Projektbericht

Research Report

Student mobility in the EHEA

Underrepresentation in student credit mobility and imbalances in degree mobility

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Content

Executive Summary

The present report was commissioned by the Austrian Federal Ministry of Science and Research as an input for the BFUG Working group “Mobility and Internationalisation” regarding differences and inequalities in student mobility in the EHEA. The authors chose two different perspectives on student mobility, focussing on underrepresented groups in temporary credit mobility in chapter 1 and on imbalances in long-term degree mobility flows between countries in chapter 2.

Credit Mobility: which groups are underrepresented and why?

The identification of underrepresented groups and the analysis of reasons for underrepresentation is based on data from the EUROSTUDENT database[1] of 25 countries. 17 of those countries delivered additional data for the present analysis. The survey data covers 5A students who have a permanent residency and finished prior education in the country of survey.

Across Europe, there are primarily three groups underrepresented in temporary enrolment: students from low education background, students with delayed transition into higher education and older students.
These three groups are often intersectional: Older students have often started a working career after graduating from secondary school and found their way into higher education more than two years after graduation from secondary school. As students from lower education background are more likely to choose a non-traditional education track or to enter higher education at a higher age and with a delay between secondary school and tertiary education.

Financial issues are the most obstructing ones for students across Europe, for older students it is more their living conditions (family/ partner/ children) that are hindering a temporary enrolment abroad.
Especially Students from Southern and Eastern European countries, in comparison with Northern European countries, rate financial and also structural obstacles higher than other obstacles. In Northern European countries students stated personal reasons more often than other obstacles, in relation to other countries. Therefore financial and structural barriers are smaller in Northern European countries. This is also reflected by the generally high affinity towards enrolment abroad in Northern countries.

In-depth analysis of Austrian data yielded advanced results explaining the underrepresentation of certain groups of students.
Apart from older students and those with delayed transition or lower social background also students with impairments prove to be underrepresented to enrolment abroad. Also students from different fields of study are very different regarding their affinity towards enrolment

[1] https://eurostudent.his.de/eiv/report/index.jsp?x=30&y=24

abroad. Detailed data about destination, duration and cost of the stay corroborate the trend that financial issues are crucial for students with lower social background: they choose shorter stays (internships) and stay in Europe more often than students from high social background. Differences by social background take more effect for younger students, who are more dependent from family and state support. The effect of social background is weaker among older students. For them, obstacles regarding their living conditions are more critical than financial issues.

Degree Mobility: Imbalanced Student mobility in Europe

The secondary statistical analysis, based on data from the UNESCO – Institute for Statistics on (long-term) degree mobility of students in tertiary education (ISCED 97 level 5 & 6) outlines the presence and distribution of mobile students in the EHEA. It analyses imbalanced mobility flows across EHEA countries from a national, bilateral and a regional perspective.

The identification of imbalanced mobility flows is based on two approaches: absolute and relative imbalances

Absolute imbalances occur if the net difference of mobile students exchanged by two countries exceeds 1.000 students. In contrast, relative imbalances take the sizes of the national student populations into account and are represented by the share of incoming mobile students of a certain country among all students in the host country being >1%. Even though the two concepts approach imbalanced mobility differently, both show imbalances especially between neighbouring countries, in case the absolute number of students in one country is significantly smaller than in the other.

Mobility flows from Eastern and Southern EHEA to Western end Northern EHEA but also between countries of North-Western EHEA are imbalanced.

Generally speaking, imbalanced mobility flows between larger regions in the EHEA mostly occur from Eastern, Southern and Non-European EHEA countries to Western and Northern Europe. Imbalances often occur between countries in Western and Northern Europe. Similar imbalances can be observed within Eastern Europe, but due to missing data the list of detected imbalances in this region might not be exhaustive.

English-speaking countries show highly imbalanced incoming mobility flows.

EHEA countries with English as their official language receive a highly imbalanced number of mobile students from Non-English speaking countries. This is especially the case for the UK.

Imbalanced mobility flows can also be detected looking at national GDPs per capita.

In absolute numbers, considerably more mobile students from countries with lower GDPs per capita are studying in countries with higher GDPs than vice versa. Referring to the size of the destination country, only mobility flows from countries with GDPs per capita between 30.000 and 39.000 US$ to countries with GDPs per capita over 39.000 US$ can be considered imbalanced. In terms of relative imbalance, students from countries with lower GDPs are not overrepresented in High-GDP-countries.

Introduction

This report has been commissioned by the Austrian Federal Ministry of Science and Research. It aims at provide the discussions of the BFUG Working group “Mobility and Internationalisation” with input regarding the explanation of differences and inequalities in student mobility within and between countries of the EHEA. This matter will be approached from two perspectives.

The first part focuses on **credit mobility**, which is defined as a temporary enrolment abroad with the aim of pursuing one’s studies but finishing them in the home country. These analyses are based on national student survey data, whose results have been reported to a central database. Those surveys were conducted within the EUROSTUDENT V (E:IV) project, which also provides the data in a publicly accessible database.[2] These data do not allow any conclusions about the actual mobility quotas, as the surveys only addressed students. Actual mobility quotas could only be determined through a graduate survey. However, a student survey approach brings other advantages into play: students not only give information about their experiences abroad, but also about their future plans of going – or not going abroad to pass part of their studies in another country. Most importantly, those who have not spent a study period abroad can report the obstacles that might deter them from doing so. Therefore, underrepresented groups can be detected, though not as sufficiently as with a graduate survey. In exchange for this waiving of completeness the reasons for certain groups of students being underrepresented to student mobility can be described and taken as a basis for policy measures to overcome these inequalities.

The second part of this report focuses on **degree mobility**, which is defined as long term mobility of students with the purpose of completing a whole study cycle and the acquisition of a degree (Bachelor-, Master- or PhD) abroad. Using 2010 data on student mobility from the data centre of the UNESCO Institute for Statistics this chapter describes the presence and distribution of mobile students worldwide and in the EHEA. The balance and imbalance of mobility flows across EHEA countries from a bilateral and regional perspective are as well analysed.

Thanks are due to national researchers who participated in E:IV and contributed to this project through providing additional analyses not included in the E:IV database. Those were Sarah Gerhard (CH), Nikolai Netz (DE), Jesper Risom (DK), Hanna-Stella Haaristo (EE), Ramon Llopis-Goig (ES), Vesa Virtanen and Hannele Keckman-Koivuniemi (FI), Simon LeCorgne and Carol Waldvogel (FR), Giovanni Finocchietti and Maria Pannone (IT), Tomislav Vodička and Mirna Cvitan (HR), Christine Scholz (MT), Bas Kurver (NL), Dag F. Gravem (NO), Maria Antelo Frazão (PT), Per Gillström (SE), Stojan Sorcan (SI) and Maria Fusekova (SK). Additionally, we thank Nikolai Netz and Dominic Orr for their experienced comments.

[2] https://eurostudent.his.de/eiv/report/index.jsp?x=42&y=17

1. Credit Mobility: Which groups are underrepresented and why?

Student mobility is one of the key topics in European higher education policy. Thus, there is a great interest in data on student mobility. Simultaneously, awareness of unequal chances of participation has risen, which is why also the interest for subjective and structural obstacles to mobility is increasing (see European commission 2011, BFUG 2012).[3]

The EUROSTUDENT project[4] regularly collects obstacles to (credit) mobility within internationally comparative student surveys in several European countries. General results from EUROSTUDENT IV (E:IV) can be found in the last report from 2012,[5] or in the intelligence brief about "short-term mobility and mobility obstacles".[6] Netz et al. (2012), respectively Netz (2013)[7] further exploited the EUROSTUDENT IV database[8] in the frame of the Steeple-chase-project – an in-depth analysis of five exemplary countries. Among other things, they found out, that the odds of planning and eventually realising an enrolment phase abroad, are multifaceted. Therefore, a set of target group specific measures might be needed to support students in becoming temporarily mobile. In a related paper Orr (2013)[9] analysed inequalities in short-term student mobility on the basis of E:IV data and concluded that "mobility is not for all". The present paper takes the analysis a step further by using the existing E:IV database and additional deliveries of national E:IV data which were, apart from Austria itself, delivered by 16 countries participating in the E:IV network.

Thus, the following analysis is not only based on the E:IV database, consisting of 25 national student surveys conducted between 2009 and 2010, but also on additional data that allow a more condensed view on underrepresented groups in student mobility. The target group for the E:IV survey was ISCED 5A[10] students, covering Bachelor, Master and other national degrees of this level, who have a permanent residency in the respective country. Students who temporarily were enrolled abroad at the time of the survey (incoming and outgoing) and those who did not complete their prior education in the country of the survey, were excluded.

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3 European Commission (2011): Supporting growth and Jobs – an agenda for the modernisation of Europe's higher education systems. Brussels. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0567:FIN:EN:PDF
BFUG (2012): Final report by the Working Group Mobilty. http://www.ehea.info/Uploads/%281%29/Mobility%20WG%20Report.pdf

4 www.eurostudent.eu.

5 http://www.eurostudent.eu/download_files/documents/EIV_Synopsis_of_Indicators.pdf

6 http://www.eurostudent.eu/download_files/IB_Short_term_mobility_091211.pdf

7 Netz, Orr, Gwosc, Huß (2012): What deters students from studying abroad? DZHW, Hannover. Further elaborated in Netz, N. (2013): What deters students from studying abroad? Evidence from four European countries and its implications for higher education policy, in: Journal of higher education policy, online publication 17.12.2013, http://dx.doi.org/10.1057/hep.2013.37.

8 https://eurostudent.his.de/eiv/report/index.jsp?x=30&y=24

9 Orr (2012): Mobility is not for all - An international comparison of students' mobility aspirations and perceptions of barriers to temporary enrolment abroad. In: Wächter, B. et al.: Tying it all together. Excellence, mobility, funding and the social dimension in higher education; Bonn: Lemmens.

10 Referring to ISCED 97.

The questions on credit mobility refer to students' former enrolment abroad and their future plans of enrolling abroad during their study career.

The following chapters will give an overview on credit mobility and students' assessment of obstacles to enrolment abroad, focussing on underrepresented groups and reasons for inequalities in access to student mobility. In addition to the international comparison, a chapter on student mobility in Austria will add up an in-depth view to the analyses of obstructing factors to enrolment abroad.

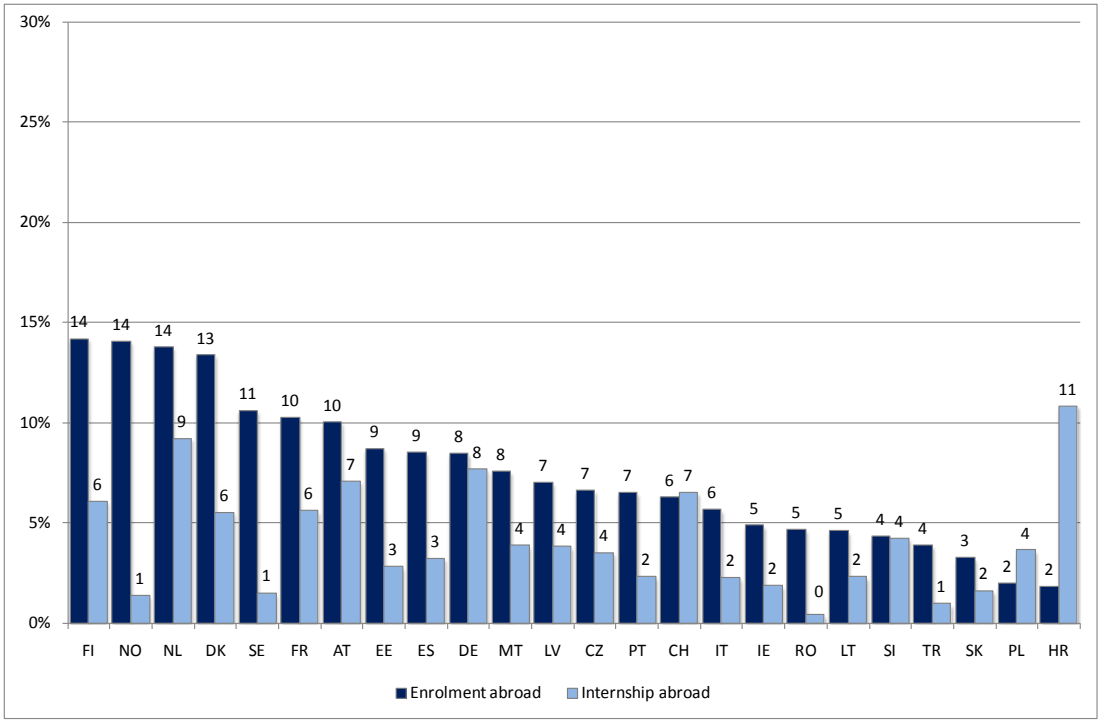
The figures displayed below cannot be regarded as mobility quotas[11] but as shares of students that have already passed part of their studies abroad when the survey was conducted. In the following the share of students that have been temporarily enrolled abroad but pursue their studies at home will therefore be referred to as Percentage of Enrolled Students – "PES".

1.1 Underrepresented groups regarding enrolment abroad among students in Europe

Among the countries of the E:IV network, the percentage of students that have already been enrolled abroad lies between 2% and 14%. Northern European countries have a relatively high percentage of enrolled students (PES), which is highest in Finland, Norway and The Netherlands (14%). On the contrary, the majority of Eastern European countries have a relatively low PES, with Romania at the upper end (5%) and Croatia on the lower (2%).

[11] Full quotas could only be shown on the basis of graduates.

Figure 1: Percentage of enrolled Students (PES) by country



Sorted by PES.
Source: E:IV database.

However, Croatia is a good example for countries, where internships or work placements abroad are (almost) as important for students as spending a study period abroad. Having the highest share of students that did an internship abroad during their studies (11%), Croatia catches up with those countries that have the highest PES in the E:IV network. Besides Croatia, it is mainly the German (and Dutch) speaking countries that show similar shares of students that passed an internship or work placement abroad.

As far as gender differences are concerned, women show a higher affinity towards enrolment abroad than men in almost all countries (except for DE, FR and IT). For example in Estonia, 10% of all female students have already been mobile when the survey was conducted, but only 6% of all male students (Table 1). In Latvia those differences are similar, as the PES among women is almost 1.5 times higher than among men. In that sense, in most countries men are underrepresented among mobile students.

Table 1: Percentage of enrolled students (PES) by groups of students

	All students	Sex		Transition to HE		Educational background	
		F	M	direct	delayed	Low	High
AT	10%	11%	9%	11%	6%	8%	12%
CH	6%	6%	6%	7%	4%	6%	8%
CZ	7%	7%	6%	7%	5%	3%	10%
DE	8%	7%	10%	9%	5%	11%	11%
DK	13%	14%	12%	13%	14%	7%	15%
EE	9%	**10%**	**6%**	8%	10%	6%	10%
ES	9%	9%	8%	8%	6%	6%	11%
FI	14%	16%	13%	14%	14%	11%	16%
FR	10%	10%	11%	**10%**	**3%**	8%	13%
HR	2%	2%	2%	2%	5%	**0%**	**2%**
IE	5%	**5%**	**4%**	4%	6%	4%	7%
IT	6%	5%	6%	**6%**	**1%**	3%	9%
LT	5%	**6%**	**3%**	5%	4%	3%	5%
LV	7%	7%	7%	7%	9%	29%	8%
MT	8%	**8%**	**7%**	7%	10%	7%	10%
NL	14%	15%	13%	14%	10%	10%	16%
NO	14%	14%	13%	15%	11%	9%	16%
PL	2%	2%	2%	**2%**	**1%**	**0%**	**4%**
PT	7%	7%	6%	6%	7%	4%	9%
RO	5%	4%	5%	**5%**	**2%**	**0%**	**7%**
SE	11%	11%	10%	9%	12%	12%	11%
SI	4%	**5%**	**4%**	4%	3%	**0%**	**7%**
SK	3%	3%	3%	**4%**	**1%**	**0%**	**5%**
TR	4%	4%	4%	4%	3%	2%	7%

Bold figures for the top 5 countries with the biggest group differences according to the PES.
Source: E:IV database.

In most countries, so-called non-traditional student groups are less likely to temporarily enrol abroad during their study career. These are students who study part-time (low study intensity), students from a lower social background[12] or students with delayed transition into higher education (Orr 2012).[13] Students who enrolled in higher education directly after completing secondary education have a higher PES, whereas students with delayed transition into higher education have a lower affinity towards enrolment abroad. In most countries there also occur strong differences depending on the education background of students. Students from lower educational background often have a lower likelihood of spending a study period abroad. These differences range from almost zero in Germany to a sevenfold higher PES of

[12] The present analysis refers to the education background, i.e. highest educational attainment of student's parents as a proxy for social background.

[13] Those who entered higher education more than two years after graduating from secondary school or with a non-traditional entrance qualification will in the following be called delayed transition students.

students with high education background in Romania and Slovenia. In many countries, these two characteristics correlate highly as the non-traditional track into tertiary education is more often followed by students from lower educated families (Table 1).

Inclusion of students with lower education background

In Germany and Sweden students with lower (ISCED 0-2) and higher education background (ISCED 5 or higher) are more or less equally mobile. In Sweden, the former even have a slightly higher percentage of enrolled students (PES) than the latter. It is important to note that this does in no way represent the social distribution of the student body itself. In Germany, only 2% of students have parents with an educational attainment of ISCED 0-2, while 69% have parents who hold a tertiary education degree (ISCED 5).[14] In Sweden it is 5% vs. 39%.

However, looking at the obstacles to mobility cannot sufficiently explain the inclusion mechanisms. Students with lower education background in both countries asses the loss of opportunities to earn money as well as the additional financial burden significantly more often as a (big) obstacle to mobility, than students with higher education background. These two obstacles, together with the separation from family and partner, are generally often reported by students with lower education background.

On the contrary, in Denmark, where the difference in the PES between students from low or high educational background is relatively high, those typical obstacles were reported equally or even less often by students with lower education background. One possible explanation lies in the different attendance to enrolment abroad that varies by field of study and students' choices of their studies depending on their educational background.

This finding probably only holds true for relatively wealthy, Western European states. Due to limited data availability and quality it is not yet possible analyse this phenomenon in Eastern European countries in more detail.

[14] In the German national report, a share of 51% of students with parents having a higher education degree is reported (see Isserstedt et al. (2010): Die wirtschaftliche und soziale Lage der Studierenden in der Bundesrepublik Deutschland 2009. 19. Sozialerhebung des Deutschen Studentenwerks durchgeführt durch HIS Hochschul-Informations-System. Bonn). Those figures do not include ISCED 5B certificates, which are indeed included in this report.

Inclusion of students with delayed transition into higher education

In France, the PES of direct transition students is almost three times higher than the one of delayed transition students. Only Italy has a higher difference (Factor: 3). Delayed transition students generally state their living standard that comes with their higher age more often as a reason not to take a study period abroad than direct transition students. Hence, the loss of opportunity to earn money is one of the main reasons not to temporarily enrol abroad. As this sphere can hardly be met by higher education measures, it is difficult to implement respective instruments.

Source: additional E:IV data.

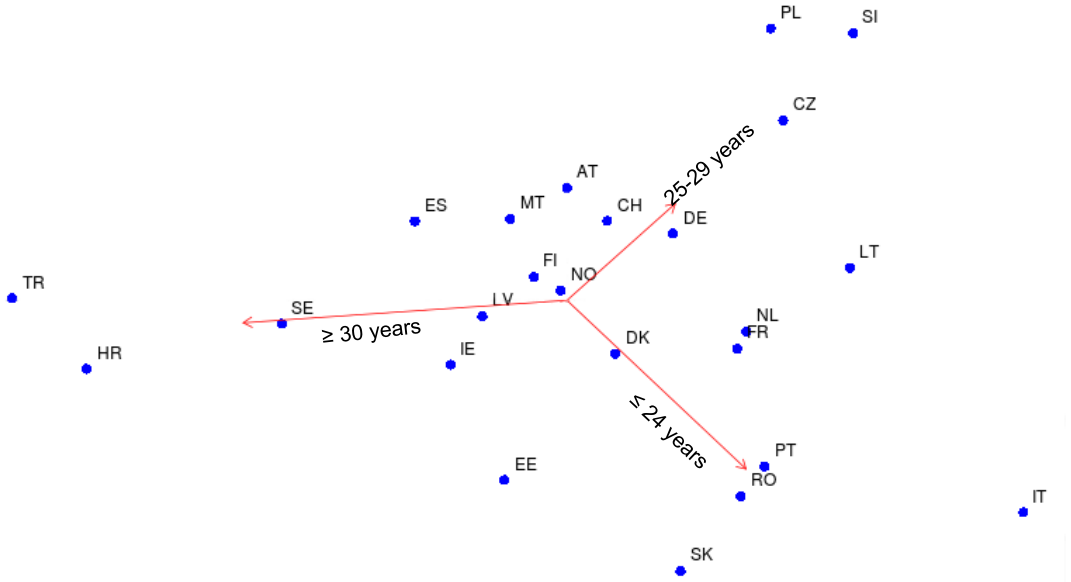
Tables on obstacles by country are available at www.egui.at/student-mobility.

Looking at the PES in different fields of study, we see a similar pattern in all countries of the E:IV network. In most countries students of humanities and arts as well as social sciences, business and law have the highest affinity towards enrolment abroad, while students of (natural) sciences or engineering, manufacturing and construction are less likely to belong to the group of mobile students.

1.1.1 Enrolment abroad and students' age

Apart from the PES per country it is interesting to look at general trends that result from different tendencies, when to enrol abroad, per country. Especially students' age determines the affinity towards enrolment abroad very differently among the countries of the E:IV network. Figure 2 shows the *relative differences* between the countries of the E:IV network according to their students' affinity towards enrolment abroad, dependent on their age. The more distant a country lies from the centre, the stronger the *relative differences* to other countries are in favour of the respective age group. Countries that lie between the 3 dimensions of age groups (represented by the arrows) have no explicit tendency towards one age group but still follow the given trends. For example, in countries within the triangle shaped by the dimensions of 25-29 years and 30 years or older, students tend to have a higher affinity towards enrolment abroad than the youngest ones, but not as definite as e.g. in Poland or Turkey respectively. Thereby, students from countries like Austria and Switzerland tend to have the highest PES among 25-29 year olds, while in Spain also the oldest age group has a high affinity towards enrolment abroad.

Figure 2: Mapping of countries according to the *relative difference* in PES by age



Graphical representation of relative distances between age groups and countries according to PES, based on a correspondence analysis.[15]
Source: E:IV database.

The likelihood of having passed an enrolment period during one's studies abroad rises with the progress of studies (see Chapter 1.3), which also produces a positive age effect, though older students tend to be less mobile than younger ones. Thus, the PES is highest among students between 25 and 29 years (Table 2). Especially in Poland, Slovenia and the Czech Republic this group has by far the highest affinity to temporarily enrol abroad. Romania, Slovakia, Italy and Portugal are examples for countries where the youngest age group already has a quite high PES. Table 2 clearly shows that there are only a few countries where students are likely to enrol abroad after their 30th birthday. Students at the age of 30 or older generally tend to have a low affinity towards mobility, as their living conditions often hinder or even don't allow them to leave for one or more semesters (work, family/ children, liabilities, etc.). Nevertheless, there are some countries where older students do have a relatively high PES compared to younger students, these are Turkey, Croatia[16] and Sweden (Figure 2 and Table 2).

[15] For further information see Greenacre, M. (2007). Correspondence Analysis in Practice. London: Chapman & Hall.

[16] Note: For Croatia there is a relatively small number of students being 30 years or older in the sample (n=52). Therefore, the high enrolment quota among those might be a statistical outlier.

Table 2: Percentage of enrolled students (PES) by student's age

	all students	up to 24 years	25-29 years	30 years or older
AT	10%	6%	17%	9%
CH	6%	4%	10%	5%
CZ	7%	5%	15%	4%
DE	8%	6%	14%	6%
DK	13%	11%	19%	11%
EE	9%	8%	10%	9%
ES	9%	6%	17%	13%
FI	14%	10%	22%	14%
FR	10%	10%	17%	7%
HR	2%	2%	4%	7%
IE	5%	4%	7%	6%
IT	6%	6%	7%	1%
LT	5%	4%	8%	2%
LV	7%	6%	12%	9%
MT	8%	6%	16%	10%
NL	14%	13%	23%	9%
NO	14%	11%	23%	14%
PL	2%	1%	4%	1%
PT	7%	7%	9%	4%
RO	5%	5%	6%	3%
SE	11%	7%	15%	17%
SI	4%	3%	11%	2%
SK	3%	3%	3%	2%
TR	4%	3%	9%	16%

Source: E:IV database.

These findings observed by age also result in a much higher PES among Master students than among Bachelor students. The reason is, as stated before, that the longer the study period has been up to time of the survey, the higher the likelihood of having already been enrolled abroad becomes. On E:IV average, the enrolment rate among MA students is about three times higher than among BA students. In cross-country comparison though, age is not necessarily a determinant of these trends. In Turkey for example, 88% of students are younger than 25 years. Nevertheless, students at the age of 30 or older have the highest affinity towards enrolment abroad, although this age group is underrepresented in terms of student mobility in many other E:IV countries.

Inclusion of older students – the Swedish case

In Sweden, the highest PES can be observed among 30 or more year old students. The PES is indeed higher among MA students. BA students are though not as far behind MA students as in other countries. Sweden is also the country with the highest PES among delayed transition students, which can partly explain the high quota in the

oldest group of students. Another reason might be that many obstacles to enrolment abroad that were reported by students at that age in other countries do not apply for Swedish students. For example in Sweden, far less students than in other E:IV countries assess the information issue as an obstacle to enrolment abroad. Also, especially among older students, giving up an employment/ source of income is, compared to other countries, rarely rated as an obstacle.

In contrast, in France and the Netherlands the PES of students aged 30 years or older is below the national average. Especially giving up the employment is characteristically hindering older students from studying abroad. Dutch students at that age also assess the separation from family, partner and friends as an obstacle for temporarily enrolling abroad. That also indicates a strong impact of the living situation on the decision whether to pass a study period abroad or not.

Source: additional E:IV data.

Tables on obstacles by country are available at www.equi.at/student-mobility.

1.2 Perceived obstacles to enrolment abroad

This analysis can only refer to obstacles to enrolment abroad assessed by students that have not been enrolled abroad (yet), no matter whether they have plans to enrol abroad or not. Netz et al. (2012) published results on this matter separately for those who plan to enrol abroad but haven't been enrolled yet and those who refuse to enrol abroad. Orr (2012) focussed mainly on students who do not plan to enrol abroad, but also examined the effect of certain obstacles on mobility plans of students. Both found that the obstacles differ between those who plan to go abroad and those who don't. However, the expected additional financial burden was the most critical obstacle for both groups. In the present analysis, we can only refer to the obstacles of both groups together as a proxy to show which factors hinder students the most from passing a study period abroad. However, a pattern of different types of obstacles to enrolment abroad will be identified, showing different tendencies between the countries. The original items on obstacles were grouped as presented in Table 3, in order to aggregate the information from the original items. To group the items, the shares of students who rated the respective items as (big) obstacles were added up according to the dimension they aim to represent.[17]

[17] Since there are only shares of students but no micro data per country, it was not possible to calculate a more elaborated index.

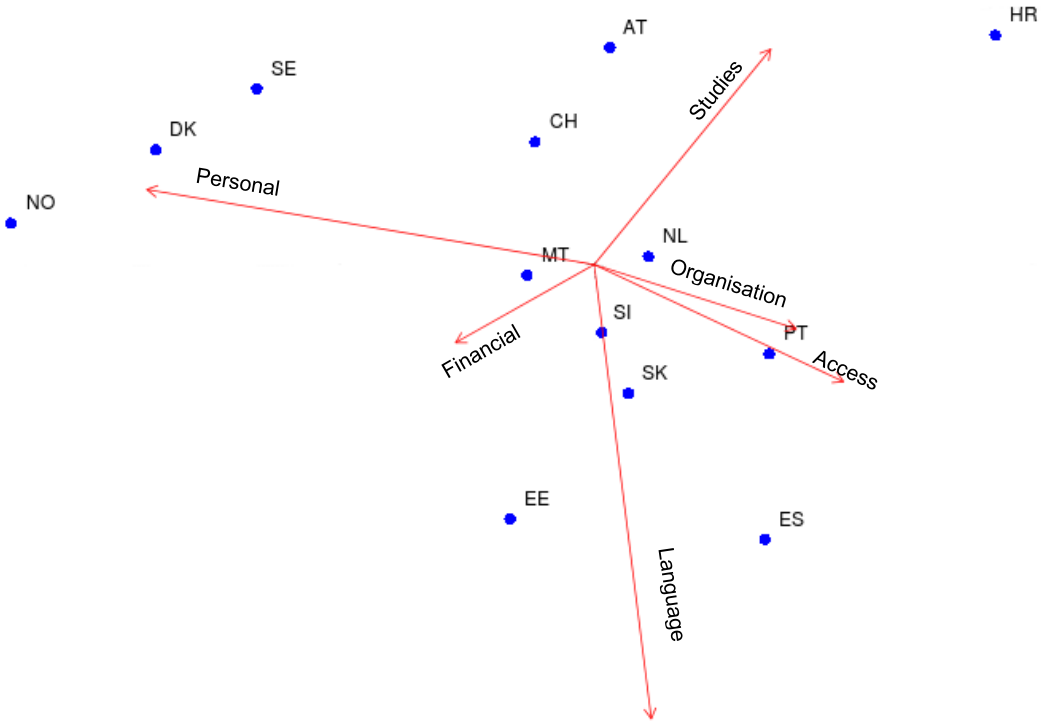
Table 3: Obstacles to enrolment abroad included in E:IV

Aggregated group	Items as surveyed
Language	Insufficient skills of foreign language
Personal reasons	Separation from family, partner, child(ren), friends
	Lack of personal drive
Financial issues	Loss of social benefits (e.g. child allowance)
	Loss of opportunities to earn money
	Expected additional financial burden
Studies at home	Expected delay in progress of studies
	Presumed low benefit for studies at home
	Problems with recognition of results achieved in foreign countries
	Does not fit into the structure of the programme
Organisation in home country	Difficulties in getting information
	Limited access to mobility programmes in home country
Access to host country	Limited admittance to preferred institution
	Access regulations in host country (e.g. Visa)
	Problems with accommodation in host country

Source: E:IV database.

Figure 3 identifies six dimensions of obstructions to enrolment abroad. Four groups of obstacles lie on separate dimensions, which are financial issues, personal reasons, problems regarding studies at home and insufficient language skills. The remaining two groups of obstacles – problems resulting from access barriers to the host country and organisational issues – point in the same direction and can therefore be seen as highly correlated. Again the *relative difference* of the countries towards each other locates them along those four dimensions, where their distance from the centre shows the extent of the *relative difference* to other countries, or in other words, the strength of the trend in comparison to other countries.

Figure 3: Mapping of countries according to the *relative difference* in assessment of obstacles to enrolment abroad



Graphical representation of relative distances between countries according to students' assessment of obstacles to enrolment abroad, based on a correspondence analysis. [18]
Only countries, that included all E:IV items in their survey.
Source: E:IV database.

Denmark, Sweden and Norway as representatives of the Scandinavian countries, show highest values on the personal dimension, though Norwegian students tending to rate financial issues higher than other Nordic countries. Looking at Table 4, we can nevertheless see that in these countries financial or organisational issues are stated by a far smaller share of students than in other countries, mostly in Eastern and Southern Europe. Compared to other countries in the E:IV network, the conclusion thereof would be that in Northern Europe structural barriers to enrolment abroad are smaller. This goes along with a high enrolment rate in those countries (Figure 1). In relation to other countries, Croatian, Austrian and Swiss students report obstacles related to their studies more often than other obstacles. Those countries have a comparably high share of students that passed an internship abroad (which was not subject to the questions on obstacles).

Another trend observed is that structural or organisational problems as well as too little language skills or financial obstructions are reported more often in Eastern and Southern European countries. In Spain and Portugal, but also Slovenia, limited access to mobility programmes is stated as an obstacle by about 1/3 of non-mobile students, which is the highest

[18] For further information see Greenacre, M. (2007). Correspondence Analysis in Practice. London: Chapman & Hall.

share among E:IV countries (Table 4). Spanish and Slovakian students remarkably frequently report insufficient language skills as hindering for their enrolment plans. In Estonia and Slovenia about ¾ of non-mobile students assess the additional financial burden of an enrolment period abroad to be an obstacle to mobility. The conclusion that can thus be drawn is that students in those regions are likely to face structural barriers to mobility that lie within the education system, as well as financial obstructions. This interpretation is also supported by a relatively low enrolment quota especially in Eastern European countries (Figure 1).

Table 4: Perceived obstacles to enrolment abroad

	Insufficient skills in foreign language	Ddifficulties in getting information	Problems with accomodation in the host country	Sseparation from family partner, child(ren), friends	Loss of social benefits	Loss of opportunities to earn money	Expected additional financial burden	Lack of personal drive	Expected delay in progress in studies	Presumed low benefit for studies at home	Problems with recognition of results achieved in foreign countries	Limited access to mobility programms in home country	Problems with access regulations to the preferred country (visa, residence permit)	Limited admittance to the preferred institution and/or study programme in foreign country	It does not fit in the structure of the programme
AT	13%	25%	36%	49%	21%	50%	63%	20%	49%	27%	41%	13%	6%	20%	35%
CH	12%	17%	13%	24%	5%	24%	50%	20%	30%	17%	17%	19%	3%	7%	17%
DE	23%	14%	19%	45%	-	42%	66%	19%	47%	30%	30%	-	14%	-	-
DK	10%	12%	12%	51%	9%	20%	42%	25%	15%	16%	12%	12%	5%	11%	16%
EE	26%	20%	37%	43%	30%	53%	73%	20%	29%	17%	25%	19%	13%	29%	10%
ES	41%	34%	37%	35%	18%	30%	58%	25%	35%	13%	35%	35%	15%	33%	17%
FI	19%	16%	20%	55%	18%	37%	55%	30%	32%	24%	-	19%	9%	24%	15%
FR	20%	27%	-	21%	2%	5%	44%	12%	-	19%	-	-	3%	-	34%
HR	19%	32%	51%	31%	25%	33%	78%	32%	49%	35%	56%	51%	27%	44%	29%
MT	17%	21%	40%	59%	29%	39%	74%	26%	31%	26%	29%	24%	17%	30%	29%
NL	21%	27%	27%	40%	22%	28%	28%	25%	24%	28%	20%	21%	13%	21%	27%
NO	12%	10%	10%	57%	13%	35%	58%	28%	15%	10%	14%	12%	2%	11%	21%
PT	27%	21%	42%	46%	33%	38%	64%	19%	40%	35%	36%	38%	30%	35%	21%
SE	12%	9%	18%	54%	6%	17%	45%	32%	16%	30%	13%	14%	5%	18%	19%
SI	27%	24%	43%	57%	37%	51%	73%	23%	28%	38%	45%	31%	18%	30%	22%
SK	38%	24%	29%	49%	22%	38%	61%	27%	26%	33%	41%	23%	27%	27%	22%

Only students that have not (yet) been enrolled abroad (i.e. students who plan to and students who refuse to).
"-" indicates missing data where the respective Item was not included in the survey. IT only asked for aggregated items and is therefore not included in the table.
Further tables on obstacles by country are available at www.equi.at/student-mobility.
Source: E:IV database.

1.3 Underrepresented groups and perceived obstacles to enrolment abroad – more detailed insights from Austria

The previous chapter gave an overview of underrepresented groups to students' credit mobility and the reasons not to temporarily enrol abroad throughout the E:IV network. The following chapter aims at analysing students' mobility from the Austrian perspective. Having a broader set of variables than those collected within the E:IV survey, the Austrian national student survey allows an in-depth analysis of student mobility and the obstacles and structural barriers that hinder students from passing an enrolment period abroad. Thus, the awareness of obstructions to enrolment can be fostered, revealing further groups that are underrepresented in student mobility which have not been analysed in other countries due to a lack of data. Nevertheless, these groups of students also exist in other countries and hence the analysis of the Austrian data can possibly provide more general tendencies regarding the mobility behaviour of potentially underrepresented groups.

Again, the figures reported in this chapter cannot be regarded as mobility quotas,[19] presenting shares of students that have already passed part of their studies abroad when the survey was conducted. The figures will therefore again be referred to as Percentage of Enrolled Students – "PES".

1.3.1 Underrepresented groups regarding enrolment abroad among Austrian students

In Austria, mainly older students who are working a lot besides their studies and are likely to have family and children, as well as students from lower social background[20] reported not to plan a temporary enrolment abroad.[21] These factors prove to be intersectional: students from lower social background are on average older than the majority of students, as they often chose a vocational track at first and continue with employment before entering higher education at a later stage in life. The share of students that have already been enrolled abroad increases with growing age of students, as the likelihood of having been enrolled abroad during the studies increases with age. It can also be shown that, from age 29 years onwards, the PES decreases again (Figure 4). This goes along with the European trend that the affinity towards enrolment abroad is highest among students between 25-29 years and in many countries clearly lower in the oldest age group. Figure 4 also shows a linear trend in social background: the better the social standing of students' parents, the higher the affinity towards enrolment abroad.

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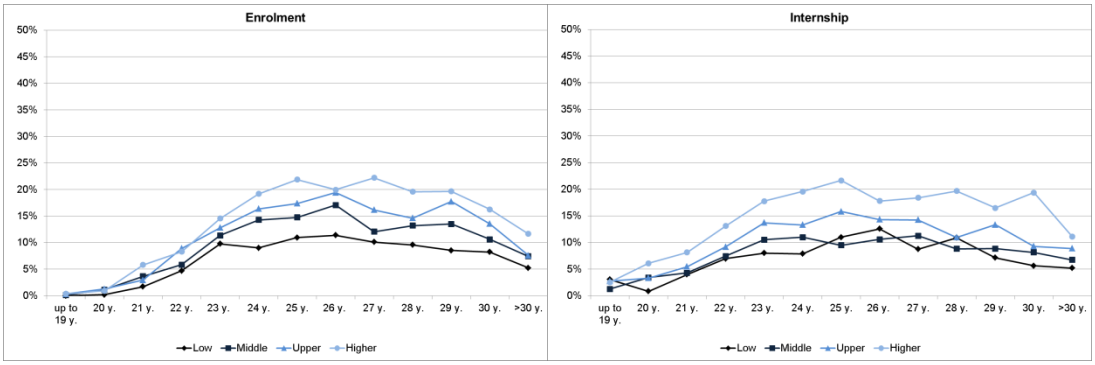
19 Full quotas could only be shown on the basis of graduates.

20 For the Austrian data social background is operationalised through an index combining the highest educational *and* occupational attainment of student's parents. See Unger et al. 2012: Studierenden-Sozialerhebung 2011. Bericht zur sozialen Lage der Studierenden. Band 2: Studierende. Wien.

21 Austria extended its grant system for student mobility during the last years – especially for students from lower social background. These new or increased grants have not yet been covered by the here presented study.

In comparison, the differences among students of different social backgrounds are smaller for internships abroad. On average, Austrian students spend less time on internships abroad than on an enrolment period. Therefore, it is, on the one hand, easier to leave commitments and liabilities behind for a shorter period of time and on the other hand, it is a lower financial burden.

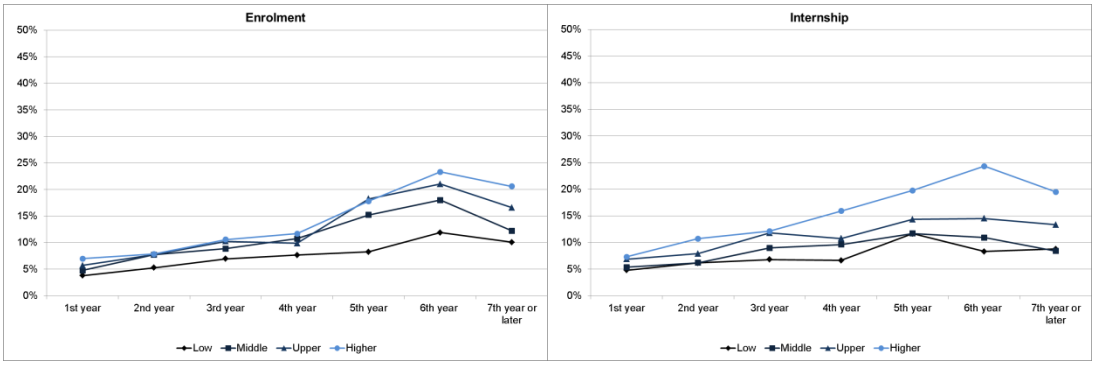
Figure 4: Austria: percentage of students having spent an enrolment period or internship abroad by students' age and social background



Source: Austrian national student survey 2011.

Additionally, there is a linear correlation between social background and the affinity towards enrolment abroad: The lower the social background of a student, the lower the affinity towards enrolment abroad, which remains constant over students' age. Towards the end of studies, the differences grow even bigger, as especially students from a higher education background tend to spend their study period abroad later in their study career. Therefore, the differences between social backgrounds tend to be underestimated when looking at the PES in a student population. From this perspective, also the differences in internships abroad according to social background of the students grow bigger along with the progress of studies.

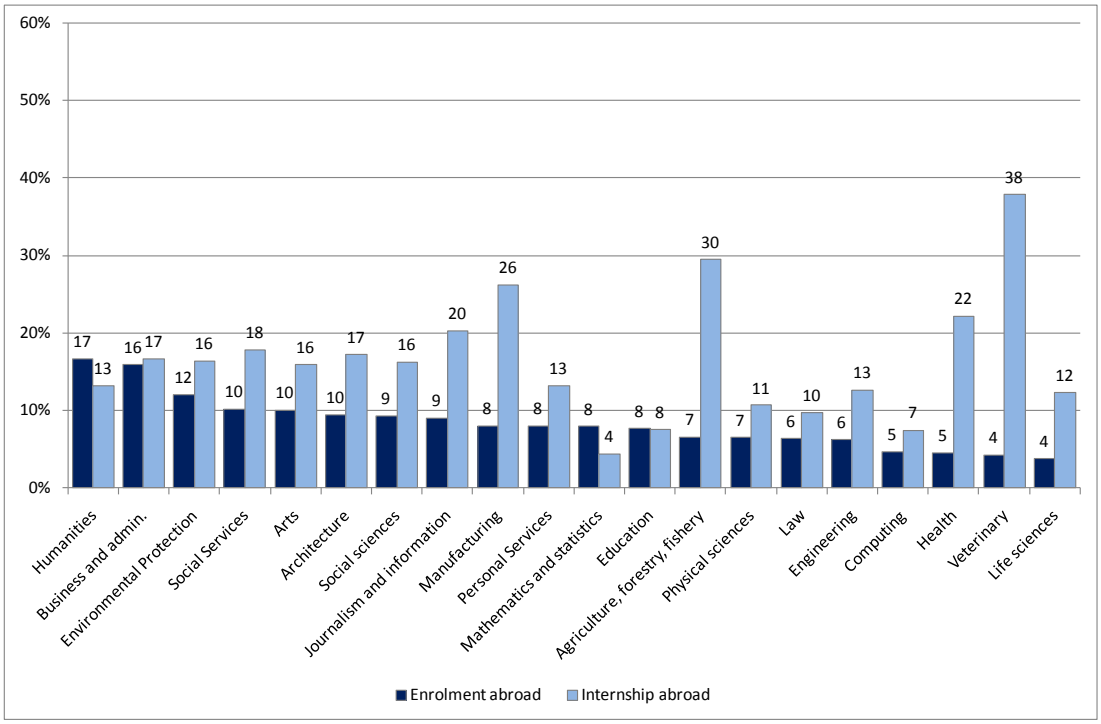
Figure 5: Austria: percentage of students having spent an enrolment period or internship abroad by study progress and social background



Source: Austrian national student survey 2011.

As Figure 6 shows, the PES differs notably according to the field of study. While students of humanities or business and administration have the highest affinity towards temporary enrolment abroad and an almost as high affinity towards internships abroad, students of veterinary or life sciences have the lowest PES. However, students of veterinary on the other hand show a high affinity to internships abroad. The affinity towards credit mobility among students of life sciences is generally far below average.

Figure 6: Austria: percentage of students having spent an enrolment period or internship abroad by field of study



Sorted by PES.
Field of study according to ISCED classification.
Source: Austrian national student survey 2011.

These differences might have various reasons. As already stated, students' age and social background are crucial in terms of affinity towards credit mobility. Since the choice of field of study is especially dependent of social background, it also affects the distribution of mobile students among the different fields of study. Another possible reason is the local labour market and importance of an enrolment period abroad in terms of career possibilities. Also the (supposed) national focus of the field – e.g. legal studies being highly bound to national law vs. interpreting/ translation which strongly supposes an enrolment period abroad – influences students' affinity towards credit mobility.

Table 5 shows potentially underrepresented groups in student mobility. Just as in most other countries in the E:IV network, delayed transition students have a PES below average, though they pass internships abroad almost on average. But there are several groups one would expect to be underrepresented regarding student mobility, but which are not in the

Austrian case. Different to many E:IV countries, students at the age of 30 years or older have an average percentage of students who have spent an enrolment period abroad, but are underrepresented among those who passed an internship abroad. Also students grown up in a rural area or having migration background, who can be considered as more or less non-traditional student group, have an average PES. This outlines the fact that groups that are generally underrepresented in the student body are not necessarily underrepresented regarding student mobility and vice versa. For the Austrian case we therefore can identify students from lower social background or delayed transition into higher education as underrepresented groups regarding enrolment abroad, in accordance with the abovementioned European trends. In addition, also students with an impairment (hindering them in their studies) are less likely to temporarily enrol abroad. Regarding internships though, this group almost reaches an average share. In contrast, 1st generation migrant students have an average PES but an outstandingly high share of students that have passed an internship abroad. One explanation for that is that those students very often pass an internship in their country of birth, where they are likely to have social contacts. Hence, barriers like accommodation and costs in the host country as well as leaving family and friends in the country of study are less hindering as they are familiar with the host country, moreover they can more easily find a place for their internship through local connections.[22] These trends though cannot be observed for enrolment abroad.

Table 5: PES in different groups of students

	Percentage of students with enrolment abroad	Percentage of students with internship abroad
All students	9%	14%
Male	8%	13%
≥ 30 years	9%	10%
Low social background	7%	7%
Delayed transition	6%	13%
Impairment (before entrance to HE)	6%	13%
Grown up in rural area	9%	13%
1st generation migrant	9%	32%
2nd generation migrant	9%	9%
Field of study	4%-17%	4%-38%

Source: Austrian national student survey 2011.

[22] This finding points to the fact that capturing student credit mobility exhaustively is always tricky. Even though, current studies and databases tend to define mobile students through their location of prior education instead of their nationality, there are still some minor groups that can have a heavy weight in certain regions (e.g. students crossing a boarder to study but keep living in the home country, or, as in this case, students who at the first glance seem to be mobile but actually only "visit" home.

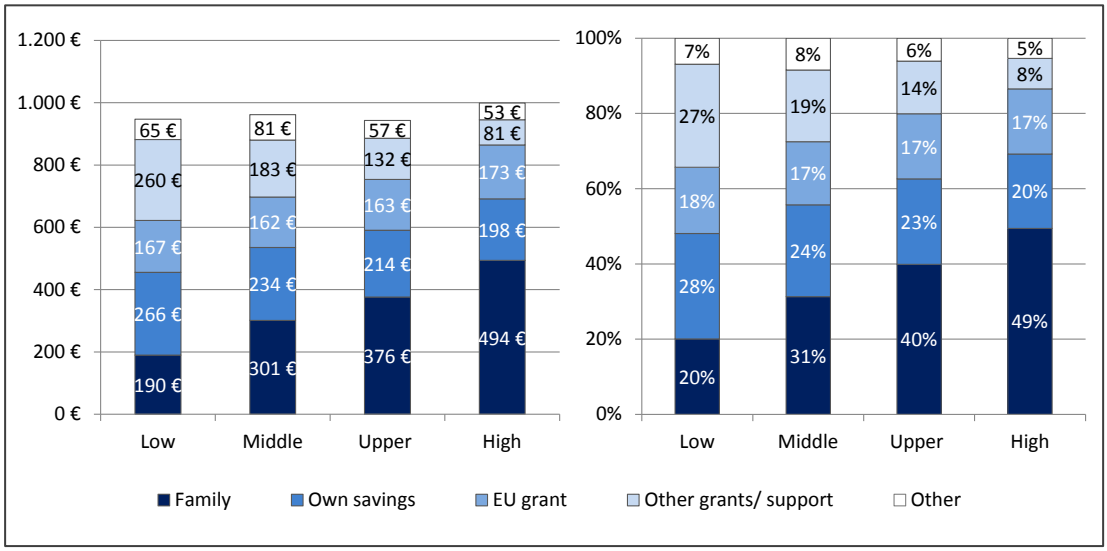
1.3.2 Destination and costs of the stay

The top countries for Austrian students to temporarily enrol abroad are Spain, France, Germany, the UK and Italy. For internships abroad, Germany is the favourite destination of Austrian students. About one third of those who passed an internship abroad chose Germany. English speaking countries are generally often chosen for a study related period abroad.

The choice of destination proves to differ between students from higher social background and those from lower social background. When planned destinations and actual destinations of students are juxtaposed, it can be concluded that students from lower social background cannot realise their preferred destination as often as students from higher social background can. The main issue therefore is a question of cost. While students from higher social background spend their stay abroad more often in countries outside Europe, students from lower social background enrol often in European countries, although the planned destinations do not differ so much between students from lower or higher social background. Especially regarding internships abroad, which usually last shorter than temporary enrolments abroad, students from lower social background relatively seldom plan to pass them in Germany but more often in the UK or USA. Nevertheless, they actually pass them more often in Germany than students from higher social background.

As already stated above, the most obstructing factor of enrolment abroad for students from lower social background is the cost issue. The average monthly amount at disposal during an enrolment period abroad is about 950€ (excluding travel costs), while family support accounts for 38% of the monthly disposal. Again, we see differences according to the social background of students. The average monthly disposal is about 50€ less for students from lower social background than from higher social background, while family support accounts for 20% of the monthly disposal for students from lower social background, respectively for 49% for students from higher social background. This lack of family support can be buffered by national grants and student support. However, probably due to lower travel costs students from lower social background often choose a European or EHEA country, although there is a similar affinity regarding enrolment plans towards a non-European or non-EHEA destination as among students from higher social background.

Figure 7 Austria: Sources of funding during temporary enrolment abroad by social background of students



Other: Employment during enrolment period, loans/ depts, other.
EU grant: ERASMUS grant incl. co-financing.
Source: Austrian national student survey 2011.

Students passing an internship abroad fund a significant share of their study abroad with income gained from that internship. However, women are at disadvantage concerning the income earned during internships abroad. First, female students pass unsalaried internships more often than male, which partly relates to the different fields of study. Additionally, their average earnings are about 230€ less than those of men, which also relates to the field of study chosen but also to the country the internship was passed in.

1.3.3 Perceived obstacles to enrolment abroad

As we could see, financial issues are crucial for a decision pro or contra a temporary enrolment abroad or at least for the design of this stay (country, duration etc.). Especially for younger students from a lower social background it is quite often financial issues that hinder them from temporarily enrolling abroad as their families cannot support them financially as much as families with a higher social standing can. This can also be shown through students' self-assessment of obstacles to enrolment abroad.

The differences in social background decrease among older students as they hardly receive any social or family support anymore. Among older students it is not so much their social background but their living conditions (employment, family/ children) that hinder them from enrolling abroad.

Table 6: Austria: Obstacles to mobility by students' age

	All students	Up to 24y.	25-29y.	30y. or over
Information and access	24%	33%	27%	14%
Affect on studies at home	50%	64%	53%	32%
Living conditions	72%	62%	70%	83%
Financial burden	48%	53%	53%	40%
Loss of social benefits	8%	12%	7%	4%
Conditions in host country	16%	20%	16%	12%
Duration	8%	12%	6%	5%

Figures for students who do not plan to enrol abroad.
Source: Austrian national student survey 2011.

A lack of student support lowers the likelihood of an enrolment abroad even more. Hence, among those that do not plan to enrol abroad, students with lower social background more often feel obstructed from studying abroad by financial issues than students from a higher social background. Among students up to the age of 24 years, even 2 out of 3 students from lower social background state that financial burden is a reason for not enrolling abroad while among younger students from higher social background it is only 1 out of 3.

Table 7: Austria: Obstacles to mobility by students' social background

	All students	Lower	Middle	Upper	Higher
Information and access	34%	23%	24%	25%	23%
Affect on studies at home	64%	46%	51%	52%	54%
Living conditions	58%	78%	75%	73%	71%
Financial burden	53%	50%	50%	47%	40%
Loss of social benefits	12%	9%	8%	7%	7%
Conditions in host country	23%	17%	17%	15%	14%
Duration	14%	7%	8%	8%	8%

Figures for students who do not plan to enrol abroad.
Source: Austrian national student survey 2011.

The aforementioned results show that for Austrian students mainly two characteristics are crucial in terms of international student mobility: First, the social background of students determines the mobility behaviour. Second, students' age and the associated living conditions play the most important role for understanding students' affinity towards enrolment abroad. Both factors are closely related to financial issues. The former case concerns mainly supporting issues while the latter addresses more the living conditions as a whole. Especially for younger students state support is crucial for their decision whether to pass part of their studies abroad or not. Also students with impairment are less affine towards enrolment abroad than the average of Austrian students, though they almost reach an average share regarding internships abroad.

1.4 Summary

The cross-country comparison showed that in Northern European countries, the affinity towards enrolment is highest among countries of the EUROSTUDENT IV network, while students in Southern and Eastern European countries tend to be less mobile during their studies. In general, we could identify three groups of students that are underrepresented regarding student mobility in most of the countries in the E:IV network, namely students with lower education background, students with delayed transition into higher education and older students. These three characteristics are often intersectional, as students with lower education background often work after graduation from secondary education, finding their way into higher education at a later stage in life. The main reason for those students not to spend a part of their study period abroad is related to the greater dependence that comes with a higher age (work, family, financial duties etc.).

As an in-depth analysis of student mobility in Austria showed, these factors might determine not only the affinity towards student mobility as such but also how those enrolment periods are designed in terms of duration, destination and costs. Especially the costs are crucial for students from lower social background. The loss of family support and the (geographically) limited opportunities of public support often hinder primarily younger students from lower social background to enrol abroad or to enrol in a country outside the EHEA.

Due to limited data availability, the present paper is not able to detect all groups that are typically underrepresented among mobile students (e.g. men). Other groups that are potentially underrepresented regarding student mobility are e.g. migrant students, students with impairments or students that grew up in a rural area. Referring to the Austrian situation, not only students with lower social background or delayed transition into higher education are underrepresented to student mobility but also students with impairments.

What must be kept in mind is that there might be groups who are not underrepresented in higher education in general but actually are among mobile students. The same holds true for the opposite: Generally underrepresented groups are not necessarily underrepresented among mobiles students as well.

In order to detect all groups that cannot equally participate in student mobility, an analysis of national micro data is necessary. Internationally comparable micro data could furthermore yield more knowledge about how study performance, living conditions, state and family support are related to the affinity towards mobility in cross-country comparison.

2. Degree Mobility: Imbalanced Student mobility in the EHEA

Chapter 2 of the present report carries out a secondary statistical analysis, based on the annually data collection of the UOE-cooperation (UIS-UNESCO, OECD, EUROSTAT) on the mobility of students in tertiary education (ISCED 97 level 5 and 6). Because of a better coverage of the EHEA (see Table 14), the data used for the analysis in this chapter has been retrieved from the data centre of UIS-statistics. Data from 2010 covers 40 countries reporting on incoming mobile students.[23] This chapter outlines the overall distribution of mobile students worldwide, the presence and distribution of mobile students in the EHEA, as well as the analysis of imbalanced mobility across EHEA countries from a national, a bilateral and a regional perspective.

The analysis focusses exclusively on student degree mobility, which is defined as long term mobility of students with the purpose of completing a whole study cycle and the acquisition of a degree (Bachelor-, Master- or PhD) abroad. *Degree* mobility therefore contrasts *credit* mobility, which is normally a short-term mobility phase (less than 12 month) aiming at obtaining single credit points abroad while remaining enrolled at the home institution (cf. Bologna Process Implementation Report 2012),[24] which is the focus of analysis in the previous chapters of this report.

Student mobility has previously been defined mostly by students' nationality ("foreign students"). However, as mentioned by Teichler (2011)[25] and Orr (2013),[26] this concept as an indicator of student mobility is by no means faultless, since it neglects nationally different citizenship regulations, migratory movements in the past as well as students with double nationality, students, who have changed their citizenship over time, and students participating in distance or transnational education programs. A new concept has been introduced in the UOE data collection in the mid 2000s, asking countries to additionally report on genuine student mobility (cf. Orr 2013). Genuinely mobile students are students who have moved to a country with intent to study. These students can be identified either by their country of prior education or/and by their country of prior or permanent residence (cf. Teichler 2011, Orr 2013).

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23 Newer data and OECD data cover significantly less EHEA countries, see Table 14.

24 Eurydice network (2012): The European Higher Education Area 2012: Bologna Process Implementation Report. EACEA P9 Eurydice.

25 Teichler, U., Ferencz, I., Wächter, B. (eds; 2011): Mapping mobility in European higher education. Volume I: Overview and trends. A study produced for the Directorate General for Education and Culture (DG EAC), of the European Commission.

26 Orr, D. (2013): Where Do Internationally Mobile Students Come from and Where Do They Go? An overview of the flows of internationally mobile students. Handbook Internationalisation of Higher Education. http://www.handbook-internationalisation.com (last visited on 18.12.2013)

Definitions:

Mobile students are (according to the understanding of UIS-UNESCO and therefore also in this report) defined as: ”students who have crossed a national border and moved to another country with the objective of studying” (UOE 2010 manual, UIS-FAQ 2012). The data set retrieved from UIS-UNESCO only covers **degree-seeking mobile** students.[27]

Depending on the point of view, mobile students can be either incoming or outgoing mobile students.

The **country of origin** is defined as the country where mobile students have lived prior to their enrolment or where they obtained their education qualifying for an enrolment in higher education and is also called **sending country**.

The country mobile students are moving to is in this report called **country of destination, host or receiving country**.

Outgoing mobile students of one sending country are incoming mobile students of a receiving country.

The opposite of a mobile student is called **home student**.

Limitations:

Not all countries report data on their incoming mobile students. Of 47 EHEA member states only 40 provide data on their incoming mobile students, which means mobile students are underestimated.[28]

Comparisons between the UIS-UNESCO data set and the OECD data set show several inconsistencies, but only data from UIS-UNESCO has been taken into account due to better coverage of the EHEA.

Moreover, data of UIS-UNESCO doesn’t allow a differentiated analysis of mobile students by field of study. This deficiency is especially serious in the context of imbalanced mobility, since bilateral mobility flows often concentrate on certain fields of study.

Incoming mobile students from unknown countries of origin will be treated like home students of their country of destination.[29]

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[27] Teichler (2011) and Orr (2013) raise doubts regarding the data quality in this context, since some countries do not obey UIS-UNESCO rules in this matter.

[28] Many countries didn’t provide comprehensive information on all of their incoming students, which leads to a relatively high amount of missing values. The data for Germany as a reporting country have been estimated by UIS-UNESCO. Montenegro did neither report incoming mobile students nor was it an option for countries of origin. Outgoing mobile students from Serbia and Montenegro were considered as Serbian due to the availability of reported incoming students in this country.

[29] These students can be either mobile or home students (cf. Orr 2013). However, they represent only a small group across the EHEA countries.

2.1 Mobility flows

2.1.1 Worldwide mobility flows

In 2010, a total of about 3 million degree-seeking mobile students (2.960.141) was reported to the UIS-UNESCO, thus representing 2% of the worldwide student population. European countries[30] host the biggest share of mobile students: Almost half of the global mobile students are studying in a European country, whereas approximately one quarter of all mobile students is studying in the Americas. One in five mobile students choose a host country in Asia or Oceania while only 2% study in an African country.

European countries host 46% of the mobile students worldwide, but European students, as shown in the lower half of Figure 8, represent only 24% of the world's mobile student population.[31]

Taking an in-depth look at mobile students' distribution patters, two major groups of countries – net exporters and net importers, can be identified.

$$\text{net import} - \text{export ratio} = \frac{total\ number\ of\ incoming\ students}{total\ number\ of\ outgoing\ students}$$

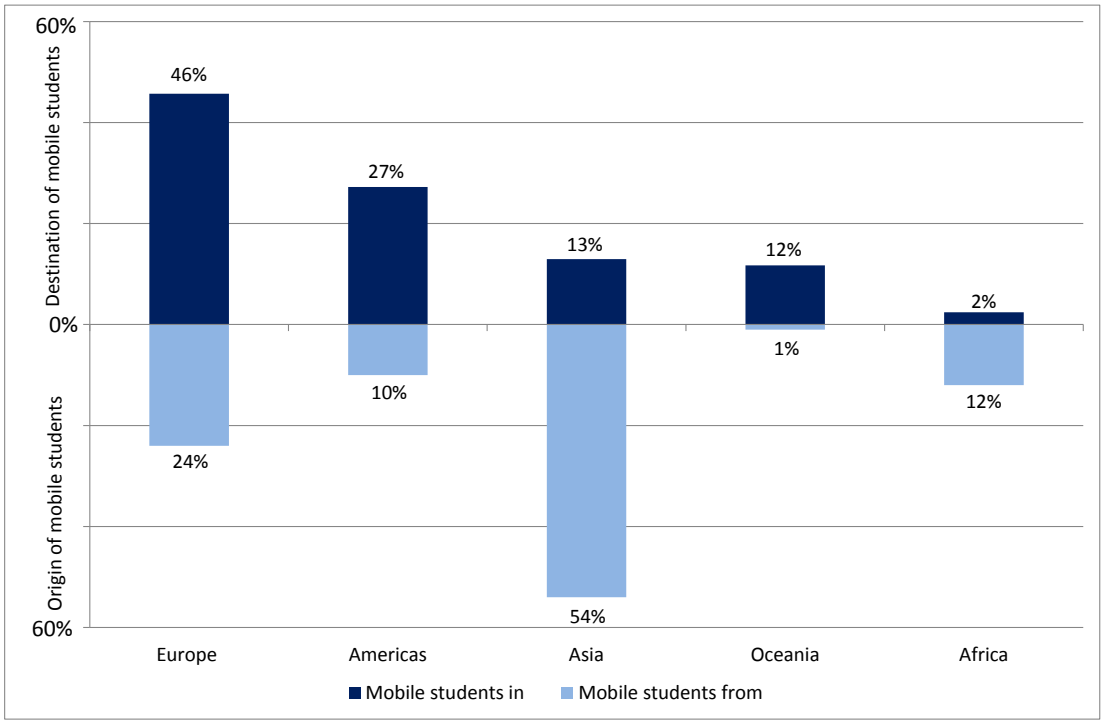
Drawn from Teichler's definition, net exporting countries of mobile students are characterized by having more outgoing mobile students than they receive incoming mobile students, while net importing countries receive more incoming mobile students from other countries than they send out to study abroad (cf. Teichler 2011: 98).

European countries in total can therefore be seen as net importing countries by receiving almost two times more students than sending. Oceania's import-export ratio is even more distinctive: countries in Oceania receive 17 times more mobile students than they have own students studying abroad. In contrast, Asian countries represent the countries of origin for over half of the mobile students worldwide (54%) but they host "only" 13% of them and can be seen in total as net exporting countries.

[30] The allocation of countries by continents follows the allocation of the United Nations Statistics Division with the exception of Cyprus, which has been classified as European country in this chapter. (http://unstats.un.org/unsd/methods/m49/m49regin.htm). According to this classification, Armenia, Azerbaijan, Georgia, Kazakhstan and Turkey are EHEA countries in Asia.

[31] The fact that Europe consists of many rather small countries and therefore has shorter mobility distances has to be taken into account when assessing Europe's mobility patterns and import-export ratio.

Figure 8: Destinations and origin of mobile students across continents (2010)



Excl. mobile students with unknown country of origin.
Source: UNESCO – Institute for Statistics, Education database 2010, IHS calculations.

From an EHEA-perspective, 47% of the global mobile student population chooses a country within the EHEA for their studies. While over 83% of mobile students from the EHEA also stay within the EHEA, 17% leave the EHEA to study in a Non-EHEA country. Students from Non-EHEA countries twice as often choose a country within the EHEA for their studies as vice versa (34%). More than half of the mobile students within the EHEA are from non-EHEA countries, whereas mobile students in the Non-EHEA region are mostly (91%) also from Non-EHEA countries.

Regarding the mobility flows, the net import-export ratio for the EHEA remains similar to the European ratio (1.7). In total, countries of the EHEA host almost twice as many incoming mobile students as they have outgoing mobile students (making the EHEA a net importing region), whereas Non-EHEA countries have a larger number of outgoing mobile students than incoming mobile students.

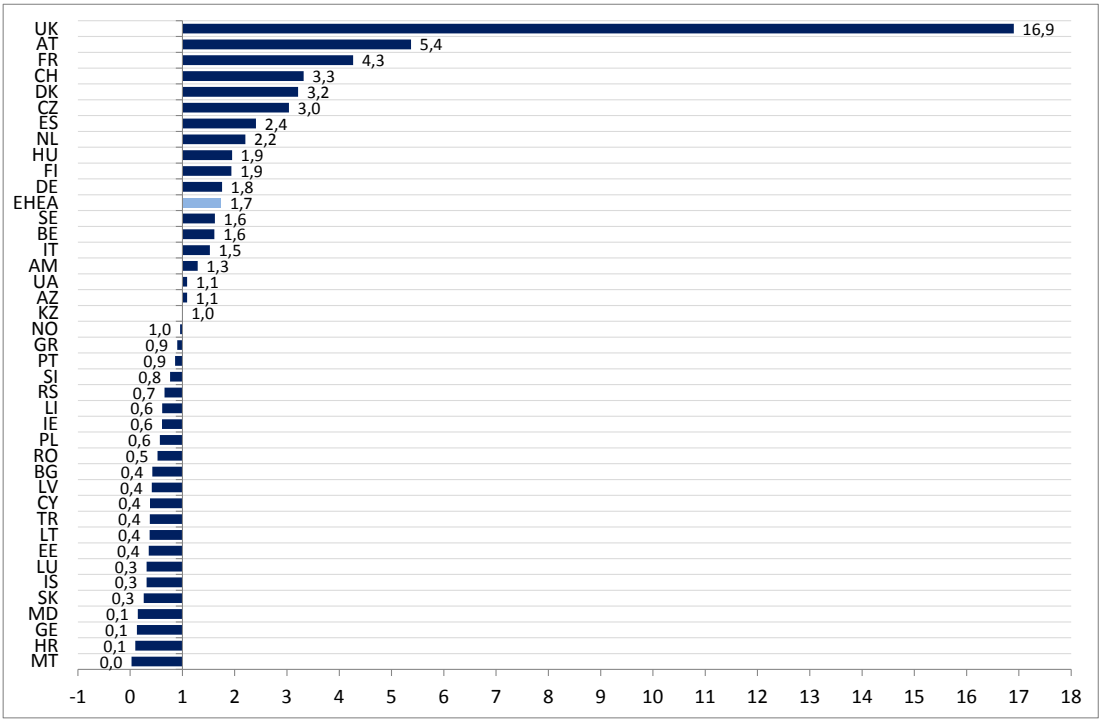
2.1.2 European Higher Education Area

According to Figure 9, the UK, Austria, France, Switzerland, Denmark, the Czech Republic, Spain and the Netherlands are above-average net importing countries, sending much less students to study abroad than receiving incoming mobile students. Hungary, Finland, Germany, Sweden, Belgium, Italy and Armenia are as well net importers though their ratios don't quite differ from the EHEA average.

Ukraine, Azerbaijan, Kazakhstan, Norway, Greece and Portugal have a relatively balanced import-export ratio. Countries located in the south-eastern and north-eastern parts of the European continent have more outgoing mobile students studying abroad than incoming mobile students, which makes them net exporters. Smaller countries like Malta, Iceland, Luxembourg, Ireland and Liechtenstein are also exporting more students than importing.

Albania, Andorra, Bosnia and Herzegovina, the Holy See, Montenegro, Macedonia and the Russian Federation did not report numbers of their incoming mobile students.

Figure 9: Import-export ratio[1)] across the EHEA (2010)



[1)] Import-export ratio divides the net incoming mobile students by outgoing mobile students.
Excl. mobile students with unknown country of origin.
The EHEA average is calculated based on the student numbers in the EHEA, not on country level.
Missing data: Albania, Andorra, Bosnia and Herzegovina, Holy See, Montenegro, Russian Federation, Macedonia.
Source: UNESCO –Institute for Statistics, Education database 2010, IHS calculations.

Even though this import-export ratio gives a good overview on the total numbers of incoming and outgoing mobile students, it is still not very helpful as a means of displaying the relative amount of study abroad students from and mobile students in a given country. In order to describe and categorise the EHEA countries further regarding their specific mobility pattern, we have to combine incoming and outgoing mobility flows with the size of the national student population.

Definitions:

Share of outgoing mobile students: the relation of the number of students from country "A" studying in a defined country abroad and the total number of students with country A's origin, i.e. 4% of all students with Austria as their country of origin are studying outside of Austria.

Share of incoming mobile students: the relation of the number of students with a defined origin other than country "A" in relation to all students in country "A", i.e. 20% of all students in Austria are incoming mobile students.

EHEA countries strongly differ regarding their shares of incoming and outgoing mobile students. Liechtenstein, Luxembourg and Cyprus (in Figure 9 classified as net exporters) show extremely high shares of outgoing mobile students (over 50%) as well as high shares of incoming mobile students (over 30%). In the case of Luxembourg and Liechtenstein, the size of the country as well as of the higher education system itself could be explanations for these findings. Cyprus's size, but more importantly its cultural, geographical and historical proximity to Greece and the UK can be seen as explanatory factors for the high share of students studying abroad: almost half of outgoing Cypriot students study in Greece and another 42% of outgoing Cypriot students live in the UK, the former colonial power. Looking at the countries of origin of incoming mobile students in Cyprus, geographical, cultural or historical links are missing: Only a little over 10% of the incoming mobile students are from Greece and almost half of the incoming mobile students in Cyprus come from India, Pakistan or Bangladesh.

Figure 10 displays the relation between outgoing and incoming mobility in the EHEA by correlating the total numbers of outgoing and incoming mobile students with the host country's student population. On the one hand, 3% of the total national student population in the EHEA (study abroad students and national non-mobile students of a host country) is studying outside their country of origin. On the other hand, 4% of all students studying in the EHEA are mobile students.[32]

In relation to the average within the EHEA, Figure 10 indicates several types of countries:

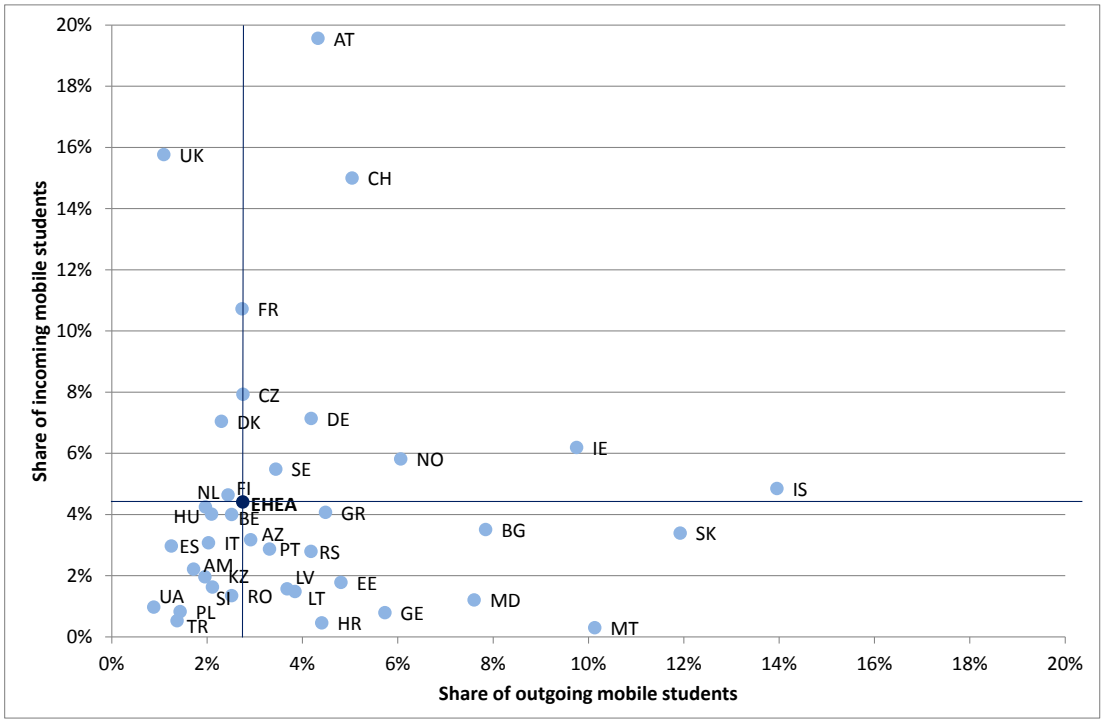
- Countries with **high shares of incoming mobile** and **outgoing mobile students studying abroad:**
  Ireland, Norway, Germany, Switzerland, Austria
- Countries with **high shares of incoming mobile** students and **average shares of outgoing mobile students:**
  France, the Czech Republic
- Countries with **high shares of incoming mobile** students and **low shares of outgoing mobile students:**
  United Kingdom, Denmark

[32] In order to improve the legibility, Liechtenstein, Luxembourg and Cyprus are excluded from Figure 10 due to their outlying values.

- Countries with **average shares of incoming mobile** students and **average shares of outgoing mobile students:**
  Finland, Belgium, Sweden, Hungary, the Netherlands
- Countries with **average shares of incoming mobile** students and **high shares of outgoing mobile students:**
  Iceland, Greece
- Countries with **low shares of incoming mobile** students and **high shares of outgoing mobile students:**
  Slovakia, Malta, Moldova, Bulgaria, Georgia, Estonia, Croatia, Latvia, Lithuania, Serbia
- Countries with **low shares of incoming mobile** students and **average shares of outgoing mobile students:**
  Azerbaijan, Romania, Portugal
- Countries with **low shares of incoming mobile** students and **low shares of outgoing mobile students:**
  Ukraine, Turkey, Poland, Slovenia, Kazakhstan, Armenia, Spain, Italy

After Luxembourg, Liechtenstein and Cyprus, Austria has the highest share of incoming mobile students in the EHEA: One in five students in Austria has another country of origin than Austria. Over half of the mobile students in Austria obtained their prior education in a neighbouring country, but students from Germany (36%) and Italy (12%; especially from the German speaking communities in the province of South Tyrol) represent by far the most significant groups of incoming mobile students in Austria. The Suisse situation is similar to the Austrian one, with a high share of incoming mobile students from Germany, France and Italy. An interactive graph displaying the mobility flows between all (reporting) EHEA countries is available at www.equi.at/student-mobility/.

Figure 10: Share of outgoing mobile students and share of incoming mobile students across the EHEA (2010)



Excl. mobile students with unknown country of origin.
The EHEA average is calculated based on the student numbers in the EHEA, not on country level.
Missing data: Albania, Andorra, Bosnia and Herzegovina, Holy See, Montenegro, Russian Federation, Macedonia.
Not displayed due to their outlying values: Cyprus, Luxemburg, Liechtenstein.
Source: UNESCO –Institute for Statistics, Education database 2010, IHS calculations.

2.2 Imbalanced mobility flows in the EHEA

The "Mobility strategy 2020 for the European Higher Education Area" adopted by the Ministers responsible for Higher Education in the EHEA (2012)[33] points out the importance of imbalances and balances regarding mobility flows across the EHEA. The ministers responsible for Higher Education in the EHEA encourage the member countries to work towards more balanced mobility flows within the EHEA since "it can have a sustained effect on the host and home countries, can facilitate capacity building and cooperation and may lead to brain gain on the one side and to brain drain on the other" (EHEA Ministeral Conference in Bucharest 2012). However, as pointed out in the Bologna Implementation report (2012),[34] the statistical background of balanced and imbalanced mobility is quite complex: Measurement approaches, the desirability as well as the positive or negative judgement of balanced and imbalanced mobility can differ depending on the perspective (country of destination or origin, higher education institutions, the economy etc.). As mentioned earlier, from a host country's point of

[33] EHEA Ministeral Conference in Bucharest (2012): Mobility for Better Learning. Mobility strategy 2020 for the European Higher Education Area.

[34] Eurydice network (2012): The European Higher Education Area in 2012: Bologna Implementation report. Brussels.

view, there are net exporting and net importing countries within the EHEA. This classification takes into account the ratio between incoming and outgoing students of one country and can be used to make imbalances between those two rates more visible. Yet on the other hand, this concept can't display bilateral imbalances between the mobility flows of countries. Bilateral imbalances will be analysed from two sides in the following sub-chapters making a first step meeting the responsible ministers' needs for evaluating degree mobility in the EHEA.

2.2.1 Imbalanced mobility flows from a national point of view

In order to measure imbalanced mobility between two countries, we propose the following methodological concepts:

Definition Version A "Absolute imbalance"

Imbalanced mobility occurs when mobile students from country A studying in country B outnumber mobile students from country B studying in country A by more than 1.000.[35]

$$imbalanced\ mobility\ = \\ (students\ from\ country\ A\ in\ country\ B - students\ from\ country\ B\ in\ country\ A) > \\ 1.000$$

This offers the possibility to see if there is a net overlap of students. Balance in this case would be achieved if i.e. 5.000 students from country A study in country B and vice versa. This concept, in contrast to the second version of imbalanced mobility, does not take into account the size of the host country's higher education system.

Definition Version B "Relative imbalance"

Imbalanced mobility occurs if the share of students from country A in country B in relation to the total student population of country B is greater than the share of students from country B in country A in relation to the total student population of country A.

$$\frac{students\ from\ country\ A\ in\ country\ B}{student\ population\ of\ country\ B} / \frac{students\ form\ country\ B\ in\ country\ A}{student\ population\ of\ country\ A}$$

However, this will only be applied to countries where the share of incoming mobile students from one country of origin studying abroad exceeds 1% of the total student population in the country of destination.

Version A: Absolute imbalance

Imbalanced mobility in terms of a net difference higher than 1.000 students can be found for many of the EHEA countries. In order to improve the legibility, this text will focus predominately on the main net importing countries (see Table 8).

[35] The benchmark of 1.000 has been chosen in order to smooth out small imbalances and to keep the overestimation of imbalanced mobility flows to a minimum since a 100% balance can rarely be met. For most EHEA countries a number 1.000 students represent less than 1% of the total student population, less is therefore considered negligible.

Table 8: Absolute net-imbalances (in thousands of students, 2010)

Country of destination \ Country of origin	AT	BE	BG	HR	CY	CZ	DK	FI	FR	GE	DE	GR	HU	IS	IR	IT	KZ	LV	LT	LU	NL	NO	PL	PT	MD	RO	RS	SK	ES	SE	CH	TR	UA	UK	
AT			1.5	1.9							18.5		1.6			7.4							1.8			1.3	1.9	1.6				2.9		-1.2	**AT**
BE									2.3												2.0													-2.6	**BE**
BG	-1.5								-2.0		-8.0																					3.3		-3.4	**BG**
HR	-1.9										-1.0					-1.2																			**HR**
CY												-12.1																						-11.3	**CY**
CZ											-1.1																		17.8				1.4		**CZ**
DK											1.2			1.1								1.6								1.7				-1.3	**DK**
FI																																		-1.6	**FI**
FR		-2.3	2.0								1.3	1.9				5.0							2.7	2.7		3.6			2.3		-4.2	2.2	1.4	-10.9	**FR**
GE											-2.3																								**GE**
DE	-18.5		8.0	1.0		1.1	-1.2		-1.3	2.3		2.5				3.9			1.1	2.5	-16.2		8.6			2.9	1.2		2.7		-8.7	11.0	6.4	-13.8	**DE**
GR					12.1				-1.9		-2.5					-3.4																		-11.6	**GR**
HU	-1.6																									1.8	1.2	2.1					1.1	-1.0	**HU**
IS							-1.1																												**IS**
IR																																		-14.7	**IR**
IT	-7.4			1.2					-5.0		-3.9	3.4											1.2		1.2	3.6			-2.7		-2.2		1.1	-6.3	**IT**
KZ																																		-2.1	**KZ**
LV																																		-1.6	**LV**
LT											-1.1																							-2.9	**LT**
LU											-2.5																								**LU**
NL		-2.0									16.2																							-3.0	**NL**
NO							-1.6																-1.0											-3.0	**NO**
PL	-1.8								-2.7		-8.6					-1.2						1.0											4.0	-8.2	**PL**
PT									-2.7																				-1.7					-2.5	**PT**
MD																-1.2										-4.2									**MD**
RO	-1.3								-3.6		-2.9		-1.8			-3.6									4.2				-1.8					-3.1	**RO**
RS	-1.9										-1.2		-1.2																						**RS**
SK	-1.6					-17.8							-2.1																					-1.3	**SK**
ES									-2.3		-2.7					2.7								1.7		1.8								-5.1	**ES**
SE							-1.7																											-3.0	**SE**
CH									4.2		8.7					2.2																		-1.9	**CH**
TR	-2.9		-3.3						-2.2		-11.0																							-3.0	**TR**
UA						-1.4			-1.4		-6.4		-1.1			-1.1							-4.0												**UA**
UK	1.2	2.6	3.4		11.3		1.3	1.6	10.9		13.8	11.6	1.0		14.7	6.3	2.1	1.6	2.9		3.0	3.0	8.2	2.5		3.1		1.3	5.1	3.0	1.9	3.0			**UK**

Only reporting countries with bilateral absolute imbalances are displayed. Source: UNESCO –Institute for Statistics, Education database 2010, IHS calculations.

As Table 8 shows, UK, Germany, France, Austria and Italy report imbalanced mobility flows with a large number of EHEA countries. The **United Kingdom**, for example, represents the biggest net importing country of all EHEA countries. Most EHEA countries send far more students to the UK than they receive from the UK.[36] The highest numbers of imbalanced incoming mobile students in the UK come from Ireland, Germany, Cyprus and Greece. The UK also shows the highest imbalanced number of students coming from outside the EHEA.

Austria, also a net importing country, receives a far larger number of students from Germany, Italy and several (South-) Eastern European countries,[37] than it sends to those countries. Austrian outgoing mobile students are only overrepresented in the UK.

Germany, France and Italy, as mentioned before, also report imbalanced mobility flows with a large number of countries, but in contrast to Austria and the UK, their imbalances are not only on the incoming side: **Germany** on the one hand is an imbalanced net importing country of students from Bulgaria, Croatia, Georgia, Greece, Italy, Lithuania, Luxembourg, Poland, Romania, Serbia, Turkey, Ukraine, the Czech Republic and Spain. On the other hand, German students are overrepresented in Switzerland, the Netherlands, Denmark, France, Austria and the UK.

France, also a country with a high import-export ratio (cf. Figure 9) and imbalances with a large number of countries, receives considerably more students from Non-EHEA countries, Italy, Romania, Portugal, Poland, Spain, Turkey, Bulgaria, Greece, Ukraine and Germany, than it sends out to these countries. On the other hand, French students studying in **Belgium** and **Switzerland** outnumber the incoming students from those countries by more than 1.000. The situation of Switzerland is marked by imbalanced mobility with its big neighbouring countries: French, Italian and German students coming to Switzerland outnumber Suisse students outgoing to these countries by far. Belgium's mobility balance shows similar turns regarding incoming students from France and the Netherlands. In addition to what was mentioned earlier about **Italian** students being overrepresented in Austria and Switzerland, they are also overrepresented in France, Germany and Spain. On the other hand, the incoming mobility flows of students from Romania, Greece, Moldova, Poland, Ukraine and Croatia to Italy are larger than the other way around.

In relation to the EHEA-average, **Spain** shows a rather low share of incoming as well as outgoing students, but its net import-export ratio is relatively high. There are less German and French students studying in Spain than Spanish students in France or Germany, but there are more Italian, Polish, Portuguese and Rumanian students studying in Spain than the other way round.

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[36] 26 of 40 reporting EHEA-countries send significantly more students to the UK than they host British incoming students. For 14 countries (Armenia, Azerbaijan, Croatia, the Czech Republic, Estonia, Georgia, Iceland, Liechtenstein, Luxembourg, Malta, Republic of Moldova, Serbia, Slovenia and the Ukraine) the exchange rate between incoming and outgoing amounts to less than 1.000 and is therefore not classified as imbalanced mobility in this paper.

[37] Bulgaria, Croatia, Hungary, Poland, Romania, Serbia, Slovakia, Turkey

Students from the **Netherlands**, as mentioned above, are more likely to study in Belgium but the Netherlands also receive an imbalanced number of German students. The other bilateral exchanges are less significant and, according to this definition, balanced.

Looking at Northern European countries, **Denmark's** situation can, similar to the UK, be classified as high share of mobile students but low shares of students studying abroad. Main imbalances can also be found with its neighbouring countries (Sweden, Norway and Germany) but also Iceland. **Sweden,** except for the imbalance with Denmark, shows as well as **Finland** only one bilateral imbalance: Swedish and Finnish students studying in the UK outnumber UK students in those two countries. **Norwegian** students are additionally overrepresented in Poland. This imbalance is worth mentioning because in most cases students from eastern European countries are overrepresented in western European ones.

In Eastern Europe, the **Czech Republic** has the highest net import-export ratio among eastern European countries, but it seems (with few exemptions) to have a rather balanced exchange of students with other countries. Only Slovakian and Ukrainian students come more often to the Czech Republic than vice versa, outgoing Czech students on the other hand, outnumber incoming German students. **Hungary** which is, besides the Czech Republic, the second eastern European net importing country, reports far more incoming Romanian, Serbian, Slovakian and Ukrainian students than these countries report Hungarian mobile students. Hungarian outgoing mobility towards Austria is imbalanced in the other way, as stated earlier. **Ukraine** has a more or less neutral import-export ratio, mainly because of its import ratio from non-EHEA countries. Looking at the EHEA, Ukrainian students are far more often enrolled abroad than Ukraine receives incoming students. Other than the above mentioned imbalances, Ukrainian students enrol more often in **Poland**. This also represents the only other imbalanced mobility flow for Poland. **Romania** receives more incoming students from Moldova than Romanian students are outgoing to Moldova. Further imbalances can be detected between **Cyprus** and Greece as well as **Bulgaria** and Turkey with in each case the latter sending more students to the former than vice versa. Absolute imbalances especially in South-Eastern and Eastern Europe cannot be displayed completely since the Russian Federation, Albania, Bosnia and Herzegovina, Montenegro and Macedonia did not report any data on incoming mobile students.

Version B: Relative imbalance

The second version to illustrate imbalanced mobility flows takes the reporting country's point of view, its size of the student population and therefore its absorbing capacity into account. Table 9 displays the share of incoming students from one country of origin in relation to the total student population of their country of destination (in thousands students). For instance, 2.6 of every 1.000 students in Germany are Austrian incoming mobile students.

Table 9: Share of incoming students from one country of origin in relation to their destination country's total student population (per thousands of students, 2010)

	Country of origin																																								
Country of destination	AR	AT	AZ	BE	BG	HR	CY	CZ	DK	EE	FI	FR	GE	DE	GR	HU	IS	IR	IT	KZ	LV	LI	LT	LU	MT	NL	NO	PL	PT	MD	RO	RS	SK	SI	ES	SE	CH	TR	UA	UK	
AR													6.4		0.1					0.1																			0.3		**AR**
AT	0.2		0.2	0.4	4.2	5.4	0.1	2.2	0.3	0.3	0.6	1.7	0.6	71.9	1.1	5	0.1	0.2	21.7	0.2	0.3	0.5	0.5	1.9		0.8	0.2	5.3	0.4	0.4	3.8	5.5	4.7	2.4	1.7	0.7	2.5	8.3	2.6	0.9	**AT**
AZ													0.8							0.2																		19.1	0.1		**AZ**
BE	0.1	0.1			0.3	0.1		0.1				12.4		1	0.4	0.1		0.1	0.8				0.1	1		7		0.6	0.3		0.5	0.2	0.1		0.4	0.1	0.1	0.4	0.2	0.2	**BE**
BG	0.1						0.9					0.1	0.1	0.2	3.4				0.1	0.2								0.1		1.6	0.1	1.4			0.1			15.4	1		**BG**
HR																0.1																0.4		0.7							**HR**
CY	0.4		0.1	0.1	2.4			0.6	0.2	0.6	0.2	0.4	0.3	0.6	34.1	0.2		0.1	0.4	0.2	0.4		0.6					1.9	0.1	0.5	0.8	0.4	0.4		1				3.9	0.6	**CY**
CZ	0.2	0.1	0.1		0.3	0.2	0.4					0.3	0.2	0.9	0.7	0.3		0.1	0.1	1.6							0.6	0.8	1	0.3	0.1	0.3	51.3	0.1	0.1	0.3		0.2	3.3	0.9	**CZ**
DK		0.2		0.3	2.7			0.5		0.8	0.7	0.9		6.4	0.5	1	4.9	0.1	1.3		1.7		3.7			0.7	10	3.3	0.3		2.9	0.1	0.3	0.2	1	8.1	0.2	0.4	0.1	0.8	**DK**
EE				0.1					0.1		8.6	0.1	0.1	0.3		0.1			0.3		1.4		0.3			0.1			0.1		1.8			0.1	0.3			0.2	0.3	0.1	**EE**
FI		0.2		0.1	0.2			0.2	0.1	2.3		0.5		1.6	0.2	0.4		0.1	0.6	0.1	0.2		0.3			0.3	0.3	0.7	0.2		0.4	0.1	0.1	0.1	0.5	1.7	0.1	0.5	0.4	0.6	**FI**
FR	0.3	0.2	0.1	1.4	0.9	0.1	0.1	0.4	0.1	0.1	0.1		0.2	3.2	0.8	0.3		0.2	2.6	0.1	0.1		0.1	0.6		0.3	0.1	1.3	1.4	0.4	1.7	0.2	0.2		1.8	0.2	0.8	1	0.6	1.2	**FR**
GE	0.1		2.2																				0.1															1.3			**GE**
DE	0.1	2.6	0.2	0.4	3.1	0.4	0.1	0.6	0.1	0.2	0.3	2.3	0.9		1.1	0.7		0.1	2	0.3	0.3		0.4	1.1		0.3	0.2	3.6	0.3	0.2	1.3	0.5	0.4	0.1	1.6	0.2	0.8	4.6	2.5	0.5	**DE**
GR	0.3	0.1		0.1	1		20.5					0.1	0.3	0.5					0.1	0.1						0.1		0.2		0.2	0.3	0.2			0.1		0.1	0.3	0.5	0.2	**GR**
HU		0.3	0.1	0.1	0.1	0.3	0.7	0.2			0.1	0.4		4.9	0.5		0.2	0.5	0.1	0.1						0.1	1.9	0.1	0.2	0.1	5.1	3.1	5.6	0.1	0.4	1.1		0.8	2.8	0.4	**HU**
IS				0.3	0.2			1.3	1.8	0.2	2.3	2.5		7.4	0.2	0.3		0.2	1.8		0.9		1.6			0.6	1.4	3.3	0.2	0.2	0.4	0.2	0.4	0.1	2.9	2.1	0.4	0.1	0.7	1.7	**IS**
IR		0.2		0.4	0.2		0.1	0.2	0.2	0.1	0.2	2.4		3	0.3	0.2			1.5	0.1	0.3		0.5	0.1	0.1	0.4	0.2	1.9	0.3	0.1	0.6		0.2		1.3	0.3	0.1	0.2	0.1	9.3	**IR**
IT		0.1		0.1	0.4	0.6	0.1	0.1				0.4		0.6	1.8	0.1							0.1					0.6		0.6	2.1	0.4	0.1	0.2	0.2	0.1	0.4	0.3	0.6	0.1	**IT**
KZ			0.2										0.6																									0.9	0.1		**KZ**
LV	0.1		0.1					0.1		0.7	0.1	0.3	0.9	1					0.2	0.1			2.1				0.4	0.3	0.1	0.1					0.2	0.5		0.1	2.3	0.3	**LV**
LI		350.7				1.3		5.1			1.3	1.3		115.6					1.3		2.5			1.3				1.3	1.3				2.5		3.8		256.7				**LI**
LT																			0.1		0.2							0.5		0.2						0.1		0.2	0.5	0.1	**LT**
LU		3.5	0.2	53.9	4.5		0.2	1.7	0.9	0.4	0.9	136.2		68.5	4.5	2.8	0.2	0.4	9.7	0.2	1.3		1.1		0.2	2		5.2	6.9	0.7	10.2		1.3	0.6	5.6	0.9	1.1	2.2	2	3.2	**LU**
MT				0.1	0.5							0.1		0.1					0.1													0.2			0.1			0.2		0.2	**MT**
NL		0.2		1.7	1.1	0.1		0.1	0.1		0.2	0.6		26.2	0.2	0.2		0.1	0.4		0.2		0.1	0.1			0.3	0.7	0.1		0.3		0.1		0.3	0.2	0.1	0.3	0.2	0.4	**NL**
NO		0.2	0.1	0.2	0.4	0.3		0.3	3.6	0.3	1.4	0.7	0.1	3.6	0.2	0.2	1.3	0.1	0.6	0.1	0.4		0.7			1.1		1.3	0.2	0.1	0.7	0.3	0.1		0.4	6.2	0.2	0.5	1.2	1.5	**NO**
PL	0.1							0.2				0.1		0.3						0.2			0.3				0.6						0.1		0.1	0.4		0.1	1.8	0.1	**PL**
PT		0.1		0.3				0.1				0.9		0.5	0.1				0.7					0.1		0.2		0.5		0.1	0.2				2.2		0.1	0.1	0.2	0.6	**PT**
MD	0.1				0.3																										2.3							1.1	1.8		**MD**
RO					0.2							0.3		0.3	0.7	0.2		0.1	0.6											4.5		0.3				0.3		0.3	0.2	0.1	**RO**
RS						2								0.1	0.3																			0.1							**RS**
SK		0.3			0.1	0.1	0.3	19.7				0.1		1.6	3.3	0.3		0.1	0.1								1.2	0.5	0.1		0.4	1.1				0.3	0.1	0.1	0.4	0.3	**SK**
SI		0.3			0.1	6		0.1	0.1			0.1		0.1	0.1	0.1			1.4									0.1	0.1		0.1	1.2	0.1		0.1				0.1		**SI**
ES		0.1		0.2	0.3			0.1				1		0.8	0.1				1.7							0.2		0.2	1.4	0.1	1	0.1	0.1			0.1	0.2	0.1	0.3	0.3	**ES**
SE	0.1	0.2	0.1	0.1	0.2	0.1		0.1	0.5	0.2	3	0.9	0.1	2.5	0.5	0.1	0.4	0.1	0.6	0.1	0.3		0.3			0.3	1	0.5	0.2	0.1	0.3	0.1	0.1		0.5		0.2	1.2	0.5	0.4	**SE**
CH	0.2	3.9	0.1	1	0.9	0.4		0.4	0.3	0.1	0.3	24.2	0.2	43.5	1.5	0.7	0.1	0.1	12.1	0.1	0.2	3	0.2	1.5		1	0.3	1.8	0.6	0.2	2.6	1.2	0.5	0.1	2.2	0.7		2.5	1.1	1.4	**CH**
TR			0.8		0.3								0.1	0.2	0.3					0.2										0.1									0.1		**TR**
UA																														0.4								0.4			**UA**
UK		0.6	0.1	1.1	1.4	0.1	4.6	0.5	0.6	0.4	0.7	5.5	0.1	6.1	4.7	0.5	0.1	6.6	2.6	0.8	0.7		1.2	0.4	0.4	1.3	1.3	3.4	1.1		1.3	0.1	0.6	0.1	2.3	1.3	0.9	1.2	0.2		**UK**

Only shares >0.01% are displayed. Missing data: AL, AD, BA, VA, ME, RU, MK. Source: UNESCO –Institute for Statistics, Education database 2010, IHS calculations.

In this paper, mobility flows are only considered to be relatively imbalanced if the share of incoming students of a country of origin in relation to the total student population of the destination country is greater than 1%. This is only the case for 21 bilateral mobility flows.

According to Table 10, mobile students from Austria make up 35% of the national student body in Liechtenstein. 26% of the students in Liechtenstein are Suisse and 12% are German incoming students. Outgoing students from Liechtenstein however, only represent 0.1% of the Austrian, 0.3% of the Suisse and 0.001% of the German student population, making the incoming mobility flows from Austria, Switzerland and Germany to Liechtenstein highly imbalanced. Luxembourg's situation is similar to Liechtenstein's: 14% of all students in Luxembourg are French, 7% are German and 5% are Belgian. In contrast, the share of outgoing mobile students from Luxembourg amounts to 0.1% of the student population in all three countries. Thus, incoming mobility flows from these three countries as well as from Romania and Italy to Luxembourg are highly imbalanced. However, the absolute numbers of incoming students to Luxembourg and Liechtenstein are very small and the size of these countries (in terms of sending capacities) has to be taken into consideration.

Austria, as a country of destination, reports 7% of its student population being incoming mobile students from Germany. The share of mobile Austrian students in Germany is 0.3% of the total student population in Germany. Italian mobile students in Austria make up 2% of the Austrian student population, while the share of Austrian mobile students in Italy is 0.01%, making the relative imbalance in the mobility flows between Austria and Italy greater than the ones between Austria and Germany. The share of German incoming mobile students in the Netherlands and in Switzerland is more imbalanced than in Austria, although the absolute number of incoming students and the absolute imbalance is greater in the Austrian case. Apart from incoming mobile students from Germany, Switzerland also shares imbalanced mobility flows with two other neighbouring countries: Italy and France. Students from France are furthermore overrepresented in Belgium.

Mobile Turkish students in Bulgaria represent 2% of the total Bulgarian student population, whereas the share of Bulgarian students in Turkey is 0.03%. The imbalance of this mobility flow is almost as accentuated as the one between Germany and Switzerland. Imbalanced mobility flows can furthermore be detected from Greece to Cyprus, Slovakia to the Czech Republic and Norway to Denmark, but these imbalances are comparably small. However, as mentioned above, the display of absolute as well as relative imbalances especially in South-Eastern and Eastern Europe is not complete, due to a lack of data on incoming mobile students in countries like the Russian Federation, Albania, Bosnia and Herzegovina, Montenegro and Macedonia.

Table 10: Relative bilateral imbalances (2010)

Country of origin		Country of Destination	Share of incoming students of a specific country of origin in relation to total student population in country of destination	Country of origin		Country of Destination	Share of incoming students of a specific country of origin in relation to total student population in country of destination
AT	→	LI	35%	LI	→	AT	0.1%
CH	→	LI	26%	LI	→	CH	0.3%
FR	→	LU	14%	LU	→	FR	0.1%
DE	→	LI	12%	LI	→	DE	0.0%
DE	→	AT	7%	AT	→	DE	0.3%
DE	→	LU	7%	LU	→	DE	0.1%
BE	→	LU	5%	LU	→	BE	0.1%
SK	→	CZ	5%	CZ	→	SK	2.0%
DE	→	CH	4%	CH	→	DE	0.1%
GR	→	CY	3%	CY	→	GR	2.1%
DE	→	NL	3%	NL	→	DE	0.0%
FR	→	CH	2%	CH	→	FR	0.1%
IT	→	AT	2%	AT	→	IT	0.0%
CY	→	GR	2%	GR	→	CY	3.4%
CZ	→	SK	2%	SK	→	CZ	5.1%
TR	→	BG	2%	BG	→	TR	0.0%
FR	→	BE	1%	BE	→	FR	0.1%
IT	→	CH	1%	CH	→	IT	0.0%
RO	→	LU	1%	LU	→	RO	0.0%
NO	→	DK	1%	DK	→	NO	0.4%
IT	→	LU	1%	LU	→	IT	0.0%

Imbalances are only displayed if the share of incoming students exceeds 1% of the total student population of the country of origin.
Missing data: Albania, Andorra, Bosnia and Herzegovina, Holy See, Montenegro, Russian Federation, Macedonia.
Source: UNESCO –Institute for Statistics, Education database 2010, IHS calculations.

2.2.2 Imbalanced mobility flows from a regional point of view

After having analysed bilateral imbalances, the following chapter will focus on imbalances in student mobility from a regional perspective. Countries of the EHEA will be classified into broader regions along their geographical proximity (Northern, Southern, Eastern, Western and Non-European countries of the EHEA), language (Official language English and Non-English) as well as their GDP per capita.

Version A: Absolute Imbalances between regions

Absolute imbalances can also be observed between geographical regions within the EHEA: Northern European countries within the EHEA (Denmark, Finland, Sweden, Norway, Iceland, UK, Ireland, Latvia, Lithuania and Estonia)[38] as well as Western European EHEA countries (Austria, Belgium, France, Germany, Liechtenstein, Luxembourg, the Netherlands and Switzerland) can be classified as net importing regions, whereas Southern,[39] Eastern[40] and Non-European[41] countries within the EHEA are net exporting regions. These differences between regions within the EHEA are also shown in terms of absolute imbalances: Northern Europe hosts far more incoming mobile students from any other region in the EHEA than it sends students to other regions. Mobile students from Southern, Eastern and Non-European EHEA countries in Western Europe significantly outnumber outgoing mobile students from Western to Southern, Eastern and Non-European EHEA countries.

Table 11: Absolute regional imbalances within the EHEA by geographical proximity (2010)

		Region of origin				
		Northern Europe	Southern Europe	Eastern Europe	Western Europe	Non-European EHEA
Region of Destination	Northern Europe		41.720	25.892	32.571	7.162
	Southern Europe	-41.720		6.903	-49.320	-
	Eastern Europe	-25.892	-6.903		-70.834	-
	Western Europe	-32.571	49.320	70.834		22.960
	Non-European EHEA	-7.162	-	-	-22.960	

Only reporting countries with bilateral absolute imbalances > 1.000 students are displayed.
Missing data: Albania, Andorra, Bosnia and Herzegovina, Holy See, Montenegro, Russian Federation, Macedonia.
Source: UNESCO –Institute for Statistics, Education database 2010, IHS calculations.

English-speaking countries in the EHEA (UK, Ireland and Malta) report also imbalanced incoming mobility flows. These countries report over 115.000 more incoming mobile students from countries with an official language other than English than vice versa.

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[38] The geographical classification into Northern, Southern, Western and Eastern Europe follows the classification of the United Nations Statistics Division with the exception of Cyprus, which has been classified as Southern European country in this table. (http://unstats.un.org/unsd/methods/m49/m49regin.htm).

[39] Albania, Andorra, Bosnia and Herzegovina, Croatia, Cyprus, Greece, Holy See, Italy, Malta, Montenegro, Portugal, Serbia, Slovenia, Spain and The former Yugoslav Republic of Macedonia

[40] Bulgaria, the Czech Republic, Hungary, Poland, Republic of Moldova, Romania, Russian Federation, Slovakia and Ukraine

[41] Armenia, Azerbaijan, Georgia, Kazakhstan and Turkey

In absolute terms, imbalanced mobility flows also occur between regions regarding their GDPs per capita.[42] Having classified the countries of the EHEA along their GDP per capita in 2010, the analysis shows that the number of students from countries with lower GDP studying in countries with higher GDPs per capita is greater than vice versa, making the mobility flows from lower GDP per capita countries to countries with higher GDP per capita imbalanced (Table 12).

Table 12: Absolute regional imbalances within the EHEA by GDP per capita (2010)

		Region of origin				
		GDP per capita <10.000 US$	GDP per capita <20.000 US$	GDP per capita <30.000 US$	GDP per capita <39.000 US$	GDP per capita >39.000 US$
Region of Destination	GDP per capita <10.000 US$		-12.348	-10.281	-34.417	-6.747
	GDP per capita <20.000 US$	12.348		-1.525	-64.069	-18.351
	GDP per capita <30.000 US$	10.281	1.525		-67.764	-11.695
	GDP per capita <39.000 US$	34.417	64.069	67.764		-30.889
	GDP per capita >39.000 US$	6.747	18.351	11.695	30.889	

Excl. Andorra, Holy See, Liechtenstein
Missing data: Albania, Andorra, Bosnia and Herzegovina, Holy See, Montenegro, Russian Federation, Macedonia.
Source: UNESCO –Institute for Statistics, Education database 2010, UNESCO – Institute for Statistics, Demographic & Socio-economic database 2010, IHS calculations.

Version B: Relative imbalances between regions

Relative imbalances in student mobility between regions can be observed between Eastern and Western Europe: Mobile students from Eastern European countries within the EHEA represent 1.2% of the student population in Western European countries, whereas mobile students from Western European countries represent 0.1% of the student population in Eastern Europe. Mobile students from western and southern Europe are however overrepresented among the student population of Northern European countries.

[42] GDP per capita were retrieved from the – Institute for Statistics, Demographic & Socio-economic database 2010. See also Table 15.

Table 13: Relative regional imbalances within the EHEA by geographical proximity (2010)

Region of origin		Region of Destination	**Share of incoming students of a specific region of origin in relation to total student population in region of destination**	Region of origin		Region of Destination	**Share of incoming students of a specific region of origin in relation to total student population in region of destination**
East	➔	West	1.2%	West	➔	East	0.1%
West	➔	North	1.1%	North	➔	West	0.2%
South	➔	North	1.0%	North	➔	South	0.4%

Imbalances are only displayed if the share of incoming students exceeds 1% of the total student population of the country of origin.
Missing data: Albania, Andorra, Bosnia and Herzegovina, Holy See, Montenegro, Russian Federation, Macedonia.
Source: UNESCO –Institute for Statistics, Education database 2010, IHS calculations.

Incoming mobility flows to EHEA countries with English as their official language are not only absolutely but also relatively imbalanced: Students from non-English-speaking EHEA countries represent almost 5% of the total student population of Malta, the UK and Ireland combined, whereas outgoing students from these three countries only make up for 0.04% of the student population of countries with another official language than English.

While version A showed several imbalanced mobility flows in absolute terms from countries with lower GDPs per capita to countries with higher GDPs per capita, version B of measuring imbalanced mobility only detects one (relevant) imbalanced mobility flow: The number of incoming students from countries with a GDP per capita between 30.000 and 39.000 US$ represent 4% of the total student population of all countries within the EHEA with a GDP of over 39.000 US$, while vice versa the latter represent only 0,5% of the student population of countries with the lower GDP. Relatively imbalanced mobility flows therefore only occur between the two wealthiest regions of the EHEA. Mobility flows from regions with lower GDPs to regions with higher GDPs are however relatively balanced (The share of incoming mobile students does not exceed 1% of the student population in the region of destination).

2.3 Summary

According to Teichler's definition, the EHEA can be classified as a net importing region, as in total countries within the EHEA report more incoming mobile students than outgoing. However, the import-export ratio differs a lot by country. Northern and Western European countries, and here especially the UK but also Austria and France, show high **import-export ratios**, whereas Eastern and Non-European EHEA countries, as well as countries with a lower GDP have more outgoing than incoming mobile students. Considering the **share of incoming and outgoing mobile students** separately, the countries of the EHEA can be classified

differently: German speaking countries, Norway and Ireland show high incoming and outgoing mobility shares, whereas the UK's or Denmark's share of incoming students is much higher than their share of outgoing students. Highly outward mobile are students from Slovakia, Malta, the Republic of Moldova, Bulgaria, Georgia, Estonia, Croatia, Latvia, Lithuania and Serbia, but these countries show low shares of incoming mobile students. Relatively low shares of incoming as well as outgoing mobility can be found in the Ukraine, Turkey, Poland, Slovenia, Kazakhstan, Armenia, Spain and Italy. An interactive graph displaying the mobility flows between all (reporting) EHEA countries is available at www.equi.at/student-mobility/.

Regarding "**absolute imbalances**", the United Kingdom, Germany, France and Austria are characterised by imbalanced mobility flows with a large number of countries. Germany sends an imbalanced number of students to Austria, Denmark, France, the Netherlands and Switzerland. France also sends an imbalanced number of students to Switzerland and Belgium. In contrast, Austria and the UK generally host more mobile students from other countries than they send out. In general, countries in Northern and Western Europe as well as countries with higher GDPs show imbalanced incoming mobility flows with other parts of Europe: mobile students from Southern, Eastern and Non-European EHEA countries are overrepresented in Northern and Western Europe. The mobility flow of students from countries with a GDP per capita lower than 30.000 US$ to countries with a higher GDP is higher than the flow the other way around.

In terms of "**relative Imbalance**" it can be observed that most of the detected imbalances occur between neighbouring countries: Mobile students from Austria, Switzerland, France and Germany are considerably overrepresented in Liechtenstein and Luxembourg, as are German students in Austria, Switzerland and the Netherlands and French students in Switzerland and Belgium. Incoming mobile Italian students are overrepresented in Austria and Switzerland as well as in Luxembourg. Relatively imbalanced mobility flows can furthermore be observed from Slovakia to the Czech Republic, Belgium to Luxembourg, Greece to Cyprus, Turkey to Bulgaria, Romania to Luxembourg and Norway to Denmark. From a regional point of view, the East-West, West-North and South-North mobility flows are not only absolutely imbalanced but also relatively. Absolute imbalances regarding mobility flows between regions with different GDPs per capita have however been relativized: Relative imbalanced mobility flows therefore only occur between the two wealthiest regions of the EHEA. Other mobility flows from countries with lower GDPs to countries with higher GDPs are relatively balanced.

Just like Teichler (2011) and Orr (2013), this paper also comes to the conclusion that the data analysed doesn't allow for a deeper look into imbalances like a concentration of mobile students in certain fields of study (e.g. mobile students from Germany in Austria), a concentration of mobile students in certain regions of the country of destination (e.g. boarder region, capital city) or a concentration of mobile students in certain language zones of a destination country (e.g. French, Italian, German mobile students in Switzerland), which should be taken into consideration for future data collections. The quality of the data analysed is not faultless:

Teichler (2011) raises doubts concerning the accuracy with which countries apply the definitions set to their reported data, and also criticises the amount of missing information across countries. However, the UNESCO Institute for Statistics provides a better coverage on student mobility within and across the EHEA than any other database available.

Annex

Additional tables on data availability and GDP per capita

Table 14: Availability of data for EHEA countries

Source	OECD		UNESCO	
Year	2010	2011	2010	2011
Albania	0	0	0	0
Andorra	0	0	0	0
Armenia	0	0	1	1
Austria	1	1	1	1
Azerbaijan	0	0	1	1
Belgium	1	1	1	0
Bosnia and Herzegovina	0	0	0	0
Bulgaria	0	0	1	0
Croatia	0	0	1	0
Cyprus	0	0	1	0
The Czech Republic	1	1	1	1
Denmark	1	1	1	0
Estonia	1	1	1	0
Finland	1	1	1	1
France	1	1	1	1
Georgia	0	0	1	1
Germany	1	1	1	0
Greece	1	1	1	0
Holy See	0	0	0	0
Hungary	1	1	1	1
Iceland	1	1	1	0
Ireland	1	1	1	1
Italy	1	1	1	0
Kazakhstan	0	0	1	1
Latvia	0	0	1	1
Liechtenstein	0	0	1	1
Lithuania	0	0	1	1
Luxembourg	1	0	1	0
Malta	0	0	1	0
Moldova	0	0	1	1
Montenegro	0	0	0	0
The Netherlands	1	1	1	0
0rway	1	1	1	0
Poland	1	1	1	0
Portugal	1	1	1	0
Romania	0	0	1	0
Russian Federation	1	1	0	0
Serbia	0	0	1	1
Slovak Republic	1	1	1	1
Slovenia	1	1	1	1
Sweden	1	1	1	1
Switzerland	1	1	1	1
Macedonia	1	1	1	1
Turkey	0	0	0	0
Ukraine	1	1	1	0
United Kingdom	0	0	1	0
Sum	26	25	40	20

Source: OECD statistics, UNESCO –Institute for Statistics, Education database 2010.

Table 15: Classification of EHEA countries by GDP per capita (2010)

Classification	Country	GDP per capita in US$
GDP per capita <10.000 US$	Republic of Moldova	3094
	Georgia	5036
	Armenia	5428
	Ukraine	6678
	Albania	8631
	Bosnia and Herzegovina	8635
	Azerbaijan	9873
GDP per capita <20.000 US$	The former Yugoslav Republic of Macedonia	11327
	Serbia	11421
	Kazakhstan	12092
	Montenegro	12977
	Bulgaria	13892
	Romania	14778
	Turkey	15830
	Latvia	15943
	Lithuania	18120
	Croatia	18727
GDP per capita <30.000 US$	Poland	20033
	Estonia	20092
	Russian Federation	20261
	Hungary	20734
	Slovakia	23149
	Czech Republic	25358
	Portugal	25519
	Slovenia	26509
	Malta	26672
	Greece	27520
GDP per capita <39.000 US$	Spain	31575
	Cyprus	31780
	Italy	32110
	France	34262
	United Kingdom of Great Britain and Northern Ireland	35298
	Iceland	35506
	Finland	36030
	Germany	37652
	Belgium	37834
GDP per capita >39.000 US$	Sweden	39251
	Austria	40401
	Denmark	40588
	Ireland	40883
	Netherlands	41673
	Switzerland	48720
	Norway	56976
	Luxembourg	84764

Excl. Andorra, Holy See, Liechtenstein
Source: UNESCO – Institute for Statistics, Demographic & Socio-economic database 2010, IHS classification.

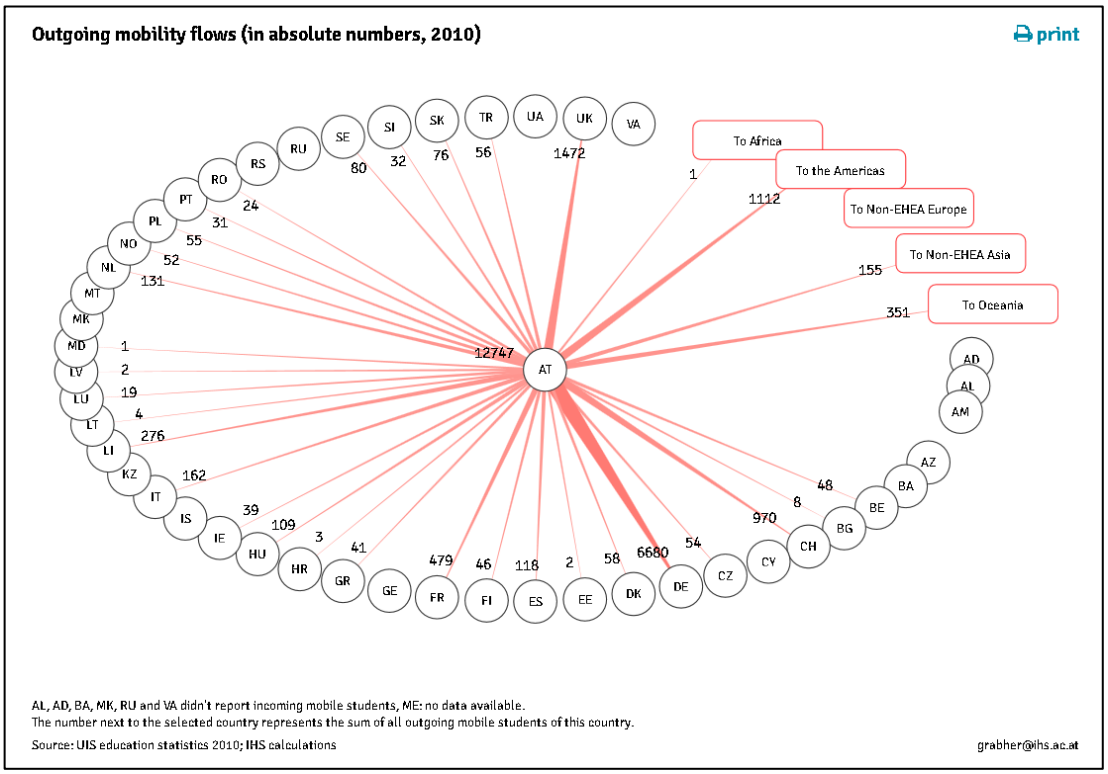
Additional tables on obstacles to student credit mobility

Additional information on obstacles to student credit mobility by country and groups of students is available at www.equi.at/student-mobility.

Graphs on incoming and outgoing mobility flows for all EHEA countries

This webpage (www.equi.at/student-mobility) also provides interactive graphs to display absolute and relative mobility flows between all (reporting) EHEA countries and continents. As an example, the outgoing mobility flows of Austria (in absolute numbers) are presented below.

Figure 11: Exemplary graph: Outgoing mobility flows from Austria to the EHEA countries and other continents



Source: UNESCO –Institute for Statistics, Education database 2010, IHS calculations. Graph available at www.equi.at/student-mobility.

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Projektbericht/Research Report

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