



Indicators on international student mobility for assessing the Bologna Process

1. INTRODUCTION

This document presents an overview of international student mobility from the point of view of statistical measurement. Several distinctions are made according to their relevance for the measurement of student mobility. Firstly, the distinction between diploma and credit mobility, between inbound and outbound, between students enrolled and graduates, and finally between several possible regional scopes that can be considered.

Definitions and data collection methods are presented and discussed for diploma mobility, credit mobility and other types of mobility separately. Diploma mobility has its measurement stabilised in official statistics and data is available. Credit mobility statistics are not produced currently by official statistics and there are no operational definitions internationally agreed.

Finally, indicators on international student mobility are proposed. Firstly, the document proposes a benchmark indicator for the measurement of progress in the attainment of the 20% target agreed by the Ministers responsible for higher education of the 46 countries participating in the Bologna Process. This would be the highlight indicator. It will not make other indicators superfluous, as they are necessary to understand how countries are achieving the target and what makes other countries less successful. Secondly, therefore, the document presents proposals for supplementary indicators for a more detailed analysis of international student mobility in the European higher education area.

This document was presented and discussed at the meeting of the BFUG working-group on mobility on 13 January 2010 in Berlin. On the basis of discussions, the document has been revised.

The BFUG working-group on Bologna implementation reporting is invited to:

1. *Discuss the policy relevance of the concepts discussed and indicators proposed.*
2. *Agree on a technical definition of the benchmark indicator to be proposed to the Bologna Follow-up Group.*
3. *Discuss the policy relevance of the supplementary indicators on international student mobility proposed in this document.*

2. CONTEXT

The ministers responsible for higher education in the 46 countries participating in the Bologna Process agreed in April 2009 at Leuven and Louvain-la-Neuve that:

In 2020, at least 20% of those graduating in the European Higher Education Area should have had a study or training period abroad.

The target was set. However, the indicator to be used to assess the attainment of the 20% benchmark was not specified in detail. Therefore, it needs to be done.

Nevertheless, the Communiqué of the Leuven and Louvain-la-Neuve conference goes further and establishes additional objectives for mobility, even if not defining any target to be reached. Some of them are suitable for being measured through statistical indicators. That's the case of the call for a more balanced flow of incoming and outgoing students across the European Higher Education Area and the aim for an improved participation rate from diverse student groups. An agreement on statistical indicators for measuring progress in these goals is, therefore, also required.

At the same time, at EU level, the Council conclusions of May 2009 on a strategic framework for European cooperation in education and training invited the European Commission to work further in the area of mobility. The Commission was asked to submit to the Council a proposal for a benchmark focusing on "*physical mobility between countries in the field of higher education*". Furthermore, the Council asks the Commission to reflect the efforts made and objectives agreed within the Bologna Process in its proposal.

The European Statistical System needs to encompass the needs from policy makers both in the scope of EU cooperation in education and training and in the scope of the Bologna process. It is very important that agreements about statistical indicators in both forums do not diverge to a point where the statistical system has to increase unnecessarily the burden posed on data providers.

This document provides an overview of the measurement of international student mobility for consideration by policy makers. Some of the proposals presented here cannot be readily provided by international education statistics and will need to be developed. In this case, the views and options adopted by policy makers will be put forward to the international community of education statisticians in order to assess the feasibility and availability at national level of the statistics required.

3. PROPOSAL FOR A BENCHMARK INDICATOR

The data collectors propose as indicator for measuring progression towards the 20% target of international student mobility defined in the Leuven and Louvain-la-Neuve Communiqué, hereafter referred to as benchmark indicator:

Percentage of those graduating in the EHEA that coming from the EHEA graduated in a country different from their origin or have spent a period abroad rendering credit for the programme they have completed.

Technically, the indicator proposed is defined as:

$$\frac{\text{Number of EHEA graduates that have as origin a country of the EHEA different from their destination for full study programme or have spent a period abroad for credit}}{\text{Total number of graduates in the EHEA}}$$

This indicator combines credit mobility of the EHEA graduates to anywhere in the world with diploma mobility for the completion of a whole programme within the EHEA. Therefore, it does not take into account those students that having as origin a country of the EHEA went to destination outside the EHEA for completing a higher education programme.

4. TYPES OF INTERNATIONAL STUDENT MOBILITY

There are many different ways of classifying different types of student mobility. The ones presented here are closely related to how those differences imply the use of different statistical methodologies. When developing statistical indicators, the most important trade-offs will be between statistical feasibility and policy relevance. Often the definition that would be the most relevant for policy purposes cannot be used because it is not possible from the statistical point of view. Sometimes, distinctions that are very important when we are designing statistical methodologies are irrelevant for policy makers, in which cases they should be faded out in the statistical indicators.

In the case of international student mobility, the main distinction from the statistical point of view is also, supposedly, relevant for policy makers. That is the distinction between diploma mobility and credit mobility. Diploma mobility is the one aimed at the acquisition of a whole degree or certificate in the country of destination. Credit mobility is temporary and happens in the framework of on-going studies in an institution in the home country for the purpose of gaining credit. In credit mobility, students return to the institution in their country of origin in order to finish the programme.

We can add other stays abroad during higher education studies to these two types of mobility, e.g. for internships/placements, languages courses, summer schools, voluntary work, etc. This type of mobility has not really been subject of discussion in official statistics and, without a known adopted term, it will be called here “other short-term mobility”. Although other short-term mobility has not being discussed in official statistics, other statistical tools have included it, such as Eurostudent. Also, some policy documents have mentioned the importance of this other short-term mobility¹.

The three types of international student mobility can be seen as involving a decreasing level of commitment or engagement by the student, from diploma mobility to credit mobility to, finally, other short-term mobility:

- a. **Diploma mobility:** Doing a programme in a different country.

¹ For example, the report of the High Level Expert Forum on Mobility (a group established by the European Commission in December 2007) proposes that the long term goal for the EU should be to have mobility for learning the rule rather than the exception and that it should be in all forms of education and in non-formal activities such as voluntary and community work.

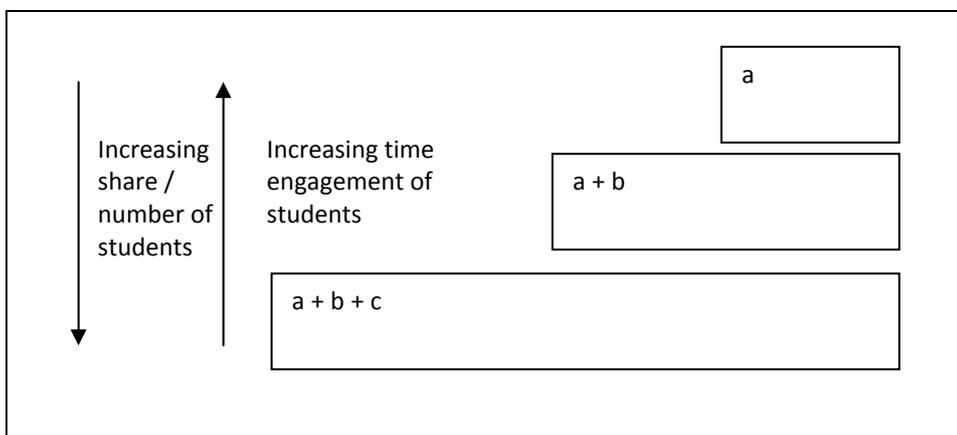
b. **Credit mobility:** Doing some courses in a different country in the scope of the programme in the home institution.

c. **Other short-term mobility:** Going abroad during a higher education programme for an activity relevant for the studies and for a relevant period of time (language course, traineeship, internship ...).

Diploma mobility is a long-term type of mobility as it requires in principle a period of several years in the country of destination. Both credit and other short-term mobility are short-term types of mobility and usually they will involve a period abroad of less than one year².

Higher levels of engagement in mobility by the student are easier to accept as being in the scope of the statistical indicators. There are no doubts that diploma mobility should be included. It is becoming increasingly clear that credit mobility is a relevant part of student mobility for policy makers and efforts need to be made to include it in the official statistics. The relevance of other short-term student mobility for policy makers is still not clearly stated, but it starts to be mentioned in the policy context of youth policy together with diploma and credit mobility.

We can see the scope of the statistical indicators on international student mobility as progressively including credit mobility with diploma mobility and then other short-term mobility together with the other two. A larger scope will be more encompassing, including more students, but also involving lower levels of commitment of the students.



From the statistical point of view, the distinction between these three types of mobility is important because while the collection of data on diploma mobility is relatively well developed, there are currently no official statistics on credit mobility³ or other short-term

² The term short-term mobility is preferred to temporary mobility, because diploma mobility can equally be considered as temporary in those cases where the student after graduating returns to his/her home country.

³ Nevertheless, statistics on the credit mobility are available for those cases where support is given from Erasmus and Erasmus Mundus programmes (http://ec.europa.eu/education/lifelong-learning-programme/doc80_en.htm).

mobility gathered at international level. Also, while it is possible to integrate statistics on credit mobility in the currently used data collection tools on mobility, data on other short-term mobility would require different tools.

5. DIPLOMA STUDENT MOBILITY

Statistics on diploma mobility are currently collected at international level via the UOE data collection. The UOE data collection, named after the 3 organisations that run it (UNESCO Institute for Statistics - UIS, OECD and Eurostat), is the main source of international statistics on education systems. The UOE together with other data collections run by UIS covers the whole world. The UOE includes tables where it collects the total number of students and graduates, together with the number of foreign and mobile students and graduates.

Diploma mobility is broadly defined as students who have been enrolled in a course of study abroad for a period of at least one year. The fact of enrolment and a prolonged period abroad leads to the assumption that these students are planning to study a full programme (e.g. Bachelor, Master...) abroad.

5.1. Measurement of diploma mobility in the UOE⁴

In the UOE, foreign students are defined as non-citizens of the country in which they study. This concept is inadequate to measure student mobility for at least two reasons, both related to immigration issues:⁵

- Not all foreign students have come to their country of study expressly with the intention of studying.
- The acquisition of citizenship is regulated in different ways from country to country. Some immigrants may have lived in the “host” country for a prolonged period without taking (or being able to take) on national citizenship.⁶

Genuinely mobile students are therefore defined more specifically as foreign students who have crossed a national border and moved to another country with the objective of studying. In other words, the student has moved from the country of origin to the reporting country of study, which is his or her country of destination.

In the definition of a mobile student the focus is on the defining fact: that a physical geopolitical border between the country of origin and the country of destination has been crossed.

Furthermore the operational definition should try to establish as far as possible the connection between crossing a border and enrolment in education in the country of destination. In practice this connection is difficult to establish, but if countries have a

⁴ This section is based on the UOE manual.

⁵ For a more detailed discussion see Kelo / Teichler / Wächter (2006) EURODATA – Student mobility in European higher education, Bonn: Lemmens Verlags- & Mediengesellschaft: p.84.

⁶ In Germany, for example, current data shows that 12.1% of students in Germany are foreign. Of these, 2.9% have had prior education in Germany and are therefore not really mobile, leaving the share of genuine incoming mobile students at 9.2%. See: DAAD (2009): Wissenschaft weltoffen. Bielefeld: W.Bertelsmann Verlag: p. 8.

choice between more feasible operational definitions, the one that seems most apt for capturing this connection should be preferred.

The status as a mobile student is dependent on the crossing of a border motivated by education and is not dependent on formal resident status in the reporting country of destination. The status as a mobile student is maintained for as long as continued education at the same level of education lasts. This may involve more consecutive educational programmes with no or only minor gaps in between. Gaps should be less than one year. All tertiary programmes are considered as belonging to the same level. A mobile student entering an ISCED 5A programme at the tertiary level stays a mobile student if upon graduation the student continues in an ISCED 6 programme in the same destination country.

In destination countries which require a visa for entering for study purposes, the initial identification of mobile students can normally be based on the visa permits. However, many countries do not require student visas. For example, there are no visa requests for students, as for all individuals, within the European Union and the broader European Economic Area, and this makes it impossible to derive numbers of mobile students from visa statistics. In acknowledgment of such specificities, countries have the freedom to implement the operational definition of mobile students according to how each country can capture the definition above in the best way.

Two operational definitions are widely used to identify mobile students and their country of origin:⁷

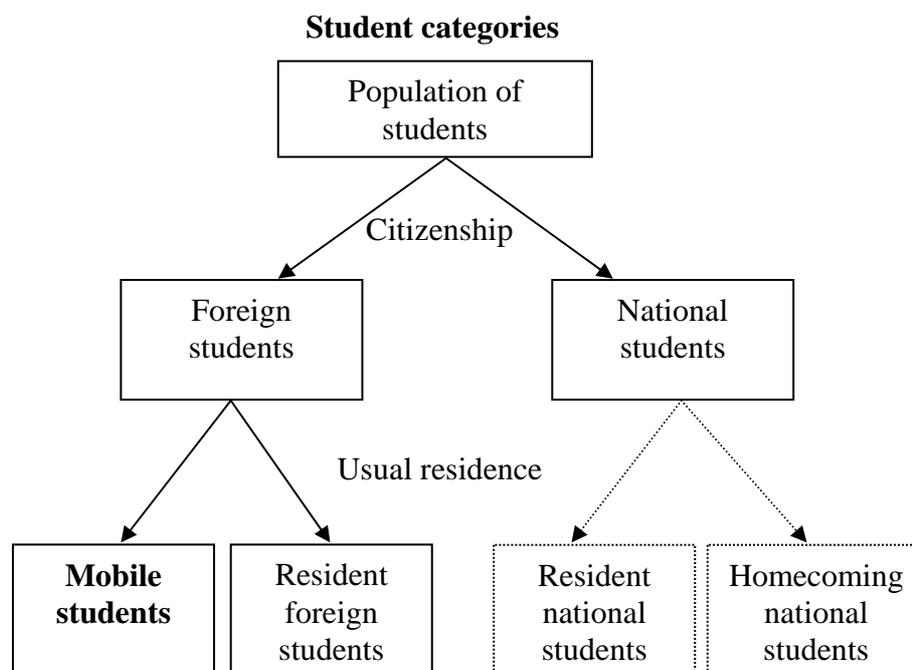
- Students who are not usual residents of their country of study, i.e. those who have recently moved to the destination (host) country from somewhere else (e.g. not necessarily their country of permanent residence or country of birth but this would most often be the case).
- Students who received their prior qualifying education in another country, indicating that they have crossed a border.

(1) Country of usual residence (before crossing borders), which can be captured by:

- Postal address when students are applying for enrolment. The information can be collected from institutions and students
- Formal resident status i.e. student visa. The information can be collected from institutions and registers.
- Immigration registers using date of immigration in relation to enrolment - start of education within one year from date of immigration.

Note the two dimensions or criteria in the classification of mobile students as illustrated below. Only foreign students that have crossed a border (who are not usual residents) are considered mobile students.

⁷ It should be noted that a present (data for 2007), not all countries (and not all EU countries) can provide data on genuinely mobile students by either definition.



(2) *Country of prior education, which can be captured by:*

- Direct information on education prior to and qualifying for the education now studied. All students have to document their qualifying education for entering the requested level of education. Information can be collected from institutions and students.

NB: Upper secondary education (ISCED3A) is accepted as generally qualifying for ISCED 5.

- Inference (indirectly) using student registers: tracking national educational career to establish that the qualifying education is not national - also using population registers to retrieve country of origin.

Not all the above approaches readily yield the country of origin of mobile students, which is preferred, but country of citizenship may be used as a proxy.

All students are treated according to the same criteria, usual residence or prior education, and citizenship. As a result:

- Homecoming national students (students who are citizens of the reporting country but have their usual residence abroad or who received their prior qualifying education abroad) should not be classified as mobile students. Such students as citizens of the reporting country will be entitled to permanent residence of that country.
- Students at campuses of foreign-owned institutions in a reporting country should be classified as mobile students according to the same criteria as students enrolled at its domestic educational institutions.
- Commuting students crossing a border on a daily basis should be classified as mobile students according to the same criteria: usual residence abroad or prior education received abroad.

- Students involved in distance learning/E-learning across borders should also be classified as mobile students according to usual residence abroad or prior education received abroad.

6. CREDIT STUDENT MOBILITY

Statistics on credit mobility are currently not collected by official statistics at international level. Nevertheless, a survey conducted by the OECD in the context of the UOE data collection revealed that countries do have some statistical information available nationally on credit mobility and that countries are interested in developing international comparable statistics on this type of mobility.

A definition of credit mobility was proposed by ACA (Academic Cooperation Association) in their study EURODATA⁸:

Credit mobility is temporary mobility in the framework of ongoing studies at a "home institution" for the purpose of gaining credit. After the mobility phase, students return to their "home institution" to complete their studies. Credit mobility is mostly for study, but it can also take other forms, such as traineeship.

As statistics on credit mobility are still not harmonised at international level, there is more flexibility in defining its statistical concept and choosing the data collection tool. Graduates completing a joint degree programme should be considered as being part of credit mobility.

The best candidate for a data collection tool of statistics on credit mobility is the UOE. The national sources feeding the UOE data collection are generally administrative sources and exhaustive (non-sampled) surveys of education institutions.

In principal, higher education institutions should know if a student enrolled with them is following courses in order to gain credit to be used in a different institution, and which institution it is. Also, if credit gained abroad is taken into account by the institution, it should know which of its graduates have gained credit abroad.

As the source of information in the UOE on students and graduates are generally educational institutions, and the institutions should have information on credit gained abroad, statistics on credit mobility can be collected through the UOE.

On the other hand, in order to assure that it is feasible to collect data on student credit mobility via the UOE, the definition and delimitation of the relevant periods abroad must be based on information available and registered at the educational institutions. For example, study periods abroad that are not recognised by home institutions cannot be included in the statistical definition of credit mobility because it cannot be assured that information on those periods will be available in the institution (they would only be available from the student).

⁸ EURODATA – Student mobility in European higher education / Maria Kelo / Ulrich Teichler / Bernd Wächter (eds.) – Bonn: Lemmens Verlags- & Mediengesellschaft, 2006.

7. OTHER SHORT-TERM STUDENT MOBILITY

“Other short-term mobility” is currently not compiled by official statistics at international level. Also, there are no definitions of what should be included besides credit mobility when it comes to short-term mobility. Issues such as what kind of activities should be included and for how much time would need to be defined.

This mobility often takes place without the knowledge of the educational institution where the student is making his/her studies. For that reason the current sources for diploma mobility and possibly for credit mobility cannot be used. The only way to capture this type of mobility is through individual surveys, either of students or graduates.

Eurostudent is such a survey where some types of other short-term mobility are captured for around 25 countries in Europe on a comparative basis. Eurostudent collects information on the number of students that participated in other study-related activities during higher education studies. It includes as activities language courses, internship / work placement and other (summer-school, study tour, etc).⁹

The fact that information on other short-term student mobility has necessarily to be collected through student/graduates surveys poses particular problems. In particular, in order to be combined with diploma and credit mobility the populations need to be aligned. For example, if other short-term student mobility is collected through general population surveys, it will not capture graduates that have moved outside the country after they have graduated.

8. MEASURING INTERNATIONAL STUDENT MOBILITY

The distinction between the several types of student mobility, diploma, credit and other short-term mobility, is a fundamental one because it impacts the data collection methods. However, there are other distinctions that are also important, even if they are only relevant for the definition of the indicators. That's the case of the distinction between inbound and outbound mobility, the distinction between the different regional scopes that can be considered (worldwide or European Higher Education Area) and the distinction between stocks and flows (i.e. students enrolled and graduates).

8.1. Inbound vs. Outbound

Mobility is an attribute of a student. A student is mobile if he/she crosses a national border for the purpose or in the context of his/her studies. So, measuring student mobility should be as simple as counting the number of mobile students. The overall mobility rate in the world can be measured by the percentage of all higher education students in the world that are mobile. However, apart from this unique situation where we measure mobility at worldwide level, if we consider a smaller regional unit (e.g. a country) we have to take into account two other attributes of the mobile student, his/her country of origin and his/her country of destination.

⁹ Orr / Schnitzer / Frackmann (2008) Social and Economic Conditions of Student Life in Europe (EUROSTUDENT III), Bielefeld: W.Bertelsmann Verlag: p. 129f.

The country of origin is the country from where the student moves. This can be identical to the country of the student's nationality, or to the country of permanent/prior residence or prior education. The country of destination is the country to where the student moves.

We talk about inbound mobility when we refer to a specific country as the country of destination. Inbound mobility for a specific country refers to the students that moved to that country in order to study. It is usually measured by the ratio between the mobile students studying in the country and the total number of students studying in the country.

Inbound mobility measures are indicators of the attractiveness of the country as a destination of international students. They are also indicators of market share of international education services (in particular when international students pay fees in the country of destination). Finally, they can be indicators of the burden for the country (in particular when higher education is mostly funded by the government).

We talk about outbound mobility when we refer to a specific country as the country of origin. Outbound mobility for a specific country refers to the students that moved out of the country in order to study. It can be measured by the ratio between the number of students having the country as origin and the total student population of the country of origin.

Outbound mobility measures are indicators of possible insufficiencies in the country of origin (especially via diploma mobility) or of a pro-active policy for students to acquire international experience during their higher education studies (especially via credit mobility).

8.2. Regional scope

There are two ways in which the regional scope enters into consideration when designing international mobility indicators.

The first one was mentioned before. We can compute mobility indicators for the whole world, for a specific country or even for a group of countries. For example, one can conceive inbound or outbound mobility indicators for the European Higher Education Area. In this case inbound mobility for the EHEA would refer to the students that moved into one of the 46 countries taking part in the Bologna Process in order to study. Likewise, outbound mobility for the EHEA would refer to students with their origins in a higher education system of the EHEA going abroad.

The second way in which regional scope has to be considered is as the delimiter of inbound or outbound mobility flows. In fact, if we have an inbound indicator we have to define a regional scope for the origin of the students. If we have an outbound indicator we need to define a regional scope for the destination of the students.

For the measurement of the international student mobility in the scope of the Bologna Process, the two most obvious alternatives for the regional scope of inbound and outbound indicators are worldwide and the EHEA. Of course, other regions can be considered. For example, one might be interested in knowing what the inbound mobility rate into EHEA from Asia is.

8.3. Students enrolled vs. graduates

There are currently two quantities on mobility that are collected in the UOE. One is the number of students that have been enrolled during a certain (school) year of reference and that are considered mobile. The other is the number of graduates in a certain year of reference that are considered mobile students.

The two are obviously related. A "mobile graduate" was a mobile student while he/she was still completing the programme. However, statistically they are really measures of different things and, in the case of credit mobility they give rise to very different numbers¹⁰.

In the case of diploma mobility, the number of mobile students in a certain reference year refers to a stock of persons who moved in the past. It does not give an indication of the variation of the mobility phenomenon for that year. Mobility might have dropped considerably in a certain year, but that will not readily be seen in the stock of the number of mobile students. It also ignores the fact that some of the students will drop-out and do not finish the higher education programme. On the other hand, graduates only count those that had an experience abroad and managed to finish the programme. The percentage of mobile students will be different from the percentage of mobile graduates in case the completion rate of mobile students is not the same as non-mobile students.

In the case of credit mobility, the number of mobile students refers only to students that have had an experience abroad in a certain year and not to the stock of students that at a certain moment in time are "internationally experienced" students. The number of students gives an indication of the evolution of the mobility in a certain period, while the number of graduates gives an indication of how many students have had the experience.

9. STATISTICAL INDICATORS ON INTERNATIONAL STUDENT MOBILITY

The benchmark indicator to be used to measure the attainment of the 20% target defined in the Communiqué will be the highlight indicator. However, it will not make other indicators superfluous, as it is necessary to understand how countries are achieving the benchmark and what makes other countries less successful. Also, there are other objectives mentioned in the Communiqué, such as balanced mobility and improved participation rate from diverse student groups.

9.1. Benchmark indicator

There are several elements in the target for international student mobility adopted in the Leuven / Louvain-la-Neuve Communiqué that give an indication of how a statistical indicator for measuring its attainment should be built. These are:

- The target refers to graduates and not to the stock of mobile students enrolled;

¹⁰ For example, if the percentage of exchange students in every year is **3%**, and if students participate only once in an exchange programme during their studies, the percentage of graduates that have been abroad during their studies would be **12%**, assuming that programmes take on average 4 years.

- The target does not restrict the scope to long-term mobility and therefore short-term mobility is implicitly included;
- The target seems to refer to outbound mobility;

However, there are other relevant elements for the definition of the statistical indicator that are not clearly defined in the target, such as:

- The types of short-term mobility to be considered. Only credit mobility or also other short-term types of mobility?
- The regional scope. Being an outbound indicator, which destinations should be taken into account, the whole world or other countries of the EHEA?
- The level of education (cycle) at which it should be measured. Bachelor, Master or both?
- The period of studies of the graduate during which the short-term mobility should have taken place. During any higher education studies or only during the cycle at which students are graduating?

9.1.1. Scope in terms of types of mobility

It is proposed that the benchmark should combine both long-term (diploma) and short-term outbound mobility to present one value for overall outbound mobility.

Concerning the scope of short-term mobility, only credit mobility is proposed to be included in the benchmark indicator. Other short-term mobility needs to be collected from a different type of statistical collection tool, namely a survey on individuals. The alignment of data from such a survey with data from educational institutions is problematic. For this reason other short-term mobility is proposed to be excluded from the benchmark indicator.

It is further proposed that there will be no set minimum threshold for the number of credits for the benchmark data. This essentially leaves the onus with the higher education institution to determine whether a study-related period abroad is recognised with credits for the home programme.¹¹

9.1.2. Regional scope

The regional scope of destination of the outbound mobility is not clearly defined in the 20% target. Supposedly it should include all destinations. However, for diploma mobility it is not possible because there isn't data available for every possible country of destination. In fact, it is an outbound mobility indicator and the data is collected in the country of destination. It means that for diploma mobility we are limited for the

¹¹ However, an attempt will be made to collect information on the number of graduates who have been abroad to obtain credit by the number of credits accumulated abroad. This information will help to make an assessment of the impact in the indicator of the definition of a minimum threshold of credit to consider credit mobility.

definition of the regional scope by the countries of destination for which data is available.¹²

Nevertheless, diploma outbound mobility towards countries outside of the EHEA can also be the result of the lack of attractiveness of the higher education systems in the EHEA. An indicator that intends to measure the extent to which students have the opportunity to study abroad should filter out the effect of an eventual lack of attractiveness of the EHEA. For this reason outbound diploma mobility towards outside the EHEA should be excluded from the benchmark indicator.

On the other hand, credit mobile graduates can in principle be collected from the country of origin, and as such all destinations in the world can be taken into account.

The proposed regional scope for the benchmark indicator differentiates between diploma and credit mobility:

- For diploma mobility, only graduates completing a programme in a country of the EHEA are included;
- For credit mobility, graduates who have had periods abroad in any country of the world are included.

9.1.3. Level of education (cycle)

The statistics on graduates include all students completing any tertiary programme. These might be 1st cycle programmes, 2nd cycle programmes, 3rd cycle programmes, long programmes leading to a 2nd cycle qualification or even short programmes below 1st cycle qualification. The indicator could be computed for each of the three cycles alone or combining more than one. For example, the indicator could be computed considering any tertiary programmes leading to a qualification up to 2nd cycle.

It is proposed that all levels of tertiary education including the 3rd cycle are included. Due to the fact that many doctoral studies do not assign credit points to their students, credit mobility of 3rd cycle programmes will not be included.

9.1.4. Study period of reference during which credit mobility takes place

The 20% target defined in the Communiqué refers to a study or training period abroad that should have been taken by graduates, but it does not specify when. Graduates can have had this period abroad during lower levels of education (secondary education) or during higher education studies. The study period of reference can also be during the programme the student is completing.

The most relevant study period of reference seems to be at the end of all higher education studies. However, that might not be feasible from the statistical point of view because the education institution might not be aware of periods abroad earning credit for the student

¹² Nevertheless, the UOE is a worldwide data collection and data is available for the EU member-states, OECD member-states and partner countries. Data will also be collected from the countries participating in the Bologna Process and not providing data for the UOE. Therefore, most of the main destinations of students from Europe should be available.

in previous programmes. Therefore, the benchmark might need to take into account only credit mobility during the programme the student is completing.

9.1.5. Combining diploma and credit outbound mobility at graduates level

Combining diploma and credit mobility with different regional scopes in one single indicator presents a particular challenge. In order to do so, the framework illustrated in the graph below will be used.

The framework considers all graduates completing a higher education programme anywhere in the world. Graduates are then classified according to several criteria:

- Their origin (if it is a country in the EHEA or not);
- Their destination (either the EHEA or another region in the world);
- If they are graduating in their country of origin or not (if they are not they are diploma mobile);
- If they have been abroad for a period that has rendered some credit for the programme they have just completed.

The application of these criteria divides the graduates in 9 different groups. For example, group A corresponds to EHEA graduates that are not mobile (e.g. a graduate from Germany completing a programme in Germany that has not been abroad for getting credit). As another example, group G corresponds to credit mobile EHEA external graduates (e.g. a graduate from Argentina completing a programme in Portugal that has been abroad in Brazil for getting credit).

The total number of graduates that have the EHEA as origin is composed of the sum of groups A to E ($A + B + C + D + E$). The total number of graduates completing a programme in the EHEA is composed of groups A to D and F to G ($A + B + C + D + F + G$).

Outbound diploma mobility for the EHEA as a whole, not counting mobility within the EHEA, is composed of the graduates in group E. On the other hand, total outbound diploma mobility, considering the mobility within the EHEA, is composed of $C + D + E$.

With this framework in mind, it is possible to select the groups of interest in the definition of the benchmark indicator. Diploma mobility within the EHEA of students that have not been abroad for credit is composed of group C. Credit mobility of any graduate completing a programme in the EHEA, whatever its origin is composed of groups B, D and G. Therefore, according to the proposal presented in this document the groups of interest for the benchmark indicator are $B + C + D + G$. These are the mobile graduates that would be taken into account for the measurement of the progression towards the 20% target.

The total population of interest is the total number of graduates completing a programme in the EHEA ($A + B + C + D + F + G$).

The benchmark indicator is then defined as:

$$\text{Benchmark indicator} = \frac{B + C + D + G}{A + B + C + D + F + G}$$

The indicator defined this way consists of the percentage of those graduating in the EHEA that coming from the EHEA graduated in a country different from their origin or have spent a period abroad rendering credit for the programme they have completed.

9.1.6. Determining the contribution of each country to the benchmark indicator

The target of 20% for international student mobility was defined in the Leuven and Louvain-la-Neuve Communiqué for the EHEA as a whole. Nevertheless, in order to gain a better understanding of the result obtained and for countries to benchmark themselves, it is desirable that an indicator is defined at country level that gives an indication of the contribution of each country to the overall result for the EHEA.

In the case of credit mobility, the contribution should come from the country where the graduate is completing the programme. In the case of diploma mobility, the proposal is to consider the country of origin as the contributor. In the case where a EHEA graduate has another country of the EHEA as origin and has been abroad for credit, he or she can be counted as mobility of the country of origin, the country of graduation, or both.

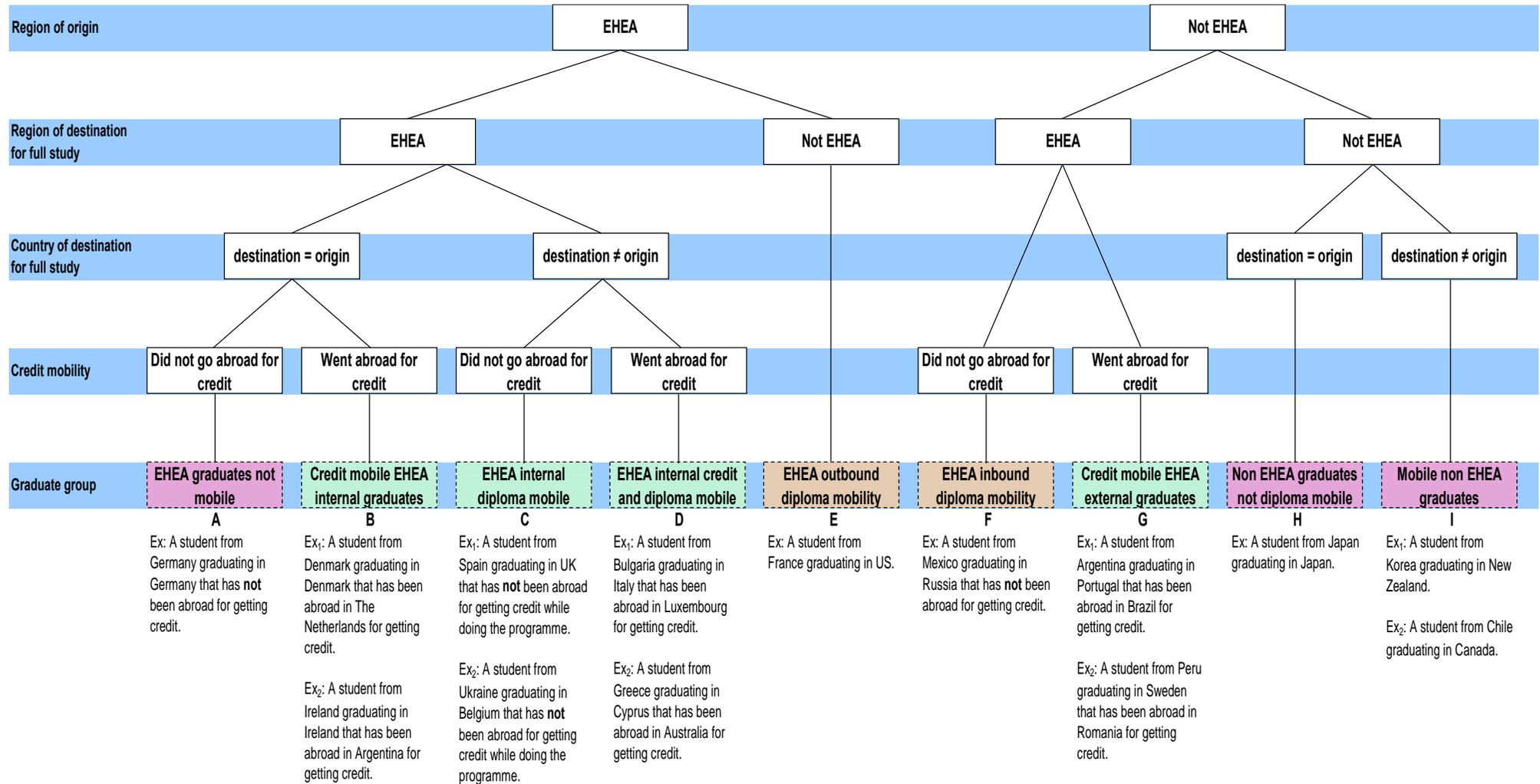
9.1.7. Data availability

This is supposedly the indicator that is the closest to the 20% target as it was defined in the Communiqué. However, the data currently collected at international level does not allow its computation, for two reasons:

- Data on diploma mobility is collected from the country of destination. It means that in order to have information for sub-population e for each country, the number of graduates has to be collected by country of origin. Currently the number of students enrolled is collected by country of origin, but not the number of graduates.
- Number of graduates that have spent some time abroad (credit mobility) is not collected. Being collected it has to distinguish those with country x as origin from the ones that are inbound diploma mobile graduates.

The decision to adopt the benchmark indicator as defined above has to be conditional on the availability of this data at national level.

Grouping of the graduates completing a higher education programme in a certain year



9.2. Supplementary indicators

The concern with mobility in the Bologna Process goes beyond the target of 20% of graduates with a study or training period abroad. The Communiqué of the Leuven / Louvain-la-Neuve ministerial conference, in its paragraph 19, states that mobility should also lead to a more balanced flow of incoming and outgoing students across the EHEA and that the aim is for an improved participation rate from diverse student groups. It is here proposed that progress in these goals is followed-up by statistical indicators.

The strategy for the European Higher Education Area in a global setting defines as one of the core policy areas the promoting of European Higher Education to enhance its worldwide attractiveness and competitiveness. An increase of the EHEA attractiveness can be measured through indicators and one is proposed in this document.

Finally, the benchmark indicator needs to be complemented with more detailed indicators that provide information that can guide policy making.

9.2.1. *Distinguishing between diploma mobility and credit mobility*

The benchmark indicator combines both diploma and credit mobility. However, these are two very different types of mobility with different drivers and to be addressed potentially with different policy tools. Therefore the first set of supplementary indicators should be a specific one for diploma mobility and another for credit mobility.

The data source would be the same as for the benchmark indicator. Therefore it is also dependent on the possibility of collecting the required data from national statistical authorities.

9.2.2. *Other short-term mobility*

Together with the distinction between diploma and credit mobility, other short-term mobility has also the expected desirable effects of other types of mobility (diploma and credit). In fact, the 20% target defined in the Communiqué for student mobility refers also to training periods abroad, which are part of other short-term mobility.

The source of this indicator would be Eurostudent.

9.2.3. *Mobility by socio-economic background of the students*

One of the declared goals in the Leuven / Louvain-la-Neuve Communiqué is the improved participation from diverse student groups. The indicator proposed is computed with data collected by Eurostudent and it is based on the effect of parental education on mobility.

9.2.4. *Balance between inbound and outbound*

This indicator provides an assessment of the balance between incoming students and outgoing students, one of goals declared in the Leuven / Louvain-la-Neuve Communiqué. It is defined as the difference between the number of incoming students and the number of outgoing students divided by the total domestic student population.

The indicator can be computed with the number of students enrolled or with the number of graduates. The indicator based on the number of students enrolled can be computed with the information currently available. The information required to compute the indicator based on graduates is not available, but it would be available if it is collected for the benchmark indicator.

9.2.5. *Regional balance*

Balanced mobility is not only between inbound and outbound, but also between countries. The 20% target to be reached by 2020 is defined for the EHEA as whole, but the Leuven / Louvain-la-Neuve Communiqué calls for "a more balanced flow (...) across the EHEA".

An assessment of the balance between countries can be made through a graphical analysis of the benchmark indicator for the several countries.

9.2.6. *Measuring the level of integration of the EHEA*

This indicator intends to provide an assessment of the level of integration of the EHEA. The proposed indicator is defined as the number of intra EHEA mobile students (or graduates) divided by total number of students from EHEA studying in EHEA.

9.2.7. *Market share of EHEA in worldwide mobile students*

The purpose of this indicator is to provide an assessment of the success of the strategy "European higher education in a global setting" in terms of attractiveness and competitiveness of the EHEA.

The proposed indicator is based on diploma mobility and is defined as the percentage of incoming mobile students enrolled studying in the EHEA and OECD countries member-states and partner countries, choosing the EHEA as destination.¹³

This indicator can also be computed for the individual countries separately.

¹³ The OECD member states and partner countries which are not part of the EHEA are: Australia, Canada, Japan, Korea, Mexico, New Zealand, United States, Brazil, Chile, Israel and the Russian Federation.

10. GENERAL PROPOSAL LEADING TO THE BOLOGNA IMPLEMENTATION REPORT 2012

Although policy interest in mobility statistics is very strong, the current statistical situation requires further development before the full expectations of policy for comprehensive, reliable and informative statistics can be fully met in this field. This document has made a proposal for the Bologna benchmark, but has also highlighted the current limitations. At this present time, the BFUG is one of a number of bodies looking at the issues. The European Commission, Eurostat and the OECD are working on improvements. Additionally, a special study commissioned by the European Commission is being carried out by a consortium led by ACA (Academic Cooperation Association). This project is a follow-up to the influential Eurodata report from 2006 and will report its findings in October 2010.

It therefore appears most feasible to make the following recommendation for the period leading up to the Bologna Implementation Report 2012:

- The BFUG working group on mobility should keep itself informed and take account of discussions and developments within the above-mentioned fora and working groups.
- The data providers should work on indicators using the sources mentioned in section 8, above. If the envisaged data for the indicators is not yet available, alternatives can be used.