmes,
- tertiary education institutions and/or programmes lacking official recognition or not receiving public funds (usually private institutions and programmes).

Third, national practices vary substantially in respect to the statistical coverage of special-status students. Examples in this category are part-time students, distance education students, students in short programmes not leading to regular diplomas and degrees, students in programmes leading to subdegree certificates and diplomas, students in adult and continuing professional education, students in preparatory courses, participants of language courses, participants of summer schools, students in internships, “guest” students, and, as will be discussed below, short-term mobile students.

Fourth, data quality differs strikingly by levels of tertiary education: Overall, the data quality is highest for students in ISCED 5A (i.e., students in first-degree programmes of higher education and possibly first advanced programmes, such as master’s programmes). Regarding 5B (i.e., short and often vocational programmes), one has to bear in mind that the sector is less clearly structured—in some cases, less well organised—and that it is a matter of debate which programmes and institutions should be included and excluded. ISCED 6 only provides very incomplete information on the number of persons preparing for advanced degrees. In some countries, almost all doctoral candidates are registered as students. In others, only those on taught courses are; in yet others, those not being employed at the same time, while in some countries, it is almost completely up to students whether or not to register as advanced students prior to the award of a doctorate.

Fifth, there are cases of double counting of students. This can happen in countries where students can enroll in more than one field of study or when a student is



enrolled in two different programmes at the same time or at two different institutions of tertiary education.

*The UOE Data Collection Manual* provides various instructions on how to handle these cases. However, the individual countries often pursue national practices of data collection that are incompatible with these supranational instructions, and many national agencies actually report these differences to UOE only incompletely or not at all.

Regarding the specific category of foreign students, there are four additional sources of “error,” “incomplete coverage,” or inflated figures of foreign students. Again, it is unclear to which exact extent they actually affect the available data.

First, cross-border educational programmes might be handled inconsistently across countries. According to the UOE instructions for the academic year 2002/2003, distance students should be treated like on-site students. In other words, a national of Country A enrolled in a distance programme in Country B should be counted as a foreign student of Country B. Similarly, a student of Country C enrolled at a branch campus in Country B of a university of Country A should be counted as a foreign student of Country B. But this is certainly not consistently applied in all cases.

Second, foreign students could be covered incompletely or inconsistently in general student statistics. For example, students in border regions, who continue to live in one country while studying in the neighbouring country, might, for lack of proper residency data in the country of study, be registered there as home nationals. Students with double nationality might be registered as home nationals or as foreign nationals. In some cases, it is left to the students themselves to decide with which nationality they register. Foreigners in terms of nationality (“passport”) may not be registered anymore as foreigners in official registers and statistics after a period of residence, study, or work, even though their nationality has not changed.

Third, data on foreign students might be incomplete by sectors. For example, the nationality of students is not reported for students at German “other” tertiary education institutions (ISCED 5B).

Fourth, and most important, a serious problem in this context is the undercount of short-term mobility and on mobile students. Practices of recording short stays abroad vary in statistics on foreign students. The UOE instructions for the academic year 2002/2003 were formulated as follows: “Students on short-term postings (less than a full school year) to institutions in other countries and who remain enrolled in their ‘home’ institution and/or continue to pay their fees to their home institution should not be recorded as foreign students in the host country.”

It is unclear to which extent precisely European countries (are able to) faithfully implement this instruction in their national data collection or their data reporting to the UOE. According to our own survey, only about half of the responding countries include short-term mobile students in their statistics, and additional information suggests that only few countries actually divide short-term students according to the

UOE 2002/2003 instructions. As a consequence, for example, a Dutch student moving in the framework of the Erasmus programme from a Dutch to a German university for a year was counted twice (as a national student in the Netherlands and as a foreign student in Germany), whereas a German Erasmus student going to the Netherlands was likely not to show up statistically at all.

There are some additional problems of coverage, with regard to mobile students. First, there are only a few countries that collect genuine mobility data. As pointed out earlier, only 10 of the 32 Eurodata countries collect mobility data, whereas all other countries only collect data on the students' nationality.

Second, the different systems of collecting genuine mobility data reduce the international comparability of data even among these countries. Although some countries, as noted, measure mobility with the help of information on the country of prior education, other countries use the criterion "country of prior residence."

Third, there is a lack of useful statistics on outwards-mobile students. Because outgoing students are not registered in most countries, statistics on outwards-mobile students can only be produced if all countries worldwide register inwards-mobile students. In that case, the number of outwards-mobile students of a certain country is calculated by adding up all inwards-mobile students who went from a given country to all other countries.

Fourth, some countries collecting mobility data do not provide information on students moving from another country into the country of their nationality. As shown in Table 5, the number of mobile students of this kind is by no means negligible.

Fifth, mobility in terms of spending a period in another country for an internship—even as an integral part of the curriculum—is unlikely to be recorded. The data on mobility are as a rule provided by the host education institution of the incoming mobile student, although the hosts of these mobile students are usually employers who are neither required nor asked to report internships for the purpose of educational statistics.

## **TOWARD COMPLETE DATA OF STUDENT MOBILITY**

The Eurodata study identified three European countries that provide relatively complete data on student mobility. In Finland, Germany, and the United Kingdom, as destination, a distinction can be made between mobile and foreign students, and the available (though not always the internationally published) data seem to include short-term mobility (called "credit mobility" in the Eurodata study).

In Finland, three separate systems of data collection are in place that provide, if viewed together, an almost complete picture.

In Germany, short-term mobile students tend to be included in the general student statistics, but no distinction is made between short-term mobile students and degree mobile students.

The British higher education statistics are able to show, within a single data system, the number of foreign and mobile students and to identify the number of short-term mobile students among all students.

A short overview on the Finnish and British data collection might illustrate the potential of relatively complete data collections.

## **Finland**

Three Finnish organisations collect data relevant in our context: Tilastokeskus (Statistics Finland), Kansainvälisen henkilövaihdon keskus CIMO (Centre for International Mobility), and Kansaneläkelaitos (Social Insurance Institution or SII).

Statistics Finland is the national statistical office of Finland. Annually, it collects data on all education leading to an officially recognised degree or qualification in the Finnish regular education system from pre-primary education to adult education. It provides information on foreign students defined by citizenship. Data on the citizenship are obtained from the Population Register Centre. When necessary, the missing data on citizenship are supplemented from the annual data collections addressing the providers of education/educational institutions. Statistics Finland does not collect data on mobility.

The CIMO, an expert and service organisation under the Ministry of Education, is in charge of collecting data on inwards- and outwards-mobile, credit students. CIMO's data collection was initiated by the Finnish Ministry of Education and forms a part of the performance management of higher education. Internationalisation has been a focus of national higher education policy since the early 1990s. It covers all types of mobility arrangements. The inwards, credit mobile students are identified by nationality and country of origin. Outwards-mobile credit students, on the other hand, are identified by country of destination.

The SII registers all students who receive student financial aid. The statistics of SII include data on foreign student aid recipients in Finland as well as on Finnish recipients of student financial aid abroad. Individual-level data are provided by nationality (foreigners in Finland) and country of study (Finnish students abroad). In Eurodata terms, the foreign recipients of student financial aid are nonmobile diploma students in Finland. The Finnish students abroad are mobile diploma or credit students in their countries of study.

The official Finnish statistics report an absolute number of 7,361 and a proportion of 2.5% foreign students among all students in Finnish tertiary education. Similarly, UOE statistics show that the number of Finnish students enrolled in other countries corresponds to about 3.6% of total Finnish students studying in Finland (see Table 8).

In trying to estimate the total number of inwards-mobile students (including diploma mobility and credit mobility of at least 3 months), one must add the number

**Table 8 Foreign Students in Finland and Finnish Students Abroad 2002/2003**

All students	All foreign students	% of foreign among all students	% of female among foreign students	All resident students with home nationality	Students enrolled abroad	Ratio of students enrolled abroad to all resident students with home nationality	% of female among students enrolled abroad
291 664	7 361	2.5	46.5	284 303	10 430	0.037	*
ISCED levels				ISCED levels			
Foreign students	5A&6	5B		Students enrolled abroad			
Absolute	7 351	10		Absolute		*	
%	99.9	0.1		%			
Countries of nationality of foreign students				Countries of study abroad of national students			
Rank	Country	Absolute	%	Rank	Country	Absolute	%
1	China (incl. HK)	1 107	15.0	1	Sweden	4 054	38.9
2	Russian Federation	1 079	14.7	2	United Kingdom	2 193	21.0
3	Sweden	561	7.6	3	Germany	946	9.1
4	Estonia	528	7.2	4	United States	739	7.1
5	Germany	292	4.0	5	Spain	462	4.4
6	United States	172	2.3	6	France	366	3.5
7	Kenya	162	2.2	7	Norway	301	2.9
8	United Kingdom	160	2.2	8	Estonia	256	2.5
9	France	126	1.7	9	Australia	158	1.5
10	Bangladesh	120	1.6	10	Austria	145	1.4
<b>Top ten countries</b>		<b>4 307</b>	<b>58.5</b>	<b>Top ten countries</b>		<b>9 620</b>	<b>92.2</b>

Source: Kelo, Teichler, & Wächter (2006, p. 32).

Note: ISCED = International Standard Classification of Education.

of inwards-mobile, credit students, which is about as high as the number of foreign diploma students in Finland (6,416, or 2.3%). Thus, the total proportion of foreign students in Finland would come up to around 5%. On the other hand, one must deduct about 2,000 foreign recipients of Finnish student financial aid because foreigners eligible for this aid must have lived in Finland prior to study and are thus not coming to Finland for the purpose of study. Therefore, we estimate that about 12,300 students, or 4.2% of all students in Finnish tertiary institutions, are inwards-mobile students (see Table 9). It is more difficult to estimate the number of outwards-mobile Finnish students, as it is unclear to which extent registration of Finnish students in other countries includes mobile, credit students and Finnish students having lived abroad prior to study. However, we can consider the Finnish recipients of Finnish financial aid for study in another country as the minimum figure of outwards-mobile students. This was about 12,400 students in the academic year 2001/2002, or about 4.2%. Taking the other figures into account as well, we have reason to believe that more than 5% of Finnish students leave the country for the purpose of study, either for a period of study or to gain a degree abroad.

**Table 9** Finland: Inwards-and Outwards-Mobile Credit Students 2003 (National Data)

All students	Inwards credit students	% inwards credit students among all students	% female among inwards credit students	All students	Outwards credit students	% outwards credit students among all students	% female among outwards credit students
291 664	6 616	2.3	53.5	291 664	7 555	2.6	69
Inwards credit students	ISCED levels			Outwards credit students	ISCED levels		
	5A	6			5A	6	
Absolute	6 416		82	Absolute	7 430		84
%	98.7		1.3	%	98.9		1.1
Country of origin of inwards credit students				Country of destination of outwards credit students			
Rank	Country	Absolute	%	Rank	Country	Absolute	%
1	DE Germany	1 081	16.3	1	DE Germany	878	11.6
2	FR France	784	11.9	2	GB Great Britain	762	10.1
3	ES Spain	552	8.3	3	SE Sweden	618	8.2
4	IT Italy	386	5.8	4	ES Spain	578	7.7
5	PL Poland	340	5.1	5	FR France	487	6.4
6	NL The Netherlands	289	4.4	6	NL The Netherlands	459	6.1
7	GB Great Britain	277	4.2	7	US United States of America	334	4.4
8	RU Russian Federation	265	4.0	8	IT Italy	250	3.3
9	AT Austria	244	3.7	9	AT Austria	244	3.2
10	HU Hungary	243	3.7	10	BE Belgium	200	2.6
<b>Total ten countries</b>		<b>4 461</b>	<b>67.4</b>	<b>Total ten countries</b>		<b>4 810</b>	<b>63.7</b>
Other		2 155	32.6	Other		2 745	36.3
<b>Total</b>		<b>6 616</b>	<b>100</b>	<b>Total</b>		<b>7 555</b>	<b>100</b>
Fields of study of inwards credit students				Fields of study of outwards credit students			
Field of study	Absolute	%		Field of study	Absolute	%	
Education	204	3.1		Education	175	2.3	
Humanities and arts	1 137	17.2		Humanities and arts	1 731	22.9	
Social science, business and law	2 709	40.9		Social science, business and law	2 812	37.2	
Science	269	4.1		Science	412	5.5	
Engineering, manufacturing and construction	1 297	19.6		Engineering, manufacturing and construction	1 073	14.2	
Agriculture	191	2.9		Agriculture	218	2.9	
Health and welfare	564	8.5		Health and welfare	696	9.2	
Services	198	3.0		Services	433	5.7	
Not known	47	0.7		Not known	5	0.1	
<b>Total</b>		<b>6 616</b>	<b>100</b>	<b>Total</b>		<b>7 555</b>	<b>100</b>

Source: Kelo, Teichler, & Wächter (2006, p. 138).

Note: ISCED = International Standard Classification of Education.

## United Kingdom

Higher education data from publicly funded U.K. higher education institutions (HEIs) are collected by a single organisation, the Higher Education Statistics Agency (HESA). Student data, in the form of individual records, are collected annually from about 170 HEIs in the early autumn and comprises data on all students registered with them (on a credit-bearing basis) at any point during the immediately preceding academic year.

The country of residence from which a student enters a U.K. HEI is a compulsory field in the HESA student record. In the Eurodata study, it is used to identify

inwards-mobile students. U.K. data collection does not support the use of country of prior education for this purpose. Inwards-mobile, credit students are distinguished from inwards-mobile, diploma students through the “special students” field specifying the EU mobility scheme, if any, but also flagging credit students who are mobile outside such schemes. The period of study of inwards-mobile, credit students can be determined from other fields. This allows these students to be divided into three groups:

1. short-stay students studying for less than one teaching period of the academic year,
2. medium-stay students studying for at least one teaching period but less than a full year, and
3. long-stay students studying for a full year (or longer).

Nationality is also collected in the student record. This field is optional but is completed for a large proportion of students and is the basis for the calculation of “foreign” as distinct from “inwards-mobile” student numbers. It is of interest to compare nationality with domicile. Table 7 compares the numbers of foreign and inwards-mobile students.

Attempting to assess the overall extent of mobility into the United Kingdom and the study of foreign nationals in this country, the following can safely be said:

- There were, in the reference year 2002/2003, 300,060 mobile students in the United Kingdom (measured by the criterion of prior domicile abroad).
- Of these 300,060, more than 5% were U.K. citizens.
- The total number of foreign students in the United Kingdom (mobile and nonmobile) was 388,365.

Because the United Kingdom does not, as other countries, report this number to UOE but the lower number of inwards-mobile students, the U.K. numbers in international statistics are, comparatively speaking, a gross understatement.

## PROSPECTS FOR IMPROVEMENT

The Eurodata study reveals how much we know—and how much we do not know—about student mobility in Europe in terms of the number of students crossing a border for the purpose of study. The information available is better than one might have expected a few years ago but is still so deficient that data on foreign students and on study abroad continue to be used in most analyses as a substitute for mobility. The Eurodata study proposes four major steps of improvement of the database. These proposals are feasible, although their implementation will certainly take time.

First, all countries should collect data on mobility in addition to the prevailing data on the nationality of students.

Second, the quality of mobility statistics would be improved if also students studying abroad for a short but still meaningful period (one semester or term as a minimum) were included. Given the strong—practical and political—support for and the success of short-term and programme-based mobility inside Europe, not to include these periods of study abroad appears contradictory. We have reason to believe that today only half of all short-term (“credit”) mobility of foreign as well as of mobile students is included in official statistics. In addition to including these short-term mobile students, statistics should also be able to distinguish between them and “degree mobile students” who complete a full programme abroad. The current trend, however, does not go in the direction we proposed here: Deplorably, UNESCO, OECD, and EUROSTAT decided for their 2003/2004 data collection manual to even worsen the coverage of short-term students. Although in the past students studying abroad for less than 1 year were excluded, now even students mobile for a whole academic year are.

Third, higher education statistics should in the future differentiate into bachelor’s and master’s programmes. Today, the international UOE statistics record most students in bachelor’s and master’s programmes jointly at ISCED 5A level and a minority of bachelor’s programmes at ISCED 5B level. Given that Europe is moving toward a convergent structure of degrees, along the lines of the two-tier bachelor’s/master’s model, this practice is inadequate and should be changed.

Fourth, there is a need for improved statistics on doctoral candidates and other persons involved in postgraduate training beyond the master’s, which today are not satisfactory. The current international data collection on students, and thus also on foreign mobile students, is characterised by salient gaps as far as ISCED 6—the category for doctoral and other advanced graduate students—is concerned. No data on ISCED 6 students are reported in the UOE statistics of several of the 32 Eurodata countries. Moreover, substantial numbers of doctoral candidates are not registered as students during some years of their doctoral training and work but rather as employees or research staff.

In addition to these four major problems of the currently available statistics, there are many areas where improvement is desirable. For example, the established international statistical systems and also most national higher education statistics provide information only about the nationality, or possibly the mobility of students, at a certain moment in time, but, as a rule, not about participation in mobility in the course of study. However, as will be discussed below, one knows that the higher the proportion of mobile, credit students is among all students, the more does the participation quota in mobility surpass the mobility quota among students of any single calendar year.

Furthermore, major statistical sources tend to be limited to a small range of themes, such as the number of students, the types and level of institutions and programmes, major sociobiographic profile data such as gender and age, and at best the type of



mobility. These areas of information may not be sufficient for the development and assessment of policies.

A next step for widening the descriptors of mobility should certainly include the collection of data on participation in mobility in the course of study: how many students were mobile during their course of study. The most interesting improvements of the descriptors of mobility cannot be undertaken within a limited set of variables of student mobility collected in the general higher education statistics. One can expect improvement only if the range of the official statistical data collection in tertiary education is widened substantially. Alternatively, one must establish a general system of surveying (i.e., extended questionnaires with voluntary participation of respondents). If surveys were improved, it would be preferable not to establish specific surveys of mobile students or mobile graduates but rather to extend and improve the system of EUROSTUDENT surveys (Hochschul-Informationssystem, 2005) or a similar EUROGRADUATE survey as explored in the pilot project CHEERS. These surveys can provide sufficient room for mobility variables and thus show the proportion of mobility in the overall study and employment system.

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