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Tertiary Student Mobility in the European Union (EU) vs. that in Japan

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Abstract — After providing a perspective of global tertiary student migration, we explain the organisation of the student mobility at the higher education (HE) level in the European Union (EU) with the Erasmus, Tempus and Erasmus Mundus programmes and their associated tools, ECTS, Tuning, networking (particularly that in physics), etc. The mobility at Ghent University is given as an example for more detailed implementation. The mobility strategy up to 2020 for the European Higher Education Area (EHEA) is then given. Finally, the mobility in Japan is treated in general and in particular using the implementation example of Hokkaido University.

(Revised on 10 December, 2012)

During the last decades the number of tertiary students studying abroad, i.e. enrolled outside their country of citizenship grew at an unprecedented rate from 0.8 million in 1975 till 4.1 million in 2010, roughly a growth by a factor 5 in 35 years (OECD 2012). While a large number of the traditional host countries are seeing the numbers of migrating students continue to rise, newly emerging host destinations in the developing world have entered the competitive Higher Education (HE) market and are re-mapping the unidirectional flow of the global talent. We refer to the OECD study (OECD 2012) for detailed data. The UNESCO Institute for Statistics UIS has recently launched an online interactive map, visualising both incoming and outgoing tertiary-level student mobility flows for over 200 different countries (UNESCO 2012).Unfortunately no aggregation of data into mobility flows for the EHEA, the European Union (EU) or 'Europe' is available in this tool. A recent and very interesting 'policy neutral' and 'most likely' forecast of global trends in international tertiary student migration for the coming decade is provided by the British Council (British Council 2012). Remarkable is the prospection of a negative number for global outbound mobile tertiary students by origin market growth of ca. - 10,000 in the case of Japan.

1. Mobility in the European Union (EU)

Both the mobility of students and of staff at Higher Education Institutions (HEIs) has been almost entirely driven by the European Commission's (E.C.) programmes Erasmus, Tempus and more recently Erasmus Mundus.

1.1 Erasmus[(1)] programme

Mobility of students in the European Union (EU) countries has been tremendously influenced by the world's most successful Erasmus[(2)](***EuR****opean*

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*Community **A**ction **S**cheme for the **M**obility of **U**niversity **S**tudents*) Programme or Project (European Commission 2012a). This EU's flagship education and training programme was established in 1987, continuing the 1981-1986 pilot student exchanges. The programme was incorporated with other initiatives from 1994 till 1999 in the *Socrates Programme*, from 2000 till 2006 in the *Socrates II Programme* and from 2007 till 2013 in the *Lifelong Learning Programme*. From 2014 on it will be part of the *Erasmus for All* (provisional title) initiative of the EU. In the first year only 3,244 students participated. In the year 2007, i.e. after twenty years of existence, already two million students benefitted from Erasmus grants. Across the 33 countries involved in the programme, currently 4,000 HEIs are participating and after 25 years of operation almost three million will have experienced what it means to do an Erasmus term. The EU has allocated around €3 billion for Erasmus for the period 2007-2013. An overriding aim of the programme is to help create a '*European Higher Education Area*' (EHEA) and foster innovation throughout Europe. In addition to exchange actions ('transnational mobility'), ERASMUS helps HEIs to work together through intensive programmes, networks and multilateral projects. Thanks to all these actions, the ERASMUS activity has become a driver in the modernisation of HEIs and systems in Europe and, in particular, has inspired the establishment of the Bologna Process (BP)(1999-2010) and its successor the EHEA (2010-2020).

Many studies show that a period spent abroad not only enriches students' lives in the academic and professional fields, but can also improve language learning, intercultural skills, self-reliance and self-awareness, which increases the students' employability and job prospects. One participant expressed it as follows: "*Erasmus is a lot more than a studying experience. For me it is a way to look at the world with new eyes, to feel and discover new emotions and learn what is not written in the textbooks*."

The actions supported by the Erasmus programme are financial help for students when studying abroad or doing a traineeship abroad accompanied by the eventual linguistic preparation. The HEIs are supported in their intensive programmes, their academic and structural networks and by possible multilateral projects. In addition to exchange actions ('transnational mobility'), Erasmus helps HEIs to work together through intensive programmes, networks and multilateral projects. Hence Erasmus has inspired the establishment of the Bologna Process. HEIs which want to participate must have an Erasmus University Charter to guarantee the quality of the programme by setting certain fundamental principles.

The E.C. is responsible for the overall programme implementation; its Directorate-General for Education and Culture[3] coordinates the different activities. So called "decentralised actions" that promote individual mobility are run by national agencies in the 33 participating countries. "Centralised" actions, such as networks, multilateral projects and the award of the Erasmus University Charter, are managed by the EU's Education, Audiovisual and Culture Executive Agency[4] (EAC EA).

1.2 Tempus[5] programmes

Tempus is a programme of the European Union, established in 1990, with the aim to support the modernisation of HE systems in 27 partner countries in Western Balkans, Eastern Europe and Central Asia, North Africa and the Middle East. The programme is run mainly by co-operation or joint projects between HEIs in the EU and partner countries as well as boosting quality assurance and management of HEIs. Also possible are structural measures to develop and reform HEIs and systems in partner countries. Partnerships consist of consortia of organisations including HEIs, businesses, ministries, NGOs, and other organisations working in HE, in both EU and partner countries.

The latest phase of the programme, Tempus IV, started in 2008 with an annual budget of around €50 million. Individual projects receive funding of between €0.5 and 1.5 million. The EU's EAC EA is responsible for the management of all Tempus actions.

1.3 Erasmus Mundus[6](EM) Programmes

Erasmus Mundus is a HE co-operation and mobility programme that aims enhancing the quality of European HE and promoting dialogue and understanding between people and cultures through co-operation with Third-Countries (i.e. non-EU countries in the jargon of the E.C.). In its first phase it started in 2004-2008 and is presently in the 2009-2013 period. In addition, it contributes to the development of human resources and the international

co-operation capacity of HEIs in Third Countries by increasing mobility between the European Union and these countries.

In Action 1 HEIs that wish to implement joint (master or doctoral) programmes at postgraduate level or in Action 2 those that wish to set-up inter-institutional co-operation partnerships between universities from Europe and targeted Third-Countries can apply for support. Individual students, researchers and university staff who wish to spend a study / research / teaching period in the context of one of the above mentioned joint programmes or co-operation partnerships can apply via Action 1 and Action 2. Now Action 3 can support any organisation active in the field of HE that wishes to develop projects aimed at enhancing the attractiveness, profile, visibility and image of European HE worldwide.

The total programme budget for the period 2009-2013 is approximately €1 billion. The Programme Guide (European Commission 2011) contains all general information and the conditions on how to apply for funding through Erasmus Mundus. In addition, regular Calls for Proposals are published for the specific actions on the E.C.'s website.

Thirty six individual assessments of final reports submitted by first generation Erasmus Mundus Master Courses (EMMC), selected in 2004 and 2005, were analysed (European Commission 2012b), as well as the combined Cluster on Sustainability and Recognition of Degrees and Joint Degrees (European Commission 2012c), aiming to identify existing good practices, as well as difficulties faced by EM study programmes. Examples of best practices presented in the first report cover areas such as programme management, quality assurance, engagement of external actors, promotion and recruitment, and funding. Partners in large consortia risk under-enrollment at a certain stage and a graduate certificate with multiple seals for a single study period tends to invite more suspicion rather than trust from potential employers. Despite the reputation of the Erasmus Mundus Programme, there is no such a thing as an 'Erasmus Mundus Degree' awarded by a centralised 'authoritative' body. Differences in national legislations, institutional administrative regulations, and in academic 'scoring cultures,' have prevented the award of joint degrees for 19 out of the 36 first-generation EM consortia. Finally, both reports express doubt about the sustainability of EM study programmes without the funding support of the European Commission.

1.4 Information databases

The Eurydice[7] Network provides information on and analyses of European education systems and policies. As from 2012 it consists of 38 national units based in all 34 countries participating in the EU's Lifelong Learning programme (EU Member States, EFTA countries, Croatia, Serbia and Turkey). It is co-ordinated and managed by the EU's ECA EA in Brussels, which drafts its studies and provides a range of online resources.

Whether you are looking for understanding a specific education system or for analysing an education issue at European level, Eurypedia[8] will provide you with the most exhaustive information on 38 national or regional school and university systems.

1.5 Supporting tools

1.5.1 ECTS: European Credit Transfer and Accumulation System

ECTS was developed by the E.C. in 1987 in order to provide common procedures to guarantee academic recognition of studies abroad. It is a student-centred system based on the student workload required to achieve the objectives of a programme, objectives preferably specified in terms of the learning outcomes and competences to be acquired.

The ECTS system (European Commission 2009) is based on the study programmes and students achievement, on mutual agreement between the partner institutions and the student and on the use of ECTS credits (to indicate student workload, not only for exchange students but also for the home students). Credits are allocated to all educational components of a study programme (such as modules, courses, placements, dissertation work, etc.) and reflect the quantity of work each component requires to achieve its specific objectives or learning outcomes in relation to the total quantity of work (60 credits) necessary to complete a full year of study successfully.

Full academic recognition is a *conditio sine qua non* for student mobility in the framework of the Erasmus programme: the study period abroad (including examinations or other forms of assessment) replaces

a comparable period of study at the home institution (including examinations or other forms of assessment), though the content of the agreed study programme may differ. The learning agreement covers the programme of study to be taken and the ECTS credits to be awarded for their satisfactory completion, committing home and host institution, as well as the student. The transcript of records shows students' learning achievements in a way which is comprehensive, commonly understood and easily transferable from one institution to another. The proof of recognition shows students that the study abroad period has been recognised in the home institution.

A very similar system of '*Crédito Latinoamericano de Referencia*' (CLAR) is under development for the Latin American continent. Recently a time scale has been established for setting up a common credit transfer scheme between several South East Asian and neighbouring countries (Pham 2012), which will be crucial for encouraging student mobility within Asia. This would be fully in the line of the *Asia-Pacific Economic Cooperation* (APEC) calling for building an Asia-Pacific HE space that would include South East Asian nations, India, China, Japan and South Korea, as well as Pacific Rim countries such as the US, Canada, Australia and New Zealand (Sharma 2012).

1.5.2 Academic Networking

Erasmus multilateral projects (at the start in 1996 called: 'Thematic Networks') provide support for co-operation of HEIs among themselves or together with other relevant stakeholders. (i) Innovative projects focusing on themes not extensively covered by projects already being funded under this action are particularly encouraged as well as projects co-operating between HEIs and partners from outside academia: enterprises, professional organisations, chambers of commerce, social partners or local/regional bodies. (ii) Social dimension projects support actions aiming at increasing access to and improving the social dimension in HE by raising the completion rates of underrepresented groups and non-traditional learners and by promoting gender balance. (iii) Removal of barriers projects under this priority support activities to develop innovative strategies (e.g. "mobility windows" in the curricula) to boost mobility (incl. virtual mobility) or ways to remove obstacles to mobility in HE. (iv) Projects aiming at curriculum reform (increasing employability by e.g. transversal skills), governance reform (quality assurance e.g. of cross-border education; enhancing autonomy and accountability; promoting transparency; stringent management) or (performance-based) funding reform support activities in line with the modernisation agenda for HE. (v) Excellence and innovation in HE projects support activities addressing the knowledge triangle of education, research and innovation.

HEIs holding a full duration Erasmus University Charter (with third country participation as an additional option), enterprises (in particular SMEs), professional organisations, chambers of commerce, social partners and local / regional / national bodies and associations and other relevant organisations active in relation to HE can apply for a (min. 2 years & max. 3 years) grant with maximum EU contribution to projects of 400.000€ (i.e. 75 %). There is a yearly call for proposals. Applications are to be filed with the EAC EA.

1.5.3 'Tuning'

"*Tuning Educational Structures in Europe*"[9](for short 'Tuning') started in 2000 as a project to link the political objectives of the Bologna Process and at a later stage the Lisbon Strategy to the HE sector. Over time 'Tuning' has developed, overarching a broad spectrum of disciplines (from agriculture to theology), into a process, an approach to (re-)designing, develop, implement, evaluate and enhance quality of 1st, 2nd and 3rd cycle degree programmes. The 'Tuning' outcomes as well as its tools are presented in a range of 'Tuning' publications, which institutions and their academics are invited to test and use in their own setting. The Tuning approach has been developed by and is meant for HEIs. The Tuning methodology has been spread over other continents. A *Tuning Latin America project*[10]: *Education and Social Innovation* 2011-2013 continues the debate initiated with the first phase of the project, carried out between 2004 and 2007. The Lumina Foundation[11] brought Tuning to the United States in 2009. The *Tuning Russia*[12] project runs from October 2012 till October 2013. The *Tuning Africa*[13] project started in the very beginning of 2012, will run over 18 months and will cover five subject areas. Hitotsubashi University started in 2012 a project *Tuning Japan*[14] in Social Science.

A series of Tuning events, bringing together the

different Tuning branches, were held in Brussels in November 2012. The presentations of the conference '*Tuning in the World* on 21 November and of the High-level International Policy Forum: "*Higher Education and Employability: Current Policies and Future Trends*" on 22 November are downloadable from the Tuning websites and the one by the E.C.(http://ec.europa.eu/education/external-relation-programmes/tuning_en.htm)

1.6 The case of physics as an example of networking

We will only present a summarized and updated version of the historical account (Ferdinande 2011) which has been published not so long ago.

Physics does not belong to the really first Erasmus exchanges of 1987 and was also not one of the pilot disciplines building the ECTS system. However, in 1992 a successful '*European Mobility Scheme for Physics Students*' (EMSPS) was established. The scheme was financially supported by an E.C.*'s Inter-University Co-operation Project* for the EC and EFTA partners but also by five Tempus *Mobility Joint European Projects* for Hungary, Poland, Lithuania, Latvia and Romania. In 1995 a broad thematic evaluation conference (Ferdinande 1995) was held in Ghent in the frame of the Socrates programme and treated curriculum development, intensive programmes, mobility and educational resources.

The meeting gave the start to the *European Physics Education Network* (EUPEN). The network was able to assemble as much as more than 100 physics departments in more than 30 countries. The activities were supported from 1996 till 2003 in the frame of the Erasmus Thematic Network Projects programme. Annual assemblies, better known as EUPEN General Fora, discussed: (i) '1st degree' curricula (mostly equivalent to master degree courses), (ii) the Bologna Declaration and (iii) doctoral studies, as well as the skills & knowledge of ICT in the curricula. From the very start the network was able to establish a close link with the students via the *International Association of Physics Students*[(15)](IAPS). In a later phase there have been up to five working groups incorporated in the activities. The proceedings of the fora were published in a series of seven books (Ferdinande 2005).

From the start in 2000 a close collaboration was established with the '*Tuning Educational Structures in Europe*' initiatives. The physics group in Tuning developed a study (Donà dalle Rose 2009) on the physics and astronomy specific competences, providing the academic community a transparent guide for planning or re-planning physics degree courses.

The thematic network was continued in the '*Stakeholders Tune European Physics Studies*' (STEPS) initiative (161 physics departments, 37 countries and 10 associations), funded within the Socrates programme of the E.C. The project had five working groups: (i) Tuning and the Eurobachelor®, (ii) research & education, (iii) learning methodologies, (iv) quality assurance and the doctorate, and (v) teacher training and the school/university gap. Also these activities have been extended by a similar STEPS TWO network (Ţugulea 2012) with action lines: (i) curricula after Bologna and Lifelong Learning, (ii) modern teaching methods in physics education and student-centred learning, (iii) physics teacher education and the European dimension.

The European Physical Society (EPS) received a three year's grant from the E.C. to investigate '*The Implementation of the Bologna Process into Physics Studies in Europe*.' This study (Kehm 2012) is an analysis of the implementation of Bologna reform goals in European universities at the bachelor's, master's and doctoral level. Programmes in physics at 129 universities in 24 Bologna signatory countries were analysed. The analysis comprised two steps: (a) an online questionnaire; and (b) an analysis of curricula on the basis of printed or electronic material supplied by programme coordinators. Therefore 24 EPS Member Societies participated in the project. The same initiative produced a series of '*European Specifications for Physics Bachelor/Master Studies/Doctoral Programmes*' (Ferdinande 2012) which have been approved by the EPS Executive Committee. These brochures provide a means to describe the characteristics of the physics study programmes on a European level. They cover the bachelor or first-cycle or EQF level 6, master or second- cycle or EQF level 7 and doctorate or third-cycle level or EQF level 8, as one of the three priorities in the Bologna Process. These documents also represent general expectations of the standards for the award of qualifications at the given level and articulate the attributes and capabilities - i.e. the learning outcomes - that those possessing such qualifications should be able to demonstrate.

2. Mobility at Ghent University

As an example of the implementation in the EU situation we present the home university of one of the authors (h.f.), Ghent University[16]/*Universiteit Gent* (for short UGent), with Erasmus University Charter and ECTS label till 2013. Presently there are about 37,000 students studying at UGent of which about 4,300 are international students (~ 12%), about half originating from countries of the European Union and half from non-EU countries. The non-EU countries are represented by a strong contingency from Asia: P.R. of China, India, Vietnam and Iran. Among the about 3,700 doctoral students some 29 % are foreigners. Mobility is organized by the International Relations Office (IRO) (*Afdeling Internationale Betrekkingen*). This office has been instituted at UGent since 1987 and counts now a staff of almost 30 officers. The IRO helps with administrative preparation and application procedures, and organises international marketing and recruitment for incoming and outgoing students (yearly international information days and welcome days, etc.). A recent policy development was the establishment of a China, India and Africa Platform for co-operation with partners. Also new initiatives have been launched: Internationalisation@ Home and the Songdo Branch Campus in South Korea.

2.1 Erasmus Mobility by Ghent University

This exchange programme is the most widely known for student and lecturer mobility. Starting in the academic year 1988-89 the student exchange for both incoming and outgoing ones amounted to a bit less than 30 students. Last academic year some 760 UGent students spent part of their study abroad. The most prominent destinations are Spain, France and Germany. The most prominent faculties are Arts & Philosophy, Medicine & Health Sciences and Political & Social Sciences. On the other hand 635 European exchange students chose UGent for part of their study. They were received predominantly by the Faculties of Economics, Sciences, Law and Bioscience Engineering. Of these students the majority originated from Spain, Italy and Turkey.

2.2 Erasmus Mundus (EM) activity by Ghent University

Ghent University has been a very active partner participant from the very start in 2004. It is currently offering nine Action 1 Master Courses (Rural Development, Law & Economics, Nuclear Fusion Science & Engineering Physics, Science in Photonics, Marine Biodiversity & Conservation, Nematology [already 20 years and unique world-wide], Fire Safety Engineering, Biomedical Engineering, Environmental Technology & Engineering), one Action 1 Doctoral Programme (Marine Ecosystems Health & Conservation MARES) and taking part in three Erasmus Mundus partnerships (BASILEUS, LOTUS, EUROTANGO), for the first two being co-ordinating institution. Thereby it is offering to its students and those from partner universities a wide range of academic mobility opportunities.

More specific information can be obtained at the project websites (Ghent University 2012).

Together with development co-operation training programmes, the EM international courses attract large numbers of international students, mostly in the Faculties of Science, Engineering and Bioscience Engineering.

2.3 ECTS within Ghent University

Ghent University adapted the ECTS credits in all fields of study in 1994 and was amongst the first universities in Europe that successfully applied for an ECTS-label (2004). Internationalisation has always been a key feature of Ghent University; the implementation of ECTS on various levels (course catalogue [generalised in 2000], procedure for exchange students, and availability of all relevant information in English ...) is a continuing responsibility of the involved administrative departments within Ghent University. The ECTS Information Package is the result of an ongoing process of updating and fine-tuning and provides more insight in the possibilities for international exchange that Ghent University has to offer. The Diploma Supplement is available but is not automatically generated in another 'widely European spoken language, hence no application for the DS label can be obtained.

2.4 Mobility of physics students at UGent

One of the authors (h.f.) has been responsible for mobility of physics students at UGent from 1992 till 2005. In that period he was able sending out some

10% of the cohorts of physics and engineering physics students to 22 different HEIs in 11 countries. For this job he has been mostly backed by tools such as (thematic) networking, quality assurance at discipline level, supporting programmes like 'Tuning' and the concurrent Bologna Process (BP) reforms. Of course the globalization of education taking place world-wide, the change in mentality and the rapid development in easier communication & travel made the job easier. However the essence for success in any particular field of study can only be reached by a big personal involvement of the coordinator/lecturer responsible for mobility in that field.

As the most difficult topic still remains the conversion of grades with the help of the ECTS grading scale.

3. Mobility strategy 2020 for the EHEA ('*Mobility for Better Learning*')

In order to be as precise as possible concerning the E.C.'s policy on mobility for the future we reprint here from the *Bucharest Communiqué* (Bucharest Ministerial Conference 2012a) of the rather recent Bucharest *2012 EHEA Ministerial Conference* the paragraphs related to mobility under the heading: **"Strengthening mobility for better learning"**

Learning mobility is essential to ensure the quality of higher education, enhance students' employability and expand cross-border collaboration within the EHEA and beyond. We adopt the strategy "*Mobility for Better Learning*" (Bucharest Ministerial Conference 2012b) as an addendum, including its mobility target, as an integral part of our efforts to promote an element of internationalisation in all of higher education.

Sufficient financial support to students is essential in ensuring equal access and mobility opportunities. We reiterate our commitment to full **portability** of national grants and loans across the EHEA and call on the European Union to underpin this endeavour through its policies.

Fair academic and professional **recognition**, including recognition of non-formal and informal learning, is at the core of the EHEA. It is a direct benefit for students' academic mobility, it improves graduates' chances of professional mobility and it represents an accurate measure of the degree of convergence and trust attained. We are determined to remove outstanding obstacles hindering effective and proper recognition and are willing to work together towards the automatic recognition of comparable academic degrees, building on the tools of the Bologna framework, as a long-term goal of the EHEA. We therefore commit to reviewing our national legislation to comply with the Lisbon Recognition Convention (Council of Europe/UNESCO 1997). We welcome the European Area of Recognition (EAR) Manual (NUFFIC 2012) and recommend its use as a set of guidelines for recognition of foreign qualifications and a compendium of good practices, as well as encourage higher education institutions and quality assurance agencies to assess institutional recognition procedures in internal and external quality assurance.

We strive for open higher education systems and better **balanced mobility** in the EHEA. If mobility imbalances between EHEA countries are deemed unsustainable by at least one party, we encourage the countries involved to jointly seek a solution, in line with the EHEA Mobility Strategy.

We encourage higher education institutions to further develop **joint programmes and degrees** as part of a wider EHEA approach. We will examine national rules and practices relating to joint programmes and degrees as a way to dismantle obstacles to cooperation and mobility embedded in national contexts.

Cooperation with other regions of the world and **international openness** are key factors to the development of the EHEA. We commit to further exploring the global understanding of the EHEA goals and principles in line with the strategic priorities set by the 2007 strategy for "the EHEA in a Global Setting"(London Ministerial Conference 2007). We will evaluate the strategy's implementation by 2015 with the aim to provide guidelines for further internationalisation developments. The Bologna Policy Forum will continue as an opportunity for dialogue and its format will be further developed with our global partners.

Since in the last couple of years there is a growing interest among European countries to develop closer links with higher education systems around the world, a First Bologna Policy Forum was organised in 1999 in Leuven/Louvain-la-Neuve [BE] between Ministers of the 46 Bologna countries and colleagues from different parts of the world to facilitate global dialogue. Hence it might

be interesting to refer as well to the mobility topic in the Statement of the *Third Bologna Policy Forum*, held in Bucharest [RO] 27 April 2012:

"**Global academic mobility: Incentives and barriers, balances and imbalances**. Academic mobility has become increasingly meaningful in providing global perspectives, fostering active citizenship and equipping graduates with the right mix of knowledge, skills and competences which enable them to better respond to national, regional and global challenges.

We continue to strive for open and transparent education systems and better balanced mobility within and between our higher education areas and systems. We want to intensify the academic exchange of ideas and people in our regions, and to create innovative networks.

In this context, we aim to continue working towards reducing the diverse obstacles for mobility between our education areas, such as the lack of transparency of qualifications, financial barriers for students, problems with academic and professional recognition, as well as administrative hurdles.

In the framework of Asia-Europe Meeting (ASEM), we acknowledge the work aimed at exploring how the regional recognition conventions in Europe ("Council of Europe/UNESCO Lisbon Convention")(Council of Europe/UNESCO 1997) and Asia and the Pacific ("Tokyo Convention")(UNESCO 2011) may be used to further recognition between the two regions.

We will further strive for the implementation of the UNESCO/OECD Guidelines for Quality Provision in Cross-Border Higher Education3 and the meaningful role they give to all actors in higher education for quality assurance.

We will continue to support, fund and promote academic mobility, which helps the sustainable development of our societies. We will encourage higher education institutions to further develop joint programmes and joint degrees. Where appropriate, higher education institutions are also encouraged to make the best use of mobility and cooperation opportunities provided by the European Union programmes.

In a recent final Dissemination Conference of the MAUNIMO (MApping UNIversity MObility) project (Colucci 2012), "*A comprehensive policy vision for Europe's new mobility agenda: MAUNIMO Final dissemination Conference,*" the Eurydice director David Crosier, explains the (inherited) conceptual problems of the international statistical data, the huge variety of mobility in the different EU countries, the unbalanced east-west (factor 6) and south-north (factor 9) flow and the cry by all stakeholders asking the Bologna Follow-up Group (BFUG) to implement the most urgent issues in the above strategy.

A review paper (Orr 2012) within the context of the above policy discussions at European level, seeks to provide comparative data on the mobility aspirations, the perceived barriers to mobility and the behaviour of certain groups of students.

4. Mobility in Japan

According to the latest statistics by the Japanese Ministry of Education (which came from OECD data in 2009), the number of Japanese study abroad people was 59,923. It was decreased by 10% (6,910) compared with the number in 2008 (66,833). The country with the highest number of students studying abroad was - in descending order - the United States of America (24,842), the People's Republic of China (15,409) and the U.K. (3,871).

On the other hand the number of foreign students in Japan as of May 1,2011 was 138,075, according to the statistics by the Japan Student Services Organisation (JASSO). It was also decreased by 2.6% (3,699) compared with the number in 2010 (141,774). The country with the highest number of foreign students was the People's Republic of China (87,533), Korea (17,640) and Taiwan (4,571).

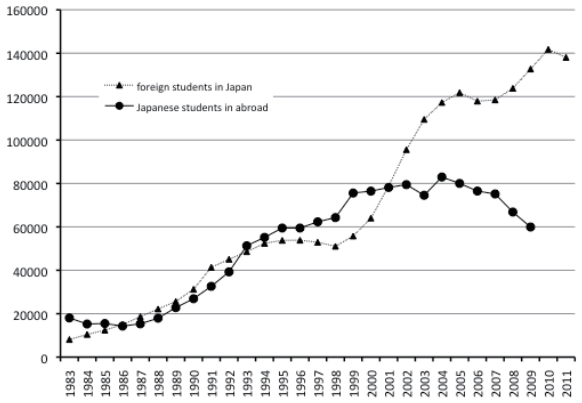

Fig. 1

Fig. 1 shows the evolution of the number of foreign students studying in Japan and the one of the Japanese

students enrolled abroad from 1983 till now. The sudden rise and the plateau were caused by a policy change of the Japanese Government. The framework for the foreign student flow-in policy was realised by the reports of the experts meetings in the Ministry of Education concerning "*the proposal about the foreign student policy to the 21st century" of 1983 and "the development of the foreign student policy to the 21st century*" of 1984. The policy proposed in these two reports is called "*100,000 foreign student plan*" in general. The policy change by this last proposal did increase the Japanese mobility gradually as shown in the figure. The policy implied: 1. increasing the amount of the public funds for foreign students, 2. cooperating positively to the acceptance of the foreign students who were dispatched by a foreign government, 3. implementing classes in English concerning foreign students, 4. maintaining a foreign student centre and accompanying expert staff as host organisation, 5. carrying out an inquiry on study abroad in Japan, 6. expanding the Japanese education system at home and abroad, 7. maintaining the foreign students apartments.

A policy to manage emigration and immigration was also quite effective for the number of mobile students. In many cases the person once hoping to study in Japan at his private expenses enters a Japanese educational institution and learns Japanese to some extend before taking the entrance examination of the desired university. 30% or more of the foreign students enter a university from a domestic Japanese educational institution. 70 % of the pupils who complete a Japanese education institution enter a Japanese university. By simplifying the law concerning them, the number of students increased in 1983 and 2000. By the tightening of the law, the number of students decreased in 1988 and 1994.

In the general policy speech, "Asia gateway design," of Prime Minister Shinzo Abe to the 165th Diet (2007) he insisted that Japan should play the role of a bridge between Asia and the world. From this speech the government evaluated the foreign student policy as a "national strategy" for acquisition of high talented persons as well as a conventional "international contribution." Prime Minister Yasuo Fukuda established in the State message to the 169th Diet (2008) a "300,000 foreign students plan." As a result of these message the conference of the Central Council of Education expressed the aim that the number of foreign student acceptance to 300,000 people by about 2020 should be as a part of the "global strategy" development.

5. Mobility at Hokkaido University

The mobility of each university is different from the global mobility in Japan. Fig. 2 shows the mobility at Hokkaido University. According to the history described above the number of foreign student increased in this one decade. From the statistics of 2011 the total number of foreign students is 1,340. The foreign students from China (735) are the highest in number of people. The following countries are: Korea (151), Indonesia(50), Bangladesh (44), Taiwan (34), Malaysia (29), Russia (19), The Philippines (17), Mongolia (15), Egypt (14) and USA (13).

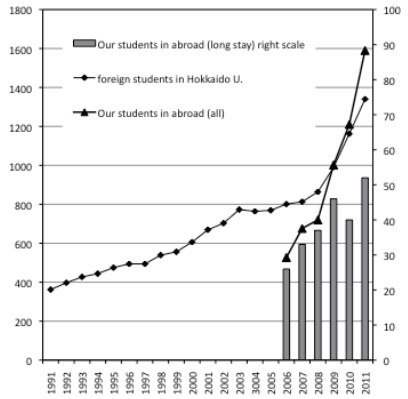

Fig. 2

Fig. 2 shows also the mobility of Japanese students into Hokkaido University from 2006 to 2011. The number of our students who went abroad was 1,590 in 2011. However this number includes short stays such as a one week for a presentation in a science meeting. The bar graph part of the figure shows the number of exchange students staying for a longer period (scale at the right hand side). Only 52 students could stay abroad long enough to study a foreign language and its culture. This is the serious problem of our university. Very few students have experience to go abroad and to study during regular university days.

There are a couple of walls why we cannot increase the numbers of Japanese students going abroad. First of all our curriculum is too tight. If a student goes abroad for half a year, she/he will have to remain in the same class for another year. It is serious in the case of

the sciences, the medical sciences and the engineering courses. As Japan is far from America and Europe, the cost for the students who want to go there is very high. The second reason is the poor knowledge of English conversation. Recently the education of English in Japan was focused on reading and writing, but not on speaking or hearing. However, this system is gradually changing. Education of English starts now from elementary school. The entrance examination introduced an extra hearing test.

In 2012 a new project was launched to send 20% of the Japanese students to foreign countries. Hence more than 500 students will go abroad for at least half a year in every year by four years later. In this project a student who wants to go abroad will take eight other courses, including English conversation for education abroad. When this project will reach its final objectives, the real student mobility at Hokkaido University will be established.

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List of abbreviations

APEC: Asia-Pacific Economic Cooperation
BP: Bologna Process
BFUG: Bologna Follow-up Group
EC: European Commission
ECTS: European Credit Transfer and Accumulation System
EAC EA: Education, Audiovisual and Culture Executive Agency
EHEA: European Higher Education Area
EM: Erasmus Mundus
EMSPS: **E**uropean **M**obility **S**cheme for **P**hysics **S**tudents
EPS: European Physical Society
Erasmus: EuRopean Community Action Scheme for the Mobility of University Students
EU: European Union
EUPEN: European Physics Education Network
HE: Higher Education
HEI: Higher Education Institution
IRO: International Relations Office
MAUNIMO: MApping UNIversity MObility
NUFFIC: Netherlands Organisation for International Cooperation in higher education
STEPS: Stakeholders Tune European Physics Studies
UGent: *Universiteit Gent*/Ghent University
UIS: UNESCO Institute for Statistics

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Notes

(1) Erasmus, http://ec.europa.eu/education/lifelong-learning-programme/erasmus_en.htm

(2) The project is named after *Desiderius Erasmus* (Dutch philosopher, Rotterdam 1466-1536), who lived and worked in many places in Europe to expand his knowledge and to gain fresh insights.

(3) Directorate-General for Education & Culture, http://ec.europa.eu/dgs/education_culture/index_en.htm

(4) Education, Audiovisual and Culture Executive Agency, http://eacea.ec.europa.eu/index_en.php

(5) Tempus, http://ec.europa.eu/education/external-relation-programmes/tempus_en.htm

(6) Erasmus Mundus (EM), http://ec.europa.eu/education/external-relation-programmes/mundus_en.htm

(7) Eurydice, http://eacea.ec.europa.eu/education/eurydice/index_en.php

(8) Eurypedia, https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php?title=Home

(9) 'Tuning,' http://www.unideusto.org/tuningeu/home.html

(10)'Tuning América Latina,' http://www.tuningal.org/

(11)'Lumina Foundation,' http://www.luminafoundation.org/

(12)'Tuning Russia,' http://www.tuningrussia.org/

(13)'Tuning Africa,' http://www.tuningafrica.org/

(14)'Tuning Japan,' http://www.rdche.hit-u.ac.jp/~tuning/english/

(15)International Association of Physics Students, http://www.iaps.info/

(16)*Ghent University*/Universiteit Gent, http://www.ugent.be/en