Higher education in the EU

Approaches, issues and trends

IN-DEPTH ANALYSIS

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The aim of this publication is to describe the main policy approaches and discuss key issues and recent trends in higher education across the European Union (EU). Through targeted comparisons of the main elements of the policy in the EU and the United States, the paper also focuses on achievements and challenges within this domain, against the background of the current economic and financial crisis.

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EXECUTIVE SUMMARY

How higher education is governed and managed is the subject of policy debate and public discourse at both the national and supra-national levels. The OECD, UNESCO, and EU, alongside other international organisations and national governments, continually emphasise the significance of higher education for economic growth and social well-being, and especially as an antidote to the impact of the global financial crisis on employment. The performance and quality of higher education has become a sign of a country's capacity to prepare its future economic development. While world economies push for stronger competitiveness, attracting top talent is no longer an objective of just a few countries or world-renowned higher education institutions. The international race for talent is open on a global scale. In spite of seeing an erosion of its global share, the United States alone still attracts 17% of international students. However, the EU is increasingly popular, with the United Kingdom, France and Germany accounting respectively for 13%, 6% and 6% of global students.

Higher education policies in the EU are essentially decided and implemented by individual EU countries which are free, for instance, to choose the content of teaching and the organisation of their educational systems. However, this competence has to be exercised in respect of EU law and principles, such as, for example, equal treatment, meaning that EU Member States cannot charge higher tuition fees for non-national EU students.

One of the elements accounting for the global attraction of EU universities resides in the relatively lower tuition fees compared to American universities. Even though the economic downturn has led many EU countries to reduce investment in education, and search for more efficient ways of deploying available financial resources, the relative importance of public funding still remains quite high, and an elaborate system of grants, loans, and scholarships mitigate the impact of higher tuition fees on family budgets.

With increasing mobility flows, the transparency and recognition of learning acquired elsewhere has become a key priority. Efforts already made to develop quality and accreditation frameworks for mobility within the EU and the wider Bologna process place Europe at the top of the most advanced global regions in this respect. The Erasmus mobility scheme, in addition to the three-cycle degrees and the use of European Credit Transfer System, make the EU attractive to potential international students.

Learning increasingly takes place in an environment which is constantly evolving to respond to the personal needs of each learner. The emergence of Open Educational Resources and Massive Open Online Courses is expected to offer multiple advantages in terms of increased access to higher education, reduced costs and flexible timetables, to name just a few. However, there is little scientific evidence to prove the efficiency of these new models. Some critics even argue that they may well be just another attempt to further commercialise higher education. Meanwhile, blended learning – a combination of traditional training with digital online content – is seen by many as the best alternative.

Benchmarking higher education performance against peer nations and international indicators has become commonplace. There is however an overall consensus that global rankings do not have the capacity to assess the full breadth of higher education.

In the longer term, technological change will radically affect higher education and research in ways that are difficult as yet to predict. It is clear, though, that sustained effort and on-going international cooperation will be required to improve current structures and take full advantage of the impact of technology.

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1. Higher education in the world

1.1. The internationalisation of higher education in a globalised world

The word 'school' derives from Greek σχολή (scholē), originally meaning 'leisure', since in ancient Greece education was considered a leisure pursuit only available to the privileged few. Society has come a long way since then and at present, education in general and higher education in particular, is viewed not as an end in itself but as an investment in human capital, and a way to secure an adequate income while contributing to society's needs. The number of young adults wishing to obtain a degree is therefore constantly increasing. Sixty percent of young adults in countries belonging to the Organisation for Economic Cooperation and Development (OECD) are expected[1] to enter higher education in their lifetime. Estimates[2] show that the demand for higher education worldwide will have expanded from 97 million students in 2000 to over 262 million by 2025.

As a result of globalisation and the advent of digital learning, the interdependence[3] of people, information, and education institutions has increased. This, in turn, is radically changing the landscape of higher education along with the expectations of students who, at present, opt for deciding on the content, timing and methods that best suit their particular needs and interests. Yet, globalisation has also deepened the gap between those who have access to knowledge and those who do not, making it urgent to act against the growing knowledge divide.

> **Glossary**
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> Experts assert that there are three main trends in the development of higher education: internationalisation, globalisation, and Europeanisation. **Internationalisation** tends to address an increase in cross-border learning activities. It is often analysed in relation to student mobility and academic cooperation. **Globalisation** suggests that borders and national education systems as such are blurred, and is frequently associated with competition and commercial knowledge-transfer. **Europeanisation** is the regionally oriented version of either internationalisation or globalisation and is often analysed in respect of cooperation and mobility.

The European Union (EU) is increasingly attractive globally, both as a study destination and a partner for exchange. At present, the internationalisation of higher education beyond Europe has become a strategic goal of EU governments and universities, and practically all institutions and countries provide offers for international students and reflect on possible interaction and cooperation with the wider global academic community.

International student mobility is the most widespread and probably the most powerful means for internationalisation of higher education. The number of international students (i.e. students enrolled in higher education outside their country of residence) rose more than threefold over the last decade to reach 4.3 million in 2011.[4] This represents an average annual increase of almost 6% and has become a critically-important source of revenue for higher education institutions. Interestingly, there has been no decline in the number of international students during the global economic crisis.

1.2. The global race for talent

As competition intensifies for a greater share of the global market, higher education – as an essential provider of human capital – has become fundamental to creating competitive

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1. OECD, Education at a glance 2013 Highlights: How many young people enter tertiary education?, 2013, p. 24.

2. UNESCO, A new dynamic: private higher education, 2009, p. 2.

3. UNESCO, Pathways Towards a Shared Future: Changing Roles of Higher Education in a Globalized World, 2008, p. 15.

4. OECD, Education indicators in focus, July 2013, p. 1.

advantage. In 2011, the OECD[5] countries attracted three out of four students studying abroad (i.e. 77% of the global demand in higher education). Almost half of all international students were enrolled in one of the top five destinations for higher education abroad: the United States, with 17%, followed by the United Kingdom (13%), Australia (6%), Germany (6%) and France (6%). The largest numbers of international students come from China, India and Korea. Asian students account for 53% of all students studying abroad.

While the United States' share has been steadily decreasing,[6] some new players have emerged on the international education scene. In 2011 a growing number of international students were enrolled in Canada (5%), Japan (4%), the Russian Federation (4%) and Spain (2%), see figure 1 below.

Figure 1 - Trends in international education market shares (2000, 2011). Percentage of all foreign tertiary students enrolled, by destination
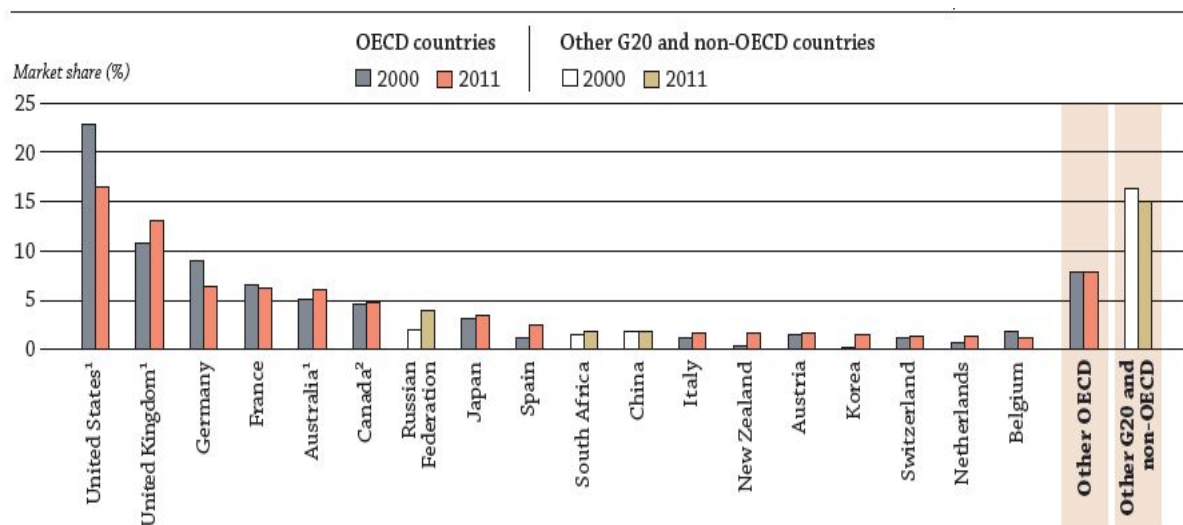
Note: Year of reference of data for countries other than OECD and G20 is 2010.
1. Data relate to international students defined on the basis of their country of residence. For the United Kingdom, data for 2011 is based on citizenship.
2. Year of reference 2010 instead of 2011.
Data source: OECD, Education indicators in focus, July 2013.

Emerging regional destinations increasingly enter the competition for students by offering more affordable and culturally-relevant programmes of study. China,[7] Malaysia, the Republic of Korea, Singapore and New Zealand, hosted 6% of the global share of international students in 2012, competing with traditional destinations in East Asia and the Pacific, such as Australia and Japan.

Among Arab states,[8] Egypt, Saudi Arabia and the United Arab Emirates also strive to recruit students from abroad. These three hosted 4% of the global share of international students.

Unsurprisingly, English-speaking countries attract the highest number of international students. Australia, the United Kingdom and the United States together host 36% of all international students enrolled worldwide. However, this has prompted an increasing number of non-English-speaking countries to start offering courses in English in order to overcome their linguistic disadvantage.

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5   *Ibid.* for all data in this section, unless otherwise indicated.

6   This dropped from 23% to 17% between 2000 and 2011.

7   UNESCO Institute for Statistics, Global flow of tertiary-level students, May 2014.

8   *Ibid.*

The reputation of a country's higher education, along with immigration policy, may have an impact[9] on the decision of where to study. Some countries (e.g. Finland and Norway) have amended their naturalisation laws to take into account the years of residence as a student when assessing eligibility for citizenship; others (e.g. Canada) facilitate permanent residence for international students. Still others (e.g. the United States and the United Kingdom) have made it more difficult for international students to enter.

The level of tuition fees can also impact on the attractiveness of a destination. Observers note[10] a growing tendency on the part of both public and private higher education institutions to perceive international students as a source of additional revenue and therefore subject them to higher fees. Public educational institutions in most OECD countries charge higher fees for international students[11] (see table 1 below).

Table 1 - Structure of tuition fees in OECD countries

Tuition fees structure	OECD countries
Higher tuition fees for international students than for domestic students	Australia, Austria*, Belgium*, Canada, the Czech Republic*, Denmark*, Estonia*, Iceland*, Ireland, the Netherlands*, New Zealand, Poland*, the Russian Federation, Sweden*, Turkey, the United Kingdom*, and the United States
Same tuition fees for international and domestic students	France, Germany, Italy, Japan, Korea, Mexico, Spain, Switzerland
No tuition fees for either international or domestic students	Finland, Norway

Note: * For non-EU or non-European Economic Area students.
Data source: OECD, Education indicators in focus, July 2013.

It should be noted however that high tuition fees do not necessary constitute a barrier. In some countries (e.g. the United Kingdom and the United States) international students can benefit from loans or scholarships to pursue their studies; in other cases programmes remain attractive thanks to the labour market opportunities they offer within the country of destination (e.g. in Australia and New Zealand).

1.3. Why invest in higher education?

The recent economic crisis has produced substantial evidence that higher education is a valuable asset for a person lacking work experience. Across OECD[12] countries, unemployment rates are nearly three times higher among individuals who do not have an upper secondary education (13%) than among those who have higher education (5%). Similarly, over 80% of people holding higher education degrees were employed compared with less than 60% of people with below upper secondary education.

More importantly, having a degree not only increases the chances of finding a job, but also has an impact on income. On average, the relative earnings of adults holding a higher education

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[9] OECD, Education indicators in focus, *op.cit.* p. 3.

[10] *Ibid.*, p. 3.

[11] Note, however, that the principle of equal treatment on the grounds of nationality prohibits Member States from charging higher tuition fees to non-national EU students.

[12] OECD, Education at a glance 2013 Indicators: Indicator A5 How does educational attainment affect participation in the labour market?, 2013, pp. 76-77.

degree are over 1.5 times that of adults with upper secondary education, while individuals without upper secondary education earn 25% less, on average, than their peers who have attained that level of education. The crisis has widened this wage gap: the average difference between earnings from employment between low and highly educated individuals was 75% across OECD countries in 2008, reaching 90% in 2011.

2. The EU approach to higher education

2.1. Contrasting visions of the purpose of higher education

Traditionally, there have been two fundamentally different approaches to higher education. Broadly speaking, in the EU, higher education is considered a public service and is generally offered for free or at a low cost. In contrast, American universities, including state universities, typically have a different economic model: that of a private non-profit enterprise. Their income is based largely on student enrolment: students pay for the education they receive, thus the fees depend on the tuition.[13] As a result, on average, the cost of higher education in the United States is more substantial than that in the EU.[14] However, there is a more fundamental difference between these two systems which lies in the differing perceptions of the purpose of higher education.

The collision of values and ideas goes back many centuries. What is the main purpose of higher education? Should it be strictly job-oriented or should it focus more on individual growth and satisfaction? Is higher education a means to redress social inequality? The questions are many but there are no definite answers and no consensus either on the purpose of higher education.

It has been argued[15] that in the EU higher education is more theory-oriented and aims at developing the intellectual abilities of students, while education institutions in the United States are perceived as more hands-on and job-oriented. Likewise, EU universities are believed to provide a more broad-based education, while higher education in the United States tends to be more specialised from the outset.

In the EU, higher education is considered an essential element for social mobility and inclusion.[16] Practitioners argue[17] that if higher education can be made available to students from diverse backgrounds, it can become an instrument for progress toward egalitarian objectives. EU countries therefore try to increase the number of students in higher education. It has been suggested[18] that this could lower standards and that focus should be placed on raising university quality rather than student quantity. Yet, others argue[19] that imposing a strong selection which, in some cases, means higher cost, would favour a social elite. Perhaps even more importantly, there are those who highlight that widening access to higher education is not just a question of numbers. It is also a way of creating a more inclusive

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[13] However, the high cost is partly offset through an intricate system of financial support (e.g. grants, scholarships, and state-guaranteed loans).

[14] For a brief comparison on the cost of higher education, between the EU and the United States, see Chapter 4.

[15] For example see B. Aguilera-Barchet, A Higher Education for the Twenty-First Century: European and US approaches, Centre for European Studies, March 2012.

[16] See also section 3.2.3. below.

[17] S. Schwartz, The higher purpose, in *Times Higher Education*, 16 May 2003.

[18] D. Ellis, Are too many people going to university?, in The Telegraph, 10 December 2013.

[19] A. Rodriguez, At Elite Colleges, No Room at the Dance for Low-Income Students, in *The Chronicle of Higher Education*, 25 September 2013.

society[20] and a key feature of the social dimension of higher education.

2.2. A subsidiarity-driven policy approach

In accordance with the subsidiarity principle, higher education policies in the EU are essentially decided and implemented by the individual EU Member States. They notably have full responsibility for the content of teaching and the organisation of educational systems, while the role of the EU is one of support and coordination. This competence however has to be exercised in compliance with EU law, such as the principle of equal treatment on grounds of nationality.[21] This means, for instance, that Member States are not allowed to charge higher tuition fees to non-national EU students or to make their access to higher education institutions more difficult than for nationals.[22]

While any harmonisation of laws and regulations is specifically excluded, this does not remove the possibility of adopting[23] support measures such as the Erasmus programme (see box[24]) or the European Qualifications Framework (see Section 3.2.2, below). Besides, the competence of the EU in higher education can be extended through legal measures adopted on the basis of provisions regarding other policies such as the internal market (e.g. diploma recognition).

EU action in the field of higher education is centred on several key objectives, including: supporting mobility of students and staff, fostering mutual recognition of diplomas and periods of study, promoting cooperation between higher education institutions, and developing distance (university) education.

2.3. Preparing the future

In a series of recent strategy papers, the European Commission has highlighted the significant challenges facing EU higher education and the over 20 million

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Programmes moving across borders

The student exchange programme **Erasmus** established in 1987 is probably one of the EU's best known initiatives. Between 1987 and 2013 it provided opportunities for close to 3 million students, and over 300 000 teachers and staff from 4 000 institutions in 33 countries.

Launched in 2004, The **Erasmus Mundus** programme is an international sister programme, although independent from the traditional Erasmus programme. It offers financial support for institutions and scholarships for students taking part in European joint Masters and Doctorates.

For 2014-20, **Erasmus+** replaces a multitude of existing programmes, bringing together notably Erasmus and Erasmus Mundus. The seven year programme has a budget of €14.7 billion, which represents a 40% increase compared to the current amount available. Two million students are expected to receive grants, along with 450 000 trainees, 650 000 vocational students and apprentices, 800 000 teachers and trainers, 200 000 Master's degree students, and more than 25 000 joint Master's degrees students.

A 2014 study on the impact of the Erasmus student exchange programme shows that graduates with international experience perform much better on the job market. They are half as likely to experience long-term unemployment compared with those who have not studied or trained abroad and, five years after graduation, their unemployment rate is 23% lower.

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[20] See for example C. Hockings, Inclusive learning and teaching in higher education: a synthesis of research, 2010.

[21] Article 18 of the Treaty on the Functioning of the EU prohibits discrimination on grounds of nationality.

[22] Note, however, that Directive 2004/38 (Article 24.2) allows Member States to not provide maintenance grants or loans to EU non-national students unless they have acquired the right of permanent residence, are workers or members of a workers' family.

[23] The European Parliament and Council can adopt support measures and the Council alone can adopt (non-binding) recommendations on a proposal from the European Commission.

[24] On the impact of the Erasmus exchange programme see European Commission, The Erasmus impact study, 2014. On Erasmus+; see Erasmus+: more than just mobility, European Parliamentary Research Service, 2015.

students[25] across the EU today. These include finding affordable solutions for the growing student population, adapting to globalisation,[26] improving the delivery of higher education through new technologies,[27] and last but not least matching teaching and learning more closely to the wider needs of society and the labour market.[28]

Indeed, graduates' skills and qualifications are one of the key factors determining the future economic success of the EU. Experts project[29] that as a result of the financial crisis, economic considerations will have a growing impact on future educational reforms. Highlighting that the relevance of education is increasingly phrased in economic terms,[30] practitioners note the increasing focus on graduates' employability and the stronger interaction between universities and the business community. Matching the knowledge-intensive jobs of the future requires an ever growing number of highly skilled professionals who can respond to the opportunities and demands of the modern economy. Recent skills forecasts indicate that 35% of jobs in the EU are likely to require a higher education qualification by 2020.[31] However, in 2011, fewer than 29% of the EU workforce aged 25-54 held a degree.[32] This compares[33] with 42% in the United States, 46% in Japan and 51% in Canada.

In 2010, as part of the Europe 2020 Strategy – aimed at transforming the EU into the world's most competitive knowledge economy – EU leaders agreed on a target of 40% for 30-34 year-olds[34] to have a higher education degree or equivalent level of qualification by 2020. EU governments have since set their own national targets for 2020, taking account of their national circumstances. As shown in figure 2, in 2012, nearly 36% of 30-34 year olds in the EU had a higher education qualification.

Figure 2 - Higher education attainment among 30-34 year-olds vs. national targets
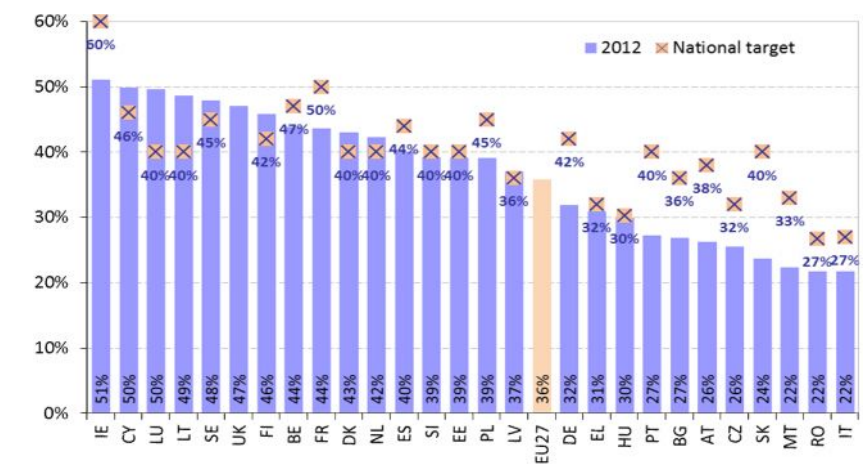
Data source: European Commission, 2013.

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[25] EUROSTAT, Students in tertiary education, 2012. However, to date there are no reliable statistics on the number of higher education institutions in the EU because of the lack of agreement on a common definition.

[26] European Commission, European higher education in the world, COM (2013) 499 final.

[27] European Commission, Opening up education: Innovative teaching and learning for all through new technologies and open educational resources, COM (2013) 654 final.

[28] European Commission, Supporting growth and jobs – an agenda for the modernisation of Europe's higher education systems, COM (2011) 567 final.

[29] S. Garben, The Future of Higher Education in Europe: The Case for a Stronger Base in EU Law, in LEQS Paper No. 50/2012, July 2012, p. 6.

[30] Ibid., p. 6

[31] CEDEFOP, Skills supply and demand in Europe: Medium-term forecast up to 2020, 2010, p. 13.

[32] EUROSTAT, Educational attainment statistics, 2013.

[33] Note that in this case the age bracket is wider, i.e. 25-64 year olds.

[34] This age group was selected – rather than the working age population as a whole – to make it easier to monitor progress.

Most recently, in 2013, the Modernisation Agenda for Higher Education[35] provided an overarching policy framework towards the achievement of the wider goals of EU higher education. Alongside the quantitative targets however, the quality of teaching and learning is at the core of the higher education agenda with a focus on curricula delivering relevant, up-to-date knowledge and skills, forming the basis for future professional development.

3. The EU higher education system

3.1. How it all started: the Bologna process and the European Higher Education Area

In many respects, experts[36] view the Bologna process as revolutionary in the development of EU higher education. It was initiated in 1998 by four EU education ministers[37] who shared the view that the segmentation of the EU higher education sector was outdated and counterproductive.[38] The decision to engage in a voluntary process to create the European Higher Education Area (see Figure 3) was formalised one year later in Bologna,[39] by 30 countries. Since then the process has gone a long way and today includes no fewer than 47 countries.[40]

The Bologna process is an intergovernmental initiative of voluntary policy convergence towards a common higher education structure. This complex process originated, and continues to develop, outside the EU.[41] Every two or three years ministers from participating

Figure 3 - The European Higher Education Area

■ EU Bologna countries
■ Non-EU Bologna countries

Data source: EUROSTAT, The Bologna process in higher education in Europe, 2009.

countries meet to assess the progress made and decide on the new steps to be taken (their next meeting is planned for May 2015) in Yerevan, Armenia. The Bologna process does not aim at harmonising national educational systems but rather at improving the comparability between them, as well as at implementing tools for recognition of degrees and academic qualifications. There is no central budget for the Bologna process. Instead, each member country and organisation meets the costs incurred.

The key initial objective of the Bologna process was to create a European Higher Education Area by 2010. Additional goals included strengthening the competitiveness and the attractiveness of

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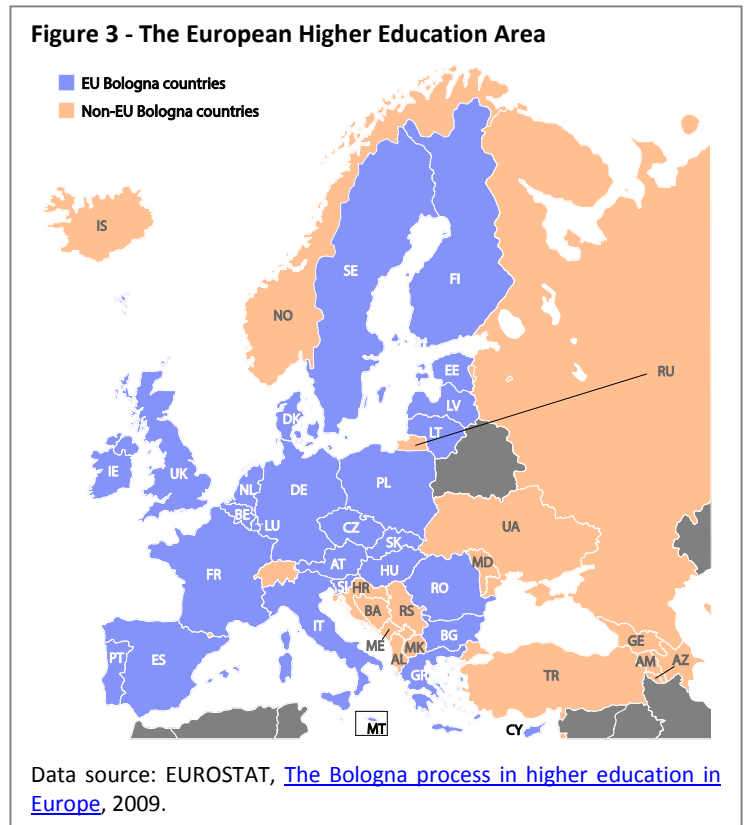
[35] High Level Group on the Modernisation of Higher Education, Improving the quality of teaching and learning in Europe's higher education institutions, 2013.

[36] S. Garben, The Bologna Process: From a European Law Perspective, *European Law Journal*, Vol. 16, No. 2, March 2010, p. 186.

[37] From France, Italy, the United Kingdom and Germany.

[38] Sorbonne Joint Declaration, 1998.

[39] Bologna Declaration, 1999.

[40] The full list of members is available on the website of the European Higher Education Area.

[41] It should be noted that the European Commission has a formal role as a full member of the major policy-making groups governing the Bologna process, and also provides financial support for many activities. It does not however lead, direct, or legislate with regard to the conduct of the Process.

European higher education and encouraging student mobility and employability through the introduction of a common system for undergraduate and postgraduate studies. However, the various ministerial meetings since 1999 have broadened this agenda and have given greater precision to the tools aimed at facilitating the recognition of qualifications. Along with a European Credit Transfer and Accumulation System and three-cycle degrees, the concept of social dimension of higher education has been introduced and the recognition of qualifications is now clearly perceived as central to the process. These main features are briefly reviewed below.

3.1.1. The European Credit Transfer and Accumulation System (ECTS)

An important tool used for credit transfer and accumulation, ECTS now plays an essential role in curriculum design and in validating a range of learning achievements. In this system, credits reflect the total workload required (i.e. not only the lecture hours but the associated hours of study) to achieve the objectives of a programme in terms of the learning outcomes and competences to be acquired. It makes study programmes easy to read and compare and therefore facilitates mobility and academic recognition.

3.1.2. The Three-Cycle Degree

Two basic degrees, Bachelor and Master, have now been adopted by every participating country. In some cases this has been achieved in parallel to existing degrees during a transition period, in others by replacing them completely. EU universities are currently in the implementation phase, and an increasing number of graduates have now been awarded these new degrees. Typically, a Bachelor degree requires 180-240 ECTS credits and a Master programme between 90-120 ECTS credits, with a minimum of 60 ECTS at Master's level. This allows for a flexible approach in defining the length of both Bachelor and Master programmes. Doctoral programmes in the third cycle are not defined by ECTS credits. However, common principles are currently under discussion.

3.1.3. The Diploma Supplement

Compulsory for every graduate (since 2005), the Diploma Supplement is a tool which is attached to a higher education diploma and outlines the degree's qualification in an easily understandable way. It is designed to provide a standardised description of the nature, level, context, content and status of the studies that were successfully completed by the graduate. It is not a résumé or a substitute for the original credential but rather a way of providing detailed information about any academic or professional qualification.

3.2. Remaining concerns

There are some specific concerns over commitments undertaken through the Bologna process, and these are discussed in the following pages.

3.2.1. Quality assurance

Quality assurance in higher education is central to building a coherent, compatible and attractive European Higher Education Area. With globalisation, economic integration and increased academic and professional mobility, there is a growing need for the recognition of qualifications outside the country which awards them. The emergence of so-called 'degree mills' (i.e. fake universities selling fake degrees on the internet) has underscored the need to set up appropriate tools for distinguishing authentic qualifications from spurious ones.

In the EU, higher education institutions have the ultimate responsibility for the quality of their offering. They are supported by external agencies which assess quality standards, evaluate institutions, and accredit programmes. In 2006, the European Parliament and Council invited the Commission to report[42] on progress in quality assurance every three years. Building on

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[42] European Commission, Recommendation on further European cooperation in quality assurance in higher education, 2006/143/EC.

the findings of the first report (2009), a second report was released in 2014.[43] It shows that over 75% of higher education institutions have a strategy for continuous quality enhancement. The report further indicates that the **European Standards and Guidelines**[44] developed in 2005 have helped convergence of quality assurance across countries. However, they are understood and applied unevenly due to their current generic nature, and their impact remains limited.

The creation of the **European Association for Quality Assurance** (ENQA) in higher education in 2004 and the launch of the **European Quality Assurance Register** for higher education (EQAR) in 2008 represent a step forward in the promotion of quality assurance through the Bologna process. EQAR aims at enhancing trust and confidence in European higher education by listing quality assurance agencies that operate in Europe and have proven their credibility and reliability in a review against the European Standards and Guidelines. However, national ministries tend to prefer working with their own, rather than foreign, Agencies. Only in six EU countries (i.e. Austria, Belgium – Flemish Community, Bulgaria, Lithuania, Poland, and Romania) are higher education institutions allowed to work with foreign registered agencies for regular evaluation, audit or accreditation.[45] Two other countries (i.e. Germany and Denmark) recognise decisions of all EQAR-registered agencies on joint programmes.

The development of a European approach for accrediting joint degrees may help minimise bureaucracy and facilitate the growth of this type of degree. In the meantime, projects led by the **European Consortium for Accreditation**[46] are a step towards simplification and mutual trust.

3.2.2. Recognition of qualifications

The European Area of Skills and Qualifications is currently under development. Over the years, various initiatives have been put in place to promote academic recognition. In 1984, the European Commission set up a network of **National Academic Recognition and Information Centres** (NARIC) to provide guidance on recognition of diplomas and periods of study within the EU, the European Economic Area and Turkey. However, higher education institutions are largely autonomous, taking their own decisions on admitting foreign students and on granting students exemptions from parts of study programmes on the basis of education undertaken abroad. Therefore, most NARICs act only as advisors. The NARIC Network cooperates closely with the **European Network of Information Centres in the European Region** (ENIC) set up by UNESCO[47] with the same purpose.

> **Quality assurance and recognition on a global scale**
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> The first UNESCO conventions on the recognition of qualifications were established 30 years ago and since then have been ratified by over 100 member countries. There is a limited general awareness of these binding international instruments except for in the case of the European Regional Convention (also known as at the Lisbon Convention) jointly updated in 1997 by UNESCO and the Council of Europe.
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> Other initiatives include the Guidelines on Quality Provision in Cross-Border Higher Education jointly developed by UNESCO and the OECD. The Guidelines aim to protect students and other stakeholders from low-quality higher education programmes, and disreputable practices and providers. They are not legally binding but countries are encouraged to use them in the manner that is most appropriate for their national context.

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[43] European Commission, Report on Progress in Quality Assurance in Higher Education, COM (2014) 29 final, p. 8.

[44] ENQA, Standards and Guidelines for Quality Assurance in the European Higher Education Area, 2009. The revised version of the guidelines will be approved by the Ministerial Conference in Yerevan, in May 2015.

[45] EQAR, Annual Report, 2012, pp. 15-17.

[46] See for example the project aiming at the mutual recognition of accreditation results regarding joint programmes.

[47] As the only United Nations agency with a mandate in higher education, UNESCO deals with cross-border higher education and quality assurance, with a special focus on mobility and recognition of qualifications. See also box

In addition, the **European Qualifications Framework** (EQF) is intended to make national qualifications more readable across the EU. Launched in 2008, it encourages countries to relate their national qualifications systems to the EQF so that all new qualifications issued from 2012 carry a reference to an appropriate EQF level. However, practitioners argue[48] that for the time being, qualifications frameworks play only a modest role in increasing transparency and promoting common recognition.

More recently, the results of a 2014 Eurobarometer survey on the perception of Europeans of the recognition of their qualifications in the EU[49] show that difficulties in this area still persist. While over half of the respondents (56%) assume their qualifications would be recognised in other EU countries, 6% tried to work or study in another Member State but were unable to do so, either because their qualifications were not recognised by their prospective employer (12%) or education institution (7%), or because the respondents lacked information about recognition of their qualifications abroad (17%). Just 12% of those polled have heard about the European Qualifications Framework.

3.2.3. Social dimension

Although EU policy documents[50] highlight the importance of the social dimension of higher education in terms of 'providing opportunities, access, treatment and outcomes that are independent of socio-economic background and other factors which may lead to educational disadvantage', and countries have made commitments through the Bologna process[51] to develop strategies and define measurable targets, findings[52] on monitoring suggest that there is still a great deal of progress to be made.

Only nine EU countries[53] have currently defined attainment targets for specific groups, yet, they represent interesting examples of policy development in this area. In Belgium (Flemish Community) a target for children whose parents do not hold a higher education qualification has been set at 60% by 2020. Ireland which has the most comprehensive set of targets related to under-represented groups has a specific target on mature students (20% of full-time new entrants by 2013). France has established a target for disadvantaged socio-economic groups set at 31.5% for undergraduate programmes and 22% for Masters' programmes by 2015. In addition, the country has a target for grant-receiving students in the academic progression routes leading to the selective and prestigious *grandes écoles* to rise to 30% by 2015.

Both bridging programmes[54] and recognition of prior learning are an access feature of about half of the European higher education systems.[55] However, clear geographical patterns are visible, as they remain most prevalent in the north and west of Europe. There are few examples of an alternative route accounting for more than 10% of entrants. There are only

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on global initiatives. More information on the UNESCO conventions on the recognition of qualifications, the European Regional Convention, the Guidelines on Quality Provision in Cross-Border Higher Education, and the World Bank and UNESCO Global Initiative for Quality Assurance Capacity.

[48] CEDEFOP, Qualifications frameworks: expanding influence, persisting obstacles, 2014, p. 4.

[49] European Commission, Special Eurobarometer 417, June 2014.

[50] Council of the European Union, Conclusions on the social dimension of education and training, 11 May, 2010.

[51] In 2007 in London, the ministers agreed that 'the student body entering, participating in and completing higher education at all levels should reflect the diversity of our populations'. Ministers also emphasised that 'students [should be] able to complete their studies without obstacles related to their social and economic background'.

[52] EURYDICE, Modernisation of higher education in Europe, 2014.

[53] EURYDICE, *op.cit*. pp. 15-17.

[54] For students who left school prior to the completion of upper secondary education or who have completed a form of upper secondary education that does not give direct access to higher education.

[55] EURYDICE, *op. cit*. pp. 21-23.

two exceptions in the EU to the common pattern of one route dominating as the primary means of entering higher education. In Finland 71% of students enter through upper secondary general education examination, and 18% through upper secondary vocational education and training. Slovenia shows a similar pattern, but with 55% entering through the general education route and 43% through the vocational route. The evidence from quality assurance agencies[56] suggests that their own role in fostering wider access is extremely limited. While quality assurance agencies may examine some issues related to admission systems, they generally do not do so from a perspective of ensuring that the system is fit for the purpose of widening access. Instead, agencies tend to check only that the admissions process is coherent with programme requirements. For example, no agency claimed to look at the differing impact of admissions systems on different types or profiles of students.

Facts and figures about higher education in the United States

In 2012, there were around 21 million students[57] enrolled in one of the over 7 000 degree-awarding institutions[58]. This represents roughly 6.9% of the total population.[59] About 13 million of these students were enrolled full-time. In 2011, the United States ranked[60] fifth in terms of higher education graduates among 25-64 year-olds (42%), but 12th when considering 25-34 year-olds (43%). Among 25-64 year-olds, only Canada (51%), Israel (46%), Japan (46%) and the Russian Federation (53%) had higher levels. Concerning the percentage of younger adults (25-34), the United States is above the OECD average of 39% but far behind South Korea, with 64%.

The American higher education system[61] is well diversified with community colleges at the bottom of the pyramid, colleges and state universities, and research universities at the top. No national law governs the types of degrees. However, each state regulates the level of degree that institutions located within its borders can award. Each institution determines its own programme following broad guidelines set by the respective state or by specialised accrediting agencies. **Community colleges** are often (though not always) two-year colleges. They have open admissions, with generally lower tuition than other state or private schools. Graduates receive the Associate's degree such as Associate of Arts or (AA). **Four-year colleges**, which usually have a larger number of students and offer a greater range of studies, provide the Bachelor's degree, mostly the Bachelor of Arts (BA) or Bachelor of Science (BS).

Four-year institutions focusing on the liberal arts are known as liberal arts colleges. They are residential (i.e. students reside on the campus) and can also operate as the undergraduate institution of a university (such as Harvard College or Yale College). **Universities** offer both undergraduate and graduate programmes and are more research-oriented. However, for historical reasons, some universities (e.g. Boston College) have retained the term 'college' as their name. Graduate programmes grant a variety of Master's degrees[62] such as Master of Arts (MA), Master of Science (MS), Master of Business Administration (MBA) or Master of Fine Arts (MFA) in addition to Doctoral degrees (PhD). Some universities have professional schools (e.g. journalism schools, business schools, medical schools). The American university system is largely decentralised. Public universities are administered by the individual states. Each state supports at least one state university and several support many more. Except for the United States military academies and colleges, the federal government does not directly regulate universities. Colleges and universities are usually governed by boards of trustees. Most private higher education institutions are non-profit.

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[56] EURYDICE, *op. cit*. pp. 34-42.

[57] US Department of Education, 2013, p. 4.

[58] Higher education data centre, 2013.

[59] According to the United States Census Bureau, in 2012 the American population was slightly over 315 million.

[60] OECD, Education at a glance 2013 Indicators, Country Note United States, 2013, p.2.

[61] J. Forest, P. Altbach, International Handbook of Higher Education, Springer, 2011, pp.1043-1046.

[62] The Carnegie Classification of Institutions of Higher Education distinguishes among institutions on the basis of the prevalence of degrees they grant and considers the granting of Master's degrees necessary, though not sufficient, for an institution to be classified as a university.

3.3. The Bologna process 15 years on: where do we stand?

It is not easy to assess what has been achieved over the last fifteen years, since the Bologna process has expanded considerably in two directions – first, in terms of scope, but also in terms of participating countries. Whether it has accomplished its mission is a question with many viewpoints, ranging from 'highly successful' to 'failed', depending on who provides the answer. Yet, even the strongest critics[63] recognise that the basic political idea was and is still compelling – creating unhampered exchanges between students across Europe. The fact that often more hurdles were created than removed cannot be blamed entirely on the reforms. Unsurprisingly, the most positive reactions come from inside the Bologna system. Turning to the types of institutions, the longer established universities tend to be more on the critical side, whereas there is more acceptance among the newer institutions.

3.3.1. Achievements

As far as the introduction of formalised European **structures and procedures** is concerned, the Bologna process can be described as a success story. Data from the Bologna process implementation report (2012)[64] show that the three-cycle degrees system is now being implemented in 47 countries,[65] and the share of students in programmes corresponding to the two-cycle system is 90% in 26 countries, and 70-89% in 13 other countries. The implementation of the ECTS as a transfer and accumulation system is almost completed.

In terms of **access**, analysis indicates that between 2003 and 2009 enrolments intensified,[66] although this development was not uniform. The report however emphasises the relatively low participation rate of first generation migrants[67] in some countries. Achieving a wider access and diversity of the student population is directly linked to the availability of alternative access routes based on the recognition of knowledge and skills acquired outside formal learning contexts. Even though the report signals that education systems in Western Europe are more flexible, less than one in ten students in these countries enter higher education through an alternative pathway.

The outcome of higher education is measured by the **level of completion of studies** as well as by the labour market prospects for graduates. On this particular aspect, data available for 22 countries show[68] that around three in four students complete their studies. Unsurprisingly, the relative chances for students with highly educated parents to attain higher education are between two and five times higher than for students whose parents have a medium educational level.[69]

In terms of **employment**, the average figures[70] for the period 2006 to 2010 suggest that the higher the level of education, the lower the unemployment rate among young people. However, on average, around one fifth of young people with higher education degrees are

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[63] D. Smith, The World from Berlin: German Universities 'Share Blame' for Problems, in Spiegel Online International, 15 August 2012.

[64] EURYDICE, Bologna process implementation report, 2012, pp. 31-33.

[65] Unless otherwise indicated, all available data for this section refers to the European Higher Education Area.

[66] EURYDICE, op.cit. pp. 19-20.

[67] This particular phenomenon, however, is not only linked to access and admission problems. According to the authors of the report, the explanation can be found at earlier education levels, since students with a migrant background are more likely to drop out of school early.

[68] EURYDICE, op.cit. pp. 105-106.

[69] Interestingly, the parents' educational background has a stronger impact on the students' chances to attain higher education than a migrant background.

[70] EURYDICE, op.cit. pp. 112-124.

employed in positions not usually requiring a higher education qualification. It is also interesting to note that on average, obtaining a higher qualification improves women's employment prospects more than that of men.

3.3.2. Criticism

In spite of the substantial achievements, the fundamental nature of the Bologna process as an intergovernmental initiative entailing a power-shift to the executive (i.e. the European Commission) at the expense of the national parliaments, still poses some problems. From the very outset, criticism has crystallised over the **legitimacy** of the process, sending thousands of students and teachers onto the streets.[71] Practitioners assert that the soft law[72] (e.g. in the form of agreed objectives and targets) by means of which the measures initiated through the Bologna process are implemented has doubtful democratic legitimacy and suffers from all the accountability defects inherent in international policy-making.[73] Indeed, this is one of the reasons it has been suggested[74] that the Bologna process should have been implemented preferably through a Bologna Directive.[75]

In addition, opponents to the process claim[76] that the almost limitless growth of the European Higher Education Area defeats compatibility and comparability of systems, and rather than leading to a convergence of systems, it increases their **discrepancy**. Other claims emphasise the **deterioration of study conditions**[77] (e.g. student workload), and **academic mobility**, and **oppose the concept of employability.**[78]

The controversy over Bologna has been especially strong in Germany and Austria, where experts described[79] it as a '**clash of values**' between the guardians of the Humboldtian tradition[80] in the German-speaking countries and the proponents of the modernisation of their education systems.

4. The cost of higher education in the EU

The cost of higher education and the best way to support students in paying for it are among the most debated public policy topics in education, especially in times of economic crisis. Striking the right balance between providing sufficient support to institutions through tuition

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[71] See for example, S. Garben, The Bologna Process and the Lisbon Strategy: Commercialisation of Higher Education through the Back Door?, Croatian Yearbook of European Law and Policy, Vol. 6, 2010, p. 225.

[72] The most obvious example of this is the introduction of the Open Method of Coordination (OMC) in education. The OMC is a voluntary process which allows Member States to progressively develop their own policies through agreeing common guidelines and goals. It has been argued however, that the European Commission plays a central role in the OMC, and is in a position to set overarching goals for the European higher education sector.

[73] S. Garben, op.cit. pp. 217-225.

[74] S. Garben, op.cit. The Bologna Process: From a European Law Perspective, pp. 193-194.

[75] However, it should be reminded that Bologna is not an 'EU process' but an intergovernmental initiative.

[76] H. de Rudder, Mission accomplished? Which mission? The 'Bologna Process' - a view from Germany, in Higher Education Review, Vol. 43, No 1, 2010, pp. 11-12.

[77] A. Labi, In Europe, Skeptics of New 3-Year Degrees Abound, in The Chronicle of higher education, 11 June 2009.

[78] In Germany and Austria, students were in particular opposed to the very concept of employability which in their view subordinates universities to the demands of the labour market.

[79] H. Pechar, The Decline of an Academic Oligarchy. The Bologna Process and 'Humboldt's Last Warriors', 2012, pp. 515-516.

[80] Three main features distinguish the Humboldtian model of university: the unity of research and teaching (die Einheit von Forschung und Lehre), the protection of academic freedoms – the freedom to teach (Lehrfreiheit) and the freedom to learn (Lernfreiheit) – and the central importance of the faculty of philosophy (or the faculty of Arts and Sciences in modern terminology).

fees and maintaining access and equity is challenging.

Higher tuition fees are expected to increase the resources available to educational institutions and support their efforts in maintaining and developing quality programmes for the ever-growing student population.[81] However, tuition fees may also restrict access to higher education for students from low-income backgrounds, especially, in the absence of appropriate public support schemes. The European Commission has stressed on various occasions[82] that while it is fundamental to choose appropriate funding mechanisms, considerations of efficiency should go in parallel with concerns on equity and access to education. In this context, the question of how higher education funding and support systems are structured gains particular importance. However it is very difficult to compare accurately and clearly the available data at EU level, because national realities are complex and multidimensional.
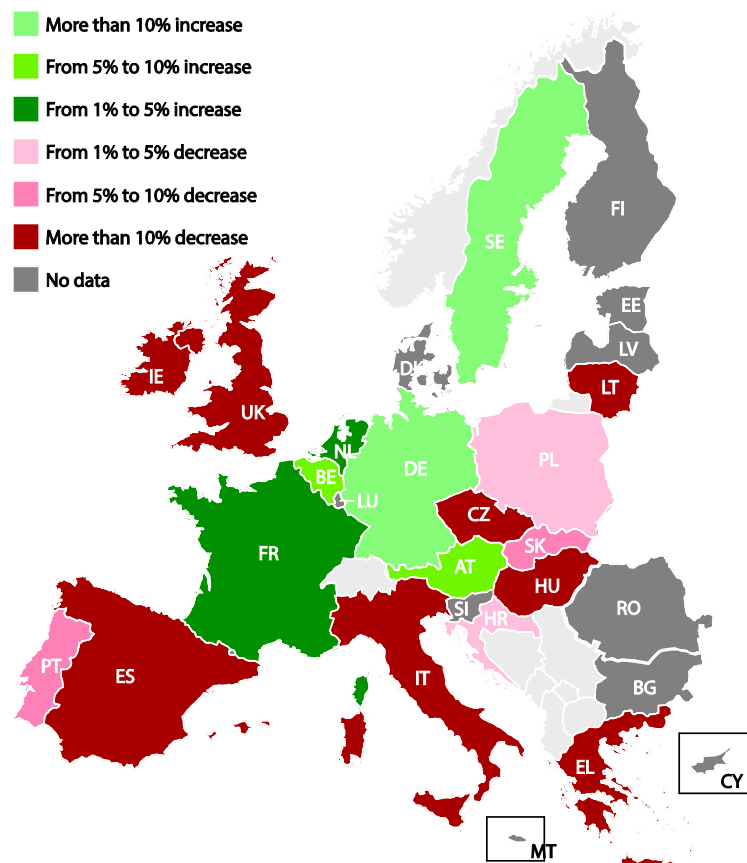
4.1. Public expenditure

European higher education institutions are funded predominantly by public sources. It would therefore be interesting to compare the intensity of expenditure across the EU. Unsurprisingly, the levels of public funding vary considerably and the response to the economic and financial crisis has not been a uniform one. While public expenditure increased considerably in some countries after 2008, there have been significant budget cuts in others.

4.1.1. Funding and inflation
Figure 4 presents the inflation-adjusted change for 2008-2012. When considering the financial support to the sector over the entire period, it is essential to keep inflation in mind because it mitigates the effects of a funding increase and worsens the effect of funding cuts. Those countries that

Figure 4 – Inflation-adjusted change for public expenditure in higher education, 2008-2012

- More than 10% increase
- From 5% to 10% increase
- From 1% to 5% increase
- From 1% to 5% decrease
- From 5% to 10% decrease
- More than 10% decrease
- No data

Data source: European University Association's Public Funding Observatory, Spring 2013.

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[81] However, the results of a recent study (2014) show that new income from fees is not always used to directly enhance the student experience. In some cases, new funds are dedicated to expansion (i.e. giving the same experience to more people) rather than improvements in quality (i.e. providing a better experience for the same number of people). In others, expenditure on non-instructional activities (e.g. administrative or management tasks) expands. Finally, the emergence of research-centred global rankings (see next chapter) also intensifies prestige-driven competition and contributes to the growing prominence of research activities. Even if they acknowledge the beneficial effect of this type of investment, the authors of the study argue that this can be perceived as a diversion of resources from universities' main task – namely educating students.

[82] See for instance, European Commission, Rethinking education: Investing in skills for better socio-economic outcomes, COM (2012) 0669 final.

have seen real increases remain a minority (a third of the countries presented on the map), while two-thirds have faced sometimes dramatic cuts. In four countries - France, the Netherlands, Austria and Belgium (French Community) – there has been an increase of between 1% and 10%. In two other countries – Germany and Sweden – the increase exceeded 10%. In contrast, in Croatia, Poland, Portugal and Slovakia, public expenditure dropped by between 1% and 10%. In eight other countries – the Czech Republic, Spain, Greece, Hungary, Ireland, Italy, Lithuania and the United Kingdom – the decrease was superior to 10%. When all groups are taken together, it is obvious that there has been an overall decline in public expenditure.

Nevertheless, cuts in higher education budgets do not necessarily mean fewer resources. In some cases (e.g. in the United Kingdom), public expenditure is replaced by private contributions (e.g. from tuition fees, see also next chapter). Such reductions in public expenditure are different from expenditure cuts that do not involve any new funding sources. Overall the data confirms that the financial situation of higher education in the east and

Figure 5 – Annual public expenditure on tertiary education as a % of GDP, 2008

Data source: EURYDICE, Bologna process implementation report, 2012.

south of the EU is under extreme pressure, while countries in the north and west, with some exceptions, continue to perform better. This finding is further confirmed when data is analysed in relation to gross domestic product (GDP).

4.1.2. Funding and gross domestic product

In 2008, the average public expenditure on higher education in the EU[83] was 1.23% of GDP[84] (see figure 5). The highest value was registered in Denmark (2.4%) and the lowest in Slovakia (0.78%). As shown in table 2 below, more recent data for 14 EU countries from the Public Funding Observatory[85] indicate that six of them registered an increase for the period 2008-2013. In contrast, in eight countries investment dropped.

Table 2 - Evolution of public funding for higher education institutions, percentage of GDP, 2008-13

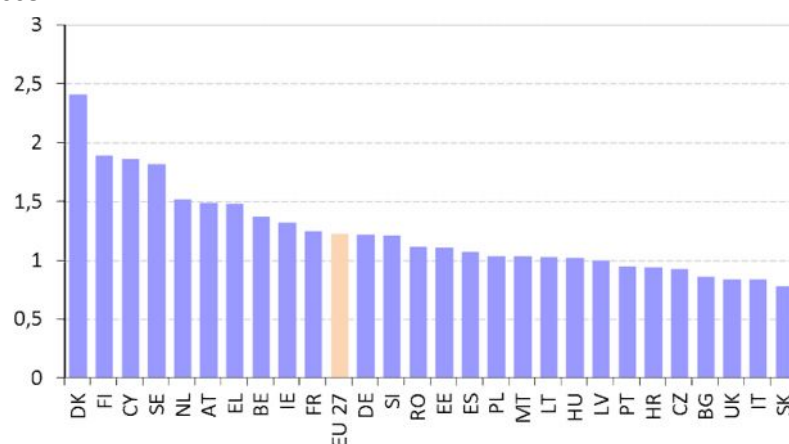| Evolution 2008-2013	Countries
2013 higher than 2008	Austria, Croatia, France, Netherlands, Poland, Sweden
2013 lower than 2008	Czech Republic, Greece, Hungary, Italy, Lithuania, Portugal, Slovakia, United Kingdom (England and Wales)

Data source: European University Association's Public Funding Observatory, Spring 2013.

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[83] EURYDICE, *op.cit.* Bologna process implementation report, pp. 23-24.

[84] Across OECD countries, the average is higher, 1.6% of GDP. See *op. cit*. Education at a glance 2013 Indicators: Indicator B2 What proportion of national wealth is spent on education? p. 183.

[85] European University Association's Public Funding Observatory, spring 2013, pp. 5-6.

4.1.3. Funding and student numbers

Data on student numbers remains an interesting element when discussing funding developments. As shown in Table 3 below, nearly half of the 17 EU countries considered in the Public Funding Observatory report[86] had a student population that grew by more than 10% over the period 2008-2011, revealing an additional pressure on the universities' finances and mitigating the funding increases granted in some cases. Four countries saw their student population rise by less than 10%, and finally, four had decreasing student numbers, sometimes quite dramatically (in Latvia for instance, student numbers fell by about 16%).

Table 3 – Evolution of the number of students, 2008-2011

Evolution 2008-2011	Countries
Student numbers grew by more than 10%	Austria, Germany, Denmark, Croatia, Ireland, Netherlands, Portugal, Sweden
Student numbers grew by less than 10%	Czech Republic, Finland, France, United Kingdom
Student numbers decreased	Latvia, Poland, Slovakia, Italy

Data source: European University Association's Public Funding Observatory, Spring 2013.

In this context, the inflation-adjusted decrease in funding experienced by universities in Croatia, Portugal, and Ireland, coupled with rising student numbers, is all the more alarming. In the United Kingdom, public funding is dropping while student numbers are rising. However, the fact that the funding system has been recently changed to rely more on tuition fees makes it difficult to compare it to other systems.

Finally, falling student populations are also a cause for concern since they make it more difficult for a country to build human capital. Decreasing student numbers do not necessarily mean decreasing costs, since a large part of the expenses are fixed (e.g. for infrastructure maintenance).

4.2. Contribution of private funding

As previously seen, the room for manoeuvre in terms of public spending was greater for some Member States than others. However, nearly all shared the same double challenge: coping with rising costs due to the increasing number of students, while finding more efficient ways to deploy available financial resources. In a quest for the right balance, different models of funding exist across Member States, with a growing number of countries introducing greater cost-sharing into their higher education systems (e.g. between the state, businesses, foundations and alumni).

Private contributions to higher education institutions may take one of two forms. Firstly – and this is the most common form of cost sharing – students (or their families) pay tuition fees. Secondly, private businesses, non-profit organisations and labour organisations make cash transfers to educational institutions. All these represent the contribution of the private sector to the budgets of higher education institutions. However, it should be noted that even when educational institutions receive funding from private entities; this does not mean that it does not originate from the government, in the form of transfers or social benefits given to those private entities.

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[86] *Ibid.* pp. 6-7.

4.2.1. Student (family) contribution

Fees requested from students are a key issue for them and their families, since they can account for a large part of their budgets. A (high) level of contributions may indeed impact access for certain student groups. Various student contributions can be requested by higher education institutions, ranging from tuition fees (often the highest), to administrative costs (e.g. entrance fees, payable once), to registration fees (payable every year), and certification fees (payable the year of graduation). In some countries no contribution is requested from students.

While there are major differences in terms of the prevalence of fees, there are also substantial variations in the criteria used to determine which students pay fees, and how much they pay. Two elements are most often taken into consideration: the financial situation of students, and academic performance. Also, large families and disabled persons can enjoy significant discounts, and may even be exempt. The majority of countries however use a combination of criteria.

A close look at figure 6 indicates that the average value of contributions from families increased only slightly between 2000 and 2008, from 13.8% to 16.6%. However, the differences across countries are quite substantial. For a significant group of EU countries the share of household expenditure remains less than or equal to 10% in 2008. At the other end of the scale, four countries reveal a considerable share of household expenditure in higher education institutions: the United Kingdom (49.4%), Bulgaria (33.7%), Latvia (32.5%), and Romania (29.8%).

To complete this analysis of student contributions, we shall examine the results from the recent mapping exercise by Eurydice[87] revealing wide variation in the amounts charged (see Figure 7) and in the way in which fees are collected.

Figure 6 – Share of total expenditure for higher education institutions from household funding, 2000 - 2008 (%)
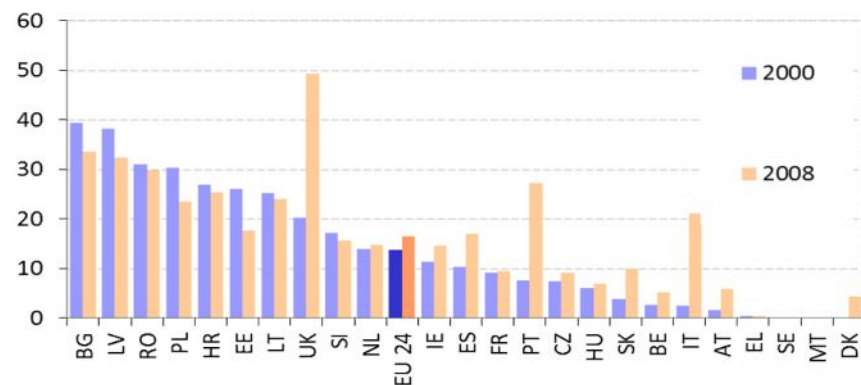
Data source: EURYDICE, Bologna process implementation report, 2012.

For example the fees paid in the Czech Republic are less than €50 per year and are charged as a contribution towards administrative costs.

Some countries, mainly Nordic (Denmark, Finland, and Sweden) apply a 'no fee' regime. The notion that government should provide its citizens with higher education at no charge is a prominent feature of their educational culture, reflecting their traditional social values, such as equality of opportunity and social equity.[88] In its current form, the funding of both institutions and students (see 4.3.) in these countries is based on the principle that access to higher education is a right, rather than a privilege.

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[87] EURYDICE, National student fee and support systems in European higher education, 2014-2015.

[88] OECD, *op.cit.* Education at a glance 2013 Indicators: Indicator B5 How Much Do Tertiary Students Pay and What Public Subsidies Do They Receive?, p. 228.

Contrary to the general upward trend in tuition fees, Germany has been moving in the opposite direction. Those *Länder* that started introducing fees in 2007 have been gradually abandoning the practice and as of 2014-2015, studying is free of charge in all of the German *Länder*.

At the other end of the scale, the highest maximum fees are charged in the United Kingdom – currently capped at £9 000 (€12 205)[89] per year – following a profound reform of its fee system in 2012. However, the overall picture in this country is quite complex, as different rules apply in different parts of the United Kingdom (e.g. in Wales, Northern Ireland, and Scotland). In addition, it should be noted that the British tuition fee model is different from that applied in other countries. Rather than paying fees upon enrolment, most students pay them back after graduation (via the tax system) when they reach a defined income threshold (currently £21 000 per year or around €28 482).

Other countries with relatively high fees are Cyprus, Ireland, Slovenia, Lithuania, Hungary, and Latvia. However, the higher education institutions in these countries are subject to specific arrangements. In Cyprus, fees for the Bachelor cycle for Cypriot and EU students are paid by the State. In Hungary, Lithuania and Slovenia, the majority of students benefit from state-funded places and do not pay fees. State-funded places however are generally awarded on the basis of academic performance, which may in the end narrow access for some social groups and therefore contradict the inclusive dimension of higher education.

Reforms on tuition fees are usually combined with reforms in student support and can be linked to study performance.[90]

Figure 7 – Most commonly charged tuition fees for EU students in the first (Bachelor) and second (Masters) cycles, 2014-2015 (€1 000)
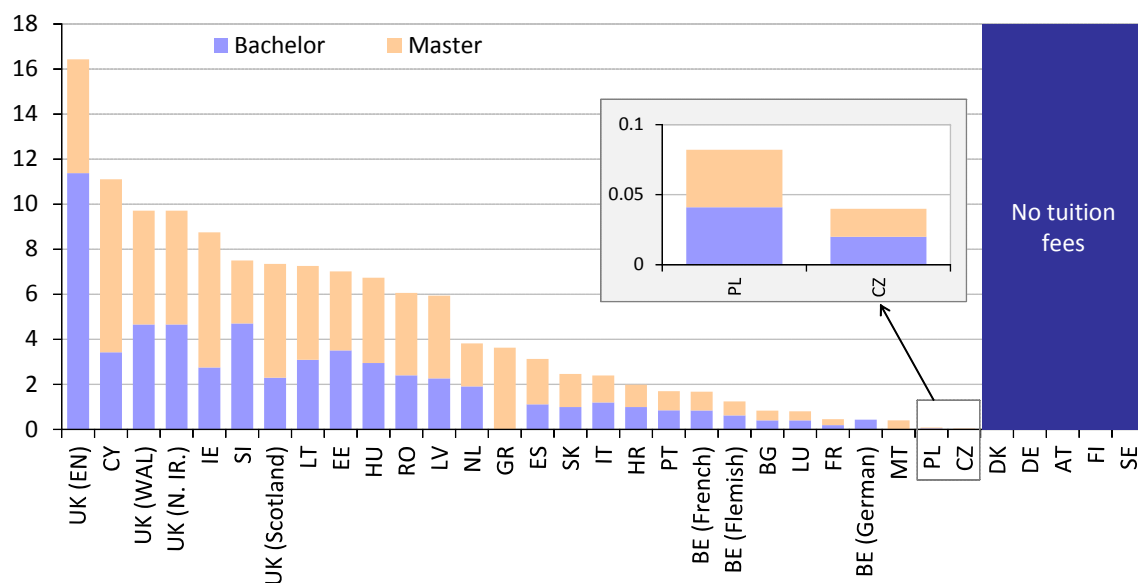
Data source: EURYDICE, National student fee and support systems in European higher education, 2014-2015.

Notes: In Greece, there are no fees for full-time students in the first cycle.
          Average amounts based on a ratio between the lowest and highest fees per cycle have been calculated for the following countries: Bulgaria, Croatia, Estonia, Hungary, Latvia, Lithuania, Portugal, Romania, Slovakia, and Slovenia.
          In Belgium (German-speaking community) higher education provision exists only for the Bachelor cycle.
          In Malta, no fees apply for the Bachelor cycle for Maltese and EU students following full-time courses.

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[89] Amount converted on 26 March 2015, £1 = €1.36, €1 = £ 0.74.

[90] Estonia is among the few countries that made a substantial change to its fee system in 2013-2014. Students managing to achieve 30 ECTS per semester and 60 ECTS per year do not pay any fees. However, for those with fewer credits, higher education institutions have the right (not obligation) to charge separately for each ECTS.

Financing higher education in the United States

American higher education institutions are financed in ways consistent with the belief that market-driven competition tends to have a positive impact on quality and efficiency.[91] While government plays an important role in financing, American higher education institutions are supported further through other financial sources such as tuition fees (including government-backed student loans), and appropriations and grants from federal, state, and local governments. Most universities, both public and private, have endowment funds (i.e. funds gathered through private/corporate donations to finance a portion of the operating or capital requirements of the institution). Harvard University has the largest endowment fund, which in 2012 stood at nearly €22 billion, while the average in the United States for the same period amounted to €241 million.[92] Harvard, Yale and Princeton universities all have almost €1.5 million in endowment funds per student.[93] Yet, experts point out[94] that in 2011, a private institution with 10 000 students typically had about 400 more staff than a public institution of equal size. Similarly, in the highly endowed schools, on average 16% of all students received federal grants (i.e. for students with financial needs), compared with 59% at the lowest-endowed institutions. This leads experts to the conclusion that endowment funds are anti-meritocratic and promote inefficiency through misallocation of resources.

In 2010, the United States spent[95] 2.8% of their GDP on higher education, much more than the OECD average (1.6%), and more than every other OECD country. Annual spending per student for the same period roughly amounts to €18 600, compared to the OECD average of €9 900. Only in Canada (€16 400) and Switzerland (nearly €16 000) does spending exceed €15 000. In the United States, 36% of expenditure on higher education comes from public sources and 64% from private sources, which is nearly the opposite of the average across OECD countries (i.e. 68% from public sources and 32% from private sources). Nearly half (48%) of all private expenditure on American higher education is provided by households.

The cost of higher education in the US has surged 1 120% over the past 35 years (four times faster than the increase in the consumer price index, see figure 8) and the average amount of student debt[96] when leaving university is at a worrying level. In 2010/11, the average annual tuition fee in first-degree programmes charged by public institutions to full-time national students was €3 900, one of the highest among OECD countries. However, 28% of public expenditure on higher education is dedicated to support for households through grants and loans. This is higher than the OECD average of 22%.

Figure 8 – Cost of education vs. consumer price index
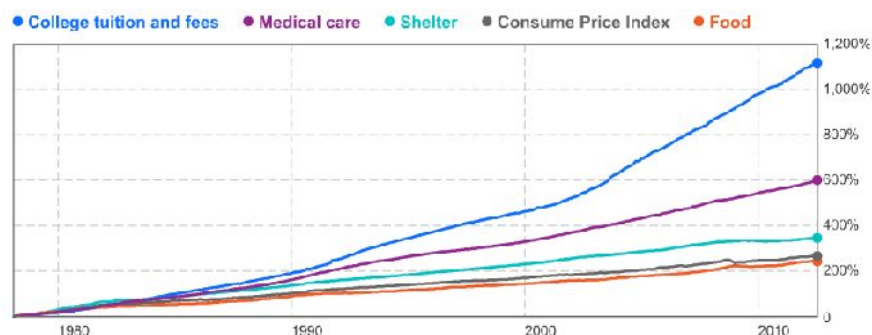
Data source: Bloomberg, 2012

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[91] J. Forest, P. Altbach, *op.cit*. 18, p. 1039-1043.

[92] D. Hayne, Universities with the Largest Financial Endowments, US News, 1 October 2013.

[93] R. Vedder, Cut off Harvard to save America, Bloomberg, 20 February 2014.

[94] *Ibid*.

[95] OECD, Education at a glance 2013 Indicators, Country Note United States, p. 4.

[96] Currently 40 million Americans hold student debt which in 2013 surpassed €700 billion in total. Two-thirds of students graduating from universities and colleges have some level of debt, and one in ten accumulates more than €29 000.
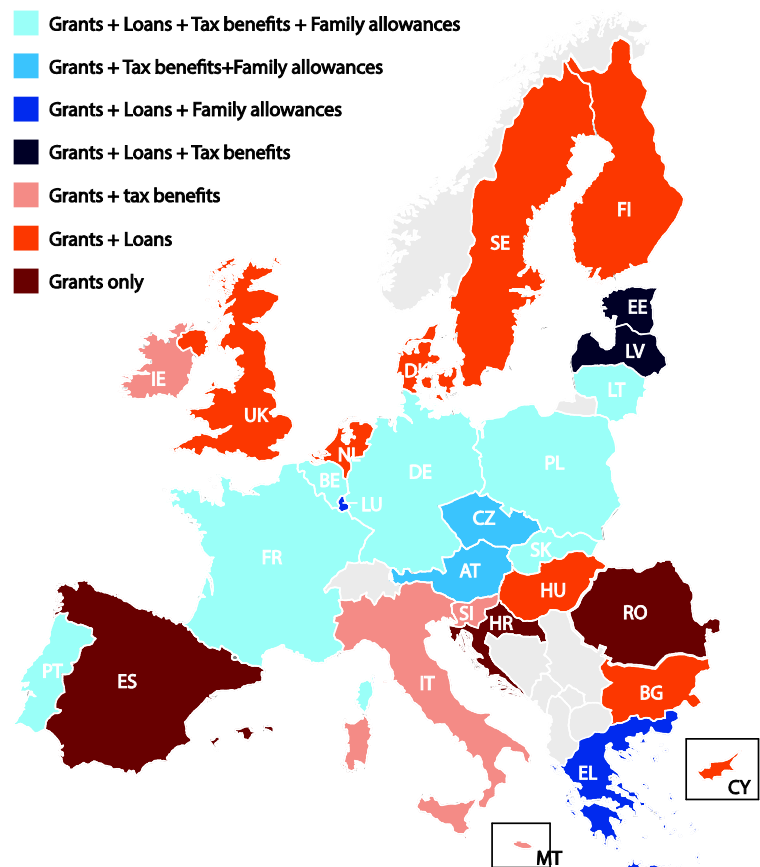
4.3. Student support

To get a complete picture of the cost of higher education in the EU, it is important to consider it alongside student support. Governments subsidise student living or educational costs through different combinations of grants, loans and tax benefits (see figure 9). Public support to students and their families indirectly funds higher education institutions. It also enables governments to increase participation in higher education, especially among low-income students, and thus address issues of access and equality of opportunity.[97] Proponents of student loans argue[98] that loans allow available funding to be spread further (i.e. if the amounts spent on grants were used to guarantee or subsidise loans instead, assistance would be available to more students) and general access to higher education would improve. In contrast, opponents of loans claim[99] that they are less effective than grants in encouraging low-income students to pursue their education.

Grants are cash awards that do not need to be repaid. Grant providers usually indicate whether their grant should be used for tuition, research costs or additional expenses. The two main forms of grants offered are those awarded on the basis of financial need, and those awarded for academic merit. Need-based grants are in use in all EU countries except Greece. Merit-based grants are used slightly less often. A mixture of both need and merit-based criteria for grants is present in around two thirds of EU countries. As with the fee system, Estonia is the only country that has made changes to its system in 2014 to introduce merit-based grants.

Even though student **loans** qualify as student support, they are a form of low-interest debt that must eventually be repaid. In general, there are limits to how much financial assistance students can receive in the form of loans. They are usually determined by the students' financial needs. Loans are

Figure 9 – Main forms of student support, 2014-2015

- Grants + Loans + Tax benefits + Family allowances
- Grants + Tax benefits+Family allowances
- Grants + Loans + Family allowances
- Grants + Loans + Tax benefits
- Grants + tax benefits
- Grants + Loans
- Grants only

Data source: EURYDICE, National student fee and support systems in European higher education, 2014-2015.

Note: In Belgium (Flemish community) no loans are available.

a helpful option for those who do not qualify for grants. An added benefit is that interest on certain student loans does not begin to accumulate until 6 to 12 months after graduation. Loans are often an important feature of support, and they are found to operate in

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[97] Similarly, as public subsidies can serve as a substitute for income from work, they may enhance educational attainment by allowing (in particular low-income) students to work less.

[98] OECD, *op.cit.* Education at a glance 2013 Indicators: Indicator B5 How Much Do Tertiary Students Pay and What Public Subsidies Do They Receive? , pp. 226-227.

[99] *Ibid*.

conjunction with grants and/or tax benefits. The countries that offer the highest amounts of need-based grants – with a maximum in excess of €5 000 per academic year, are Austria, Belgium (Flemish Community), Denmark, Finland, France, Germany, Ireland, Italy, Portugal, Spain, and the United Kingdom (Wales).

Support is not only channelled to students in the form of grants and loans, however. Some systems consider the student either as an individual or as a member of a family in need of support. Consequently, **family allowances** and **tax benefits** for parents also play a significant role in many countries. Indeed, in 14 countries tax benefits for parents are combined with grants and/or loans for students as the main form of support, while in 12 countries family allowances are also part of the combination.

5. University ranking systems

5.1. The impact of competition on higher education

The need to be able to stand out in a global marketplace where all the other competitors offer the same basic services – teaching and research – increasingly pushes universities to look for a competitive edge. While providing much wider choice for students, this global education market also makes it harder for them to compare the thousands of schools, programmes and courses.

Higher education competition is a relatively new phenomenon in most countries, except in the United States where it has been a hallmark of academia since the beginning of the 20th century. In Germany, for instance, all universities are by tradition seen as equivalent, to prevent the development of a privileged elite.[100] In France, in contrast, there is a more rigid divide between the prestigious *grandes écoles* and the rest of the higher education system, with few variations among institutions in these categories.

The advent of online learning and mass higher education brought a substantial change to the higher education landscape. Over the past 16 years, university-level graduation rates[101] have risen by 20% on average across OECD countries to reach some 40% today. As a result, higher education institutions of all kinds have expanded dramatically and the differentiation of academic systems around the world has grown in parallel.

Student mobility is another late 20th century phenomenon which greatly contributed to global academic competition. Over the past three decades, the number of students enrolled outside their own country has risen more than fivefold, from 0.8 million in 1975 to 4.3 million in 2011.[102] Nowadays, students seek to study at the best possible institutions, and institutions seek to recruit international students as a way of earning money from tuition fees as well as enhancing their prestige. National and global rankings are very much a part of competition. They also reflect and in some ways stimulate competition.

5.2. Global ranking systems: rationale and limitations

Globalisation has propelled higher education into open global competition between nations and individual higher education institutions as actors in their own right.

In the United States, evaluations of graduate programmes started as early as 1925 and a

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[100] This move however tended to undermine the faculties' competitive spirit and is already starting to change. See footnote 125 below and the section to which it refers.

[101] OECD, Education at a glance 2013, Highlights, p. 26.

[102] OECD, Education at a glance 2013, Highlights, p. 32.

ranking of American colleges was first published in 1983.[103] Global university rankings became internationally relevant in the 2000s, due to the increased mobility of students and the take up of mass higher education.[104] Recent overviews of existing systems[105] list rankings and league tables in more than 30 countries and across all continents, while several countries (notably the United States and the United Kingdom) have produced a number of competing rankings. Today, there are 10 major global rankings, over 60 national rankings, and a number of regional, specialist and professional rankings.[106] Currently, the two most prominent global rankings are the Shanghai Jiao Tong University's Academic Ranking of World Universities (AWRU) and the British *Times Higher Education* World University Ranking (*Times Higher*). They rank higher education institutions as a whole rather than faculties or programmes.

The launch of the **AWRU**[107] in 2003 marked the beginning of the era of global rankings, and the realisation that in a global knowledge economy, national pre-eminence is no longer enough. AWRU was initially designed as a tool for steering national research policy and planning. It therefore targeted policy makers and public authorities (in particular the ministries of education, science and technology). AWRU focuses on measurable research performance and is particularly favourable to universities in English-speaking countries[108] which represented 70% of the world's top 100 universities in the AWRU ranking for 2013. It analyses institutions based on several indicators of academic or research performance, including alumni and staff winning Nobel Prizes and Fields Medals (accounting for 30%), highly-cited researchers (20%), papers published in Nature and Science (20%), papers indexed in major citation indices (20%), and the per capita academic performance of an institution (10%). Experts argue[109] that the AWRU composite index partly rests on current reputation, therefore reproducing established global reputational hierarchies[110] and reinforcing the 'halo effects'[111] of well-known universities. In 2013, US universities took 17 of the top 20 positions.

The first ***Times Higher***[112] ranking was published in 2004. It also uses a composite index, but one that is more heterogeneous than that used by AWRU. One third of the index is grounded in reputation, volume, and income. Another 30% accounts for the learning environment and is intended as a proxy for 'teaching quality'. Research influence measured through citations is also worth 30%. The remaining 10% are divided between innovation (2.5%) and the international outlook with respect to staff, students and research (7.5%). American institutions in the Times Higher occupied 15 of the top 20 positions in 2014. In contrast, with the exception of a few British institutions, continental European universities were poorly positioned in both the *Times Higher* and the AWRU.

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[103] J. Shin, R. Toutkoushian, U. Teicher (Eds.), University Rankings: Theoretical Basis, Methodology, and Impacts on Global Higher Education, 2011.

[104] UNESCO, Rankings and accountability in higher education: uses and misuses, 2013, p. 115.

[105] OECD, Multidimensional ranking: a new transparency tool for higher education and research in Higher education and policy – Volume 22/3, 2010, p. 8.

[106] E. Hazelkorn, How Rankings are Reshaping Higher Education, 2013, pp. 2-3.

[107] Academic Ranking of World Universities.

[108] Publications written in English are more widely read, and cited, than those written in any other language; as a result non-English output from universities tends to have lower position in the rankings.

[109] S. Marginson, University rankings, government and social order, 2009, p. 9.

[110] Well-known universities attract ever more funding and talent so that their performance continues to rise and their reputation is continually reproduced in a self-perpetuating curve. At the same time, newcomers tend to be blocked in their attempt to build reputation, regardless of talent or effort.

[111] In other words, because an institution is known as being excellent in some aspect, it is considered excellent in everything it does.

[112] Times Higher Education World University Ranking.

Both rankings have proved very controversial since they are believed to have the power to 'make or break' institutional reputations.[113] On the one hand, improved competitiveness relying on rankings can trigger higher national investment in research. On the other, higher education institutions have stronger incentives to put performance ahead of social access[114] and favour investments in activities that will improve their position in the rankings, rather than in core areas such as teaching and learning. Assessment experts have expressed[115] serious reservations about the methodologies used by global ranking systems. In particular, doubt has been cast on the possibility of comparing whole universities – in other words, diverse and complex organisations – on the basis of aggregated scores. In addition, it has been frequently argued[116] that rankings provide an oversimplified picture of the mission, quality and performance of universities, as they focus essentially on indicators related to their research function. Similarly, global rankings in their present form only cover a small percentage of the world's estimated 17 500 universities – somewhere between 1% and 3% (200-500 universities) – thus ignoring the rest. The use of proxies has also been criticised for being, in some cases, only remotely linked to the respective category (e.g. alumni winning Nobel prizes as a proxy for education quality). Different rankings also assign different weightings[117] to the indicators, which in the end can change the position of the institution considerably. A further drawback[118] is the bias in favour of English. This language bias also entails a disciplinary bias since the vast majority of science publications are available in English, while other fields such as the social sciences, arts and humanities have much stronger national research cultures.

Notwithstanding their controversial nature and methodological shortcomings, rankings have become widespread and are clearly here to stay. Experts assert[119] that overturning them would be extremely difficult. Indeed, rankings were the first to create a reference point legitimising existing dominant values, and challenging them would require sound data which is not always available.

As a result of the strong criticism expressed, alternative systems for measuring and comparing quality and performance in higher education have begun to emerge. One such example is the OECD project AHELO[120] (Assessment of Higher Education Learning Outcomes). It aims to provide a better measure of the relevance and quality of teaching and learning by assessing student performance through a test of generic and discipline-specific skills.

5.3. Stock-taking and policy response within the EU

In the EU, the unsatisfactory results of European higher education institutions in the two global ranking systems coincide with wider concerns over the EU's position as a knowledge economy compared to that of the United States in particular, but increasingly also with respect to emerging Asian countries, such as China. Concerns have been growing about the EU's capacity to solve the 'European paradox', namely, the perceived failure of European

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[113] S. Marginson, *op.cit*. p. 13.

[114] S. Amsler, C. Bolsmann, University ranking as social exclusion, in *British Journal of Sociology of Education*, 2012.

[115] European Commission, Assessing Europe's university-based research, 2010, p. 20.

[116] See for example, EUA, Global university rankings and their impact, 2013, p.

[117] E. Hazelkorn, Understanding rankings and the alternatives: implications for higher education, 2012, p. 10.

[118] European Commission, *op.cit*. p. 20.

[119] N. Kauppi, T. Erkkilä, The struggle over global higher education, *International Political Sociology* (2011) 5, 314–326, p. 323

[120] More information on AHELO is available in a presentation by OECD.

countries to translate scientific advances into innovation, enhanced productivity and economic growth. European (under)performance in global rankings has therefore prompted policy reflection and action in both EU and national governments. Responses to growing global competition, in which knowledge – and in particular research and development – is a prime factor for economic growth, are increasingly shaping policies and setting the agenda for the future of European higher education.

Research and development: where the EU stands

One of the five main objectives of the Europe 2020 Strategy is to improve the conditions for research and development (R&D), in particular by raising combined public and private investment levels to 3% of GDP.[121] While the EU is slowly advancing towards this target, the gap with its world competitors is widening. Between 1995 and 2008, total R&D investment in the EU rose by 50% in real terms. However, during the same period, the United States increased its investment by 60%, the four most knowledge-intensive countries in Asia (Japan, South Korea, Singapore and Taiwan) by 75%, Brazil, Russia, India, and South-Africa by 145%, China by 855% and the rest of the world by almost 100%.

The large number of researchers is one of the EU's major assets. In 2008, there were 1.5 million researchers[122] in the EU, compared to 1.4 million in the United States and 710 000 in Japan. However, China remained the global leader with 1.6 million researchers in absolute terms. Notwithstanding, the EU will need to create at least 1 million new research jobs if it is to reach the 3% target in R&D. More than half (54%) of all EU researchers work in the public sector, and only 46% in private companies. This is a European exception. The share of researchers employed by the private sector is much higher in China (69%), in Japan (73%), and in the United States (80%).

Every year in the EU more than 940 000 students obtain a degree in Science and Engineering, and the overall number of higher education degrees increased at an average annual rate of 4.9% per year in the period 2000-2008. With 111 000 new PhD degrees every year, the EU awards nearly twice as many doctoral degrees as the United States.[123] This proportion is even higher for Science and Engineering where the EU counts more than twice the number of American PhDs.

The real breakthrough of the last decade, however, occurred in China: ten years ago, China enrolled a similar number of undergraduate students as the EU (around 3 million) or the United States (2.5 million). In 2009, this number skyrocketed to more than 6 million, thus equalising the combined number of undergraduates in the EU, the United States and Japan.

In terms of scientific excellence, the EU is the first producer of peer-reviewed scientific publications in the world, with 29% of the world production in 2009, ahead of the United States (22%), China (17%) and Japan (5%). During the period 2001-2009, the EU as a whole increased its share of scientific publications in the top 10% of most cited reviews in the world from 10.4% to 11.6%, but the United States remains the world leader with 15.3%.

Seen as a means to drive economic growth and create jobs, Horizon 2020[124] is the biggest EU Research and Innovation programme to date, with nearly €80 billion of funding available for the period 2014 – 2020, in addition to the private investment that the funding is expected to leverage.

As already mentioned, at **EU level**, the Europe 2020 Strategy is the main vehicle for enhancing performance of the higher education sector.

At **national level**, various initiatives are under way to enhance global competitiveness by concentrating resources and providing extra investments. The 'Excellence Initiative' was launched

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[121] Unless otherwise indicated, all data in this section are from European Commission, Innovation Union competitiveness report, 2011.

[122] The number of researchers is expressed as a full-time equivalent.

[123] But relative to the size of the population, the EU performs at a similar level to the United States. Note however that the EU has had lower growth rates over the past six years.

[124] More information on Horizon 2020 is available from the European Commission website.

in **Germany** in 2005 to provide extra funding (€1.9 billion over five years) for a selection[125] of scientific projects to compete on a global level and raise the visibility of German science and research. In 2007 the **Danish** government announced[126] a process of 'voluntary mergers' intended to strengthen the country's research and educational capabilities, increase ties with business and industry, and improve institutions' ability to attract international research financing. As a result, 12 universities and 13 national research institutions have been reduced to eight universities and three research institutions. In the **Netherlands** the three technical universities (Delft, Eindhoven, and Twente) joined forces in a national federation – 3TU – with the aim of strengthening and pooling world-class knowledge in the technology sector. The new **French** super campus Paris-Saclay is set to open its doors in 2015 as a grouping of two universities, 10 *grandes écoles*, and seven research institutes. It is expected to receive public funding of more than €5 billion over ten years.

At **institutional level**, an interesting example[127] is the establishment of the League of European Research Universities (LERU), which gathers 21 leading research universities aiming to ensure that more European higher education institutions can head global university rankings.

5.4. U-Multirank: the EU ranking system

As a response to the increasing global competition in higher education, in 2008, the European Commission set up an expert group[128] on the assessment of university-based research with the aim of establishing 'a more valid comprehensive methodological approach'. The new global ranking system U-Multirank was released[129] in May 2014. It claims to provide a more accurate picture of how universities perform, including by introducing more than 300 universities that have never before appeared in any world ranking. U-Multirank differs from other systems in the sense that it does not offer a ranking based on composite scores. Instead, it allows users to identify a university's strengths and weaknesses, or the aspects that most interest them. The ranking includes information on over 850 higher education institutions, more than 1 000 faculties and 5 000 study programmes from 70 countries.

As opposed to traditional approaches, most of which focus on research, to the disadvantage of other factors, U-Multirank is based on five key criteria: research performance, quality of teaching and learning,[130] international orientation, success in knowledge transfer, and contribution to regional growth. The ranking assesses universities' overall performance but also ranks them in selected academic fields. In 2014, the fields are business studies, electrical engineering, mechanical engineering and physics.[131] The universities are assessed on the basis of around 30 different indicators and rated in five performance groups ranging from A (very good) to E (weak). The results show that although more than 95% of higher education institutions receive an A for at least one indicator, only 12% obtain more than 10 top scores, which leads to the conclusion that no university can claim to be a high performer in all areas. On the other hand, many of them perform well in certain specific domains (43% of them

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[125] This initiative demonstrates a departure from the traditional German concept that all universities are equal.

[126] J. Oddershede, Danish universities - a sector in change, 2009, p. 9.

[127] Click on the following links for more information on: the 'Excellence Initiative', 3TU, Paris-Saclay, and LERU.

[128] European Commission, *op.cit*. Assessing Europe's university-based research, p. 10.

[129] Multirank Press release, 13 May 2014.

[130] However, recent research shows that students' evaluations are not very accurate since they assess their learning outcomes based on the ease with which they perform a task rather than on the knowledge acquired. This explains why they evaluate their teachers more positively when they learn less.

[131] Three other subjects – psychology, computer studies and medicine – will be added in 2015.

obtain an A for five criteria and 43% also obtain an A for 11 out of 15 criteria).

U-Multirank currently receives a budget of €2 million but will be able to benefit from additional funding for two years (2015-2017). In the future, the list of universities taking part in U-Multirank will be expanded. The tool has been designed by an independent consortium headed by the Centre for Higher Education in Germany and the Centre for Higher Education Policy Studies in the Netherlands, in partnership with other institutions. In the long term it is expected to be managed by an independent organisation.

6. New modes and models of higher education delivery

The world of education is currently undergoing a massive transformation as a result of the digital revolution.[132] New technologies create learning opportunities that challenge traditional higher education institutions, enabling people of all ages to pursue learning at their own pace, taking education out of universities into homes, libraries, and workplaces, where they can decide on the content, timing and methods that best suit their particular needs.

6.1. The pros and cons of digital learning

Digital learning is expected to offer multiple advantages,[133] namely in terms of broadened access to education for all. The potential benefits include: diverse knowledge sources often provided for free, no geographical limits, flexible timetables and methods that can be easily personalised, and the possibility for teachers to share and create content with colleagues and learners from different countries. Most importantly, digitally supported learning is believed to reduce costs[134] for educational institutions and for students, and to improve the employability and social inclusion of people from disadvantaged backgrounds. This impact on equity requires, however, sustained investment in educational infrastructure and human resources. Finally, digital technology is expected to allow for new ways of learning and assessing,[135]

> **Glossary**
>
> **E-learning** is an inclusive term describing educational technology which supports learning and teaching electronically. It is broadly synonymous with **online, digital, virtual**, and **ICT-based learning**. Each alternative name emphasises a particular aspect, component or delivery method. E-learning should not be confused with **distance education**, which delivers instruction to students who are not physically present in a traditional setting such as a classroom. In contrast, **distance e-learning** combines distance education and e-learning, and is characterised by the extensive use of online communication in an interactive learning environment.

focused more on what the learner is capable of doing rather than on the mere acquisition of information or on what the learner is capable of repeating.

It is generally believed that ICTs can empower teachers and learners and that their overall impact is positive. There is, however, little scientific evidence of the concrete contribution of ICTs to the learning process. Because of the lack of appropriate indicators, ICTs' impact remains difficult to measure, and therefore open to debate. Evidence is quite often derived

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[132] In 2010, ICT expenditure on education worldwide was in excess of €46 billion, showing 2.5% growth even after the financial crisis.

[133] See for example European Commission, Opening up Education: Innovative teaching and learning for all through new Technologies and Open Educational Resources, COM(2013) 654 final.

[134] For example, a Master's degree at Harvard Extension School (offering online courses) costs less than €18 000, in comparison to over €65 000 for a (traditional) Master's programme at Harvard's Kennedy School.

[135] Experts argue that written exams will belong to the past by 2023. Assessments will instead be done in online tests where students sit exams on computers analysing their ability and adjusting the difficulty of the questions accordingly.

from opinion-based studies interpreting perceived,[136] not actual, impact. Some experts[137] describe them as tools to support and improve existing learning processes rather than having any transformative potential.

6.2. Overview of new forms of digital learning

Transforming education requires[138] pedagogical, organisational and technological innovation. The increased use of ICT, particularly the internet, brought in a new era in course design and delivery[139] in ways never before experienced in the mainstream model of traditional education paradigms or distance education. The marriage of the two concepts, distance education and e-learning, marks a new strategy in delivering course content developed by conventional educational institutions or through open resources.

6.2.1. Open educational resources
Open educational resources (OERs) first appeared within the wider 'Openness' movement in the mid 1980s, based on the assumption that knowledge should be disseminated and shared freely through the internet for the benefit of society as a whole. OERs consist[140] of teaching, learning or research materials that are in the public domain or released with an intellectual

property licence that allows free use, adaptation, and distribution (see box). OERs range from textbooks to curricula, syllabi, lecture notes, assignments, tests, projects, audio, video and animation.

In 2001, the Massachusetts Institute of Technology (MIT) released a number of its courses online for free access[141] through its OpenCourseWare project, with 2 150 courses now available online. In 2005, this and other leading OER projects formed the OpenCourseWare Consortium[142] which seeks to allow universal access to education. In 2007, OER Commons opened as a digital library and intermediary for openly licensed and freely available teaching and learning content. Other examples include the Free Education

About OERu

Coordinated by the OER Foundation, an independent, not-for-profit organisation, OERu gathers 36 institutions from five continents to offer free online courses for students worldwide. OERu course materials are licensed using Creative Commons licenses and based solely on OER (including open textbooks). In addition, OERu course materials are designed and developed using open file formats and delivered using open source software. Through the network of partner institutions, OERu students can obtain formal academic accreditation and assessment at a low cost.

OERs and licensing

Open educational resources often involve issues relating to intellectual property rights. To address this issue, several open content licences have been developed. These include the Creative Commons licences and the GNU General Public Licence developed by the Free Software Foundation. Open licensing provides controlled sharing with some rights reserved to the author. However, practitioners warn that this type of licensing can be problematic since the boundaries between not-for-profit, educational and commercial exploitation or distribution, are often blurred and/or overlap.

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[136] Practitioners stress that two effects in particular explain the difficulty of measuring the real benefit of a change to a learning process. The 'Hawthorne effect' is a psychological phenomenon that produces an improvement in human behaviour or performance as a result of increased attention. The 'Dr Fox effect' suggests that people tend to give more credit to something that is well presented regardless of the value of the content being presented.

[137] European Commission, A Review of the Impact of ICT on Learning, 2008, p. 20.

[138] European Commission, A Digital Agenda for Europe, COM/2010/0245 final.

[139] It has been argued that universities' digital offer, such as virtual coursework and online classes, is increasingly becoming a key deciding factor when comparing institutions.

[140] UNESCO/COL, A Basic Guide to Open Educational Resources, 2011, p. 5.

[141] While open course material is free, the cost of creating an online educational experience is very high. Press sources indicate that the William and Flora Hewlett Foundation, the principal financial backer of the open educational movement, has spent more than €80 million over the past decade, with more than €10 million going to MIT.
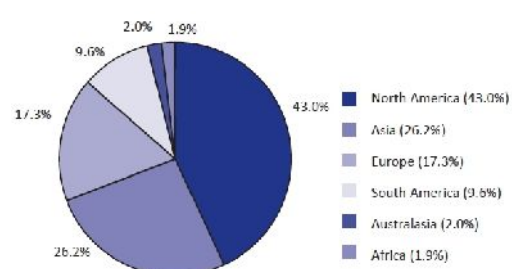
[142] Recently renamed Open Education Consortium.

Initiative from the Saylor Foundation, which has built over 300 free online courses with OER materials. The foundation also supports the creation of new openly licensed materials through its Open Textbook Challenge.[143] Most recently, in 2011, the OER University (OERu) was established in New Zealand with the distinct aim of making higher education accessible to everyone (see text box). UNESCO underlines[144] the importance of OERs for both students and teachers. The former benefit from free or low-cost access to courses and even degree programmes, while the latter can adapt those courses to local languages and build on them. On the downside, experts claim[145] that the imbalance between the provision of OERs and their utilisation is problematic. The majority of OERs are in English and based on Western culture, which not only limits their relevance but risks confining less developed countries[146] to the role of consumers. Other concerns include quality assurance,[147] accreditation,[148] and sustainability.[149]

6.2.2. Massive open online courses (MOOCs)

MOOCs are a recent development in distance education. They started emerging in the United States in 2011 with the clear purpose of not only providing more learning opportunities, but also improving the learning experience. Such flexible online courses allow students to choose their level of participation in an à la carte manner. Higher education institutions offering MOOCs do not award credits, but only a statement of accomplishment or a certificate.[150] MOOCs are developed by for- or non-profit private companies in partnership with universities or individual scholars. The

Figure 10 - Coursera students by continent of residence

- North America (43.0%)
- Asia (26.2%)
- Europe (17.3%)
- South America (9.6%)
- Australasia (2.0%)
- Africa (1.9%)

Data source: UNESCO, Introduction to MOOCs, 2013.

latest generation MOOCs are referred to as xMOOCs, to distinguish from an earlier type, known as cMOOCs (c for connectivism).[151] The latter were designed by academics through open-source web platforms, while xMOOCs consist of pre-recorded content presented by a subject expert. The idea with xMOOCs is to allow the platform to repeatedly run the same classes throughout the year on a rolling recruitment basis, with the best performing students from the previous 'class' acting as community teaching assistants for the subsequent one. Examples of such platforms include Coursera, developed by Stanford University and eDx, funded by MIT and Harvard University.[152]

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[143] For more information on: the OpenCourseWare project, the OpenCourseWare Consortium, OER Commons, the Saylor Foundation, the Open Textbook Challenge, and OERu.

[144] UNESCO, Communication and Information, website accessed on 12 June 2014.

[145] OECD/CERI, Giving knowledge for free, 2007, p. 106.

[146] However, in 2011, the African Virtual University (AVU) released 219 modules in English, French, and Portuguese under the Creative Commons licence. AVU is a Pan-African intergovernmental organisation set up by 14 African governments.

[147] A. Stella, Quality and Quality Assurance in Higher Education: The Opportunities and Challenges of OER, 2010.

[148] D. Conrad and al., Report on the Assessment and Accreditation of Learners using OER, 2013.

[149] D. Wiley, On the Sustainability of Open Educational Resource Initiatives in Higher Education, 2007.

[150] However, it has been reported that the American Council for Education has accepted 11 courses for credit – five from Coursera, five from Udacity and one from eDX – and will continue to review and provide external quality assurance for them.

[151] In other words, the course content is not located in one place, but may be located anywhere on the web. The course therefore consists of sets of connections linking the content together into a single network.

[152] Creating a MOOC platform requires considerable resources. The initial funding for eDx amounted to over €44 million.

The largest concentration of MOOCs is found in the United States and the movement is still very much US-driven[153] (see figure 10). However, statistics suggest that while EU universities took more time to get involved, they now account for approximately one quarter of the MOOCs in the world and the numbers are constantly rising (see figure 11). The majority of MOOCs still deal with science and technology issues. However, the social and applied sciences, and business and humanities are starting to pick up speed (see figure 12).

For some, MOOCs represent a 'learning revolution',[154] providing high quality education at low cost,[155] and unprecedented prospects for global access and participation.[156] However, concerns have been voiced[157] that many MOOCs are not truly innovative, but use fairly traditional learning approaches, and are therefore just an attempt to further commercialise higher education. Critics emphasise[158] that the learning process involves 'a thoughtful interaction between the student and the instructor'. They claim personal contact is precisely what MOOCs lack since they contribute to creating a 'crowd' and not a 'community' and thus fail to evolve into a learning relationship.

Figure 11 – European MOOCs

Data source: EU open education portal, June 2014.

For others, MOOCs are part of a trend towards the 'unbundling'[159] of higher education, which is expected to shake many institutions whose business model is based on a set fee for a campus-based degree course. It has been argued[160] that as online education spreads, universities will increasingly come under pressure to evolve into a 'buffet' arrangement, under which they will accept credits from each other, and from students who take courses at home, spending much less time on campus.
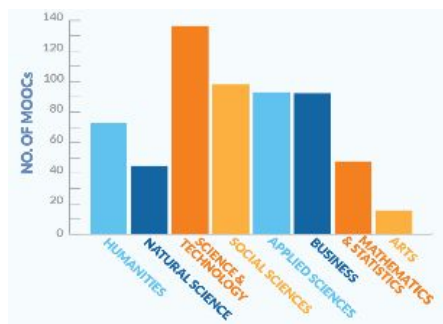
For other experts MOOCs would gradually evolve into MOCCS[161] – mid-sized online closed courses – that

Figure 12 – Distribution of MOOCs by subject

Data source: EU open education portal, June 2014.

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[153] The reason for this probably lies in the fact that tuition fees in the United States have skyrocketed in recent years and one of MOOCs' main drivers is to cut costs.

[154] J. Moore, Distance learning: The online learning revolution, in *The Telegraph*, 3 August 2012.

[155] However, MOOC platforms are increasingly under pressure either to transfer costs to course participants or to generate income from other sources. Experts stress that xMOOCs are tempted by the 'freemium to premium' business model, which offers services and products that are initially free, but once a consumer base has been established, a fee is then charged for advanced or additional services and products.

[156] A MOOC at Stanford University – Introduction to Artificial Intelligence – drew worldwide enrolment of over 120 000 students.

[157] M. Gaebel, Massive Open Online Courses, in EUA Occasional Papers, January 2013, pp. 9-10.

[158] D. Guthrie, Jump Off the Coursera Bandwagon, in *The Chronicle of Higher Education*, 17 December 2012.

[159] The Economist, Higher education: Not what it used to be, 1 December 2012.

[160] *Ibid*.

[161] D. Catropa, M. Andrews, MOOCs to MOCCs, in Inside Higher Ed, 16 December 2012.

would either provide learning support, assessments and credit for a fee, or be delivered through licensed provision in the context of a university.

In any case, there is already at least one counter-stream to MOOCs: distributed open collaborative courses, or DOCCs, challenge[162] both the role of the instructor (as a 'superstar') and the value of 'massiveness' in the educational process offered by MOOCs.

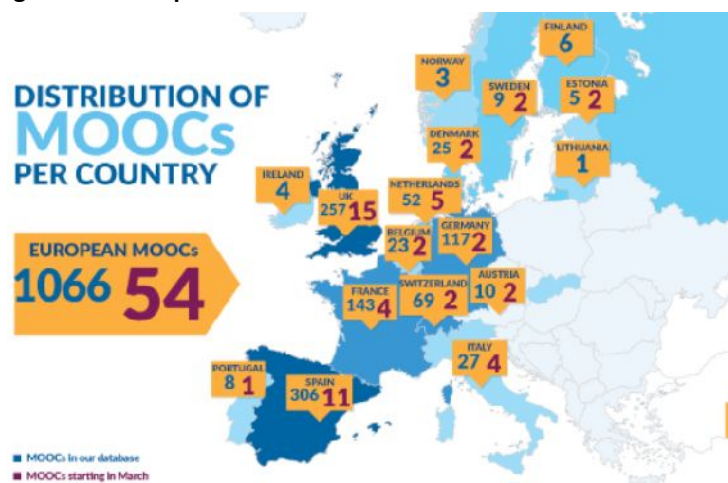---

MOOCs development in the EU

Open Education Europa, the EU portal for quality OERs produced in the EU, indicates that in February 2015 there were over 1 000 MOOCs (see figure 13). Generally, there seems to be a very strong interest in MOOCs in Spain, and also in the United Kingdom, France, and Germany.

The **Spanish** Universidad Nacional de Educación a Distancia has a significant share of the nearly 300 MOOCs in Spain. The latest platform – Miríada X – is designed to facilitate exchanges and cooperation between Spanish and Latin American institutions. The **British** platform FutureLearn, led by the Open University, comprises 26 partners in total, including the British Library, the British Museum and the British Council. In principle, courses on FutureLearn should be free of charge. However, its licensing policy has spurred significant controversy[163] since it imposes restrictions on modification and retains rights over user content. In France, the Government has launched France Université Numérique, the first **French** digital learning portal. Its MOOC platform is one of the 18 actions in a five-year strategic plan for the digitalisation of learning and teaching in France. The **German** platform for online teaching – iversity – offers MOOCs in German and English, and has announced that two higher education institutions from its platform will award ECTS credits.[164] So far, there is not much information available about MOOC development[165] in Eastern Europe.

The pan-European MOOC platform OpenupEds set up by the European Association of Distance Teaching Universities unites partners from 11 countries[166] and currently grants access to some 160 free courses in 12 languages. It proves that working across borders provides the necessary scale to generate new education solutions which would be out of reach if designed by each institution on its own.

Press sources indicate[167] that an increasing number of business schools in the EU are entering online education. Interestingly, seven of the top ten[168] online and distance MBA programmes are from European schools. A MOOC from French business school HEC Paris drew over 30 000 students to its debut class 'Understanding Europe' via Coursera, 60% of them from outside Europe.

Figure 13 – European MOOCs

DISTRIBUTION OF MOOCs PER COUNTRY

EUROPEAN MOOCs 1066 54

- MOOCs in our database
- MOOCs starting in March

Data source: EU open education portal, March 2015.

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[162] S. Jaschik, Feminist Anti-MOOC, in Inside Higher Ed, 19 August 2013.

[163] See for example L. Campbell, What do FutureLearn's Terms and Conditions say about open content?, 5 June 2013.

[164] The ECTS credits will be granted to students who pass an on-campus exam.

[165] Click on the following links for more information on: the Universidad Nacional de Educación a Distancia, Miríada X, FutureLearn, France Université Numérique, iversity, OpenupEds, and HEC Paris (Understanding Europe).

[166] It has university partners in France, Italy, Lithuania, the Netherlands, Portugal, Slovakia, Spain, UK, Russia, Turkey and Israel. Courses are available in all of the countries' native languages, and Arabic.

[167] A. Choi, European Business Schools Open Up Online, in Bloomberg Business week, 21 February 2014.

[168] According to the QS Distance Online MBA Ranking for 2014.

6.2.3. Blended learning

This educational model combines traditional (classroom) training with digital online content, thus addressing one of the major criticisms noted above, namely the lack of interaction with a teacher. It is used both in high schools and universities (see box).[169] With blended learning, students are not limited by their individual teachers' specific expertise or teaching methods. In addition, teachers can spend less time assessing students and more time teaching and creating learning paths or 'playlists' to match individual students' needs. Analysis shows[170] that blended learning environments are still students' preferred option.

> **Flipped teaching**
>
> Flipped teaching is a form of blended learning in which students learn new content online by watching video lectures usually at home, and focus on specific issues, projects, experiments in class, with teachers offering more personalised guidance and interaction instead of simply lecturing. It has been strongly advocated by Salman Khan, founder of the Khan Academy.

6.2.4. Educational video games and collaborative virtual environments

Researchers argue[171] that game-based learning and well-designed video games can motivate students to learn less popular subjects, such as mathematics. Taking as long as 100 hours to win, some of them are very complex and encourage players to try different ways of learning and thinking.[172] Practitioners assert[173] that good computer games develop the skills needed in a cross-functional team (i.e. every member of the team is an expert in a specific area, but able to understand everybody else's role and even to replace them, when necessary). Experts claim[174] that games can even encourage active civic and political engagement.

Collaborative virtual environments are modelled on video games and provide a visual experience simulating reality. Virtual reality systems use avatars to represent human users in computer-generated environments. American universities have been experimenting[175] with collaborative virtual environments in the fields of archaeology and language learning.

7. Outlook

Today, there is a growing concern over the fair distribution of the economic benefits of globalisation and the need to reduce the risk of creating a knowledge divide. While in the past the imbalance between the highly industrialised and the developing countries was in the field of economy, it is now increasingly shifting towards the area of knowledge and skills. The role of higher education in this context is more important than ever.

The fact that certain Mediterranean and Central Asian countries are now attempting to follow[176] the path of reforms implemented through the Bologna process, accounts for its potential to face these complex challenges. While the expected transformation may in the end not be quite so far reaching, it is nevertheless undeniable that despite all the cultural and

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[169] Khan Academy is a not-for-profit educational organisation launched in 2008. According to its mission statement it aims to provide '*a free, world-class education to anyone, anywhere*'.

[170] ECAR, Study of Undergraduate Students and Information Technology, pp. 15-16, 2013.

[171] New York University, Educational Video Games Can Boos Motivation to Learn, 6 November 2013.

[172] Immune Attack is an example of such a game initiated by the Federation of American Scientists as an alternative means to teach complex biology and immunology topics to students.

[173] Edutopia, James Paul Gee on Learning with Video Games, 21 March 2012.

[174] Edutopia, Kurt Squire on Civic Engagement Through Digital Games, 20 August 2013.

[175] Carleton Unveils New Virtual Learning Environment, YouTube, published on 6 June 2012.

[176] J. Sadlak, The Bologna Process: a Regional Response to Global Challenges, in Pathways Towards a Shared Future: Changing Roles of Higher Education in a Globalized World, UNESCO, 2008, p. 136.

institutional differences, important decisions have been implemented with respect to the approximation of higher education systems across 47 European countries.

However, while fully endorsing the need for comprehensive policy and joint actions, it is important to ensure that globalisation does not result in a simplistic uniformisation[177] of the higher education landscape. In this respect, the vision promoted within the Bologna process is clearly a confirmation of an understanding that 'differences' must be respected. Last but not least, the Bologna process has prompted the discussion about the necessary shift from teaching to learning.[178] National student surveys and global rankings have also helped shift the balance from a focus on research to broader questions and realities, including teaching quality and the quality of the learning environment.

The High Level Group on the Modernisation of Higher Education launched by the European Commission, concluded in its 2014 report[179] that some degree of conservatism still remains and acts as a barrier to technological innovations. Stressing that digital learning is progressing at a very uneven pace across Europe, the authors highlight the risk of being left behind as other parts of the world take full advantage of the benefits of technology – including by providing resources to the teachers on whom successful implementation of technology depends.

The appearance of disruptive innovation models such as MOOCs undoubtedly has the potential to further transform higher education, stimulate competition, and encourage the creation of centres of excellence among universities in the EU and globally. But at the same time, it has challenged the role and mission of higher education institutions within networked society. The transmission of knowledge need no longer take place within a physical university campus. Open educational resources, collaborative virtual environments,[180] digital textbooks, and high-quality streaming video – to name just a few – have shifted considerable amounts of knowledge to the 'placeless web'.[181] Exploiting this potential can best be achieved through strategic partnerships across borders.[182]

It is unquestionable that triggering large-scale sustainable changes requires shared efforts and targeted actions, engaging students, teachers, families, educational policy makers and the local communities. Past experience shows that the mere introduction of technology into classrooms is not enough.[183] Only an integrated approach, where access to digital infrastructure, the right level of digital skills, and the appropriate educational strategies are secured, can sustain an innovative educational offer.

In the longer term, technological change will radically affect higher education and research in ways that are difficult as yet to predict. It is clear, however, that sustained effort and on-going international cooperation will be required to improve current structures and take full advantage of the impact of technology.

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[177] The European University Association fears for instance that the ongoing Transatlantic Trade and Investment Partnership negotiations will hamper national authorities in their decision-making capacity on higher education, despite Commission promises to protect public services.

[178] High Level Group on the Modernisation of Higher Education, Improving the quality of teaching and learning in Europe's higher education institutions, June 2013, pp. 17-21.

[179] High Level Group on the Modernisation of Higher Education, New modes of learning and teaching in higher education, October 2014, p. 23.

[180] C. Parr, The future of higher education? Five experts give their predictions, in Times Higher Education, 5 March 2014.

[181] J. Anderson, J. Boyles, L. Rainie, The Future of Higher Education, in Pew Research Internet Project, 27 July 2012.

[182] European Commission, *op.cit.* Opening up Education: Innovative teaching and learning for all through new Technologies and Open Educational Resources.

[183] *Ibid*.

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The performance and quality of higher education has become a vital sign of a country's capacity to foster its future economic development. The race for talent is currently open on a global scale. In spite of the fact that the United States is still the global leader with 17% of international students, the EU is increasingly popular with the United Kingdom, France and Germany accounting respectively for 13%, 6%, and 6% of world students.

One of the elements accounting for the global attraction of EU universities resides in relatively lower tuition fees compared to American universities. Likewise, efforts made to develop quality and accreditation frameworks for mobility within the EU place Europe at the top of the most advanced global regions in this respect. While EU universities took more time to develop Massive Open Online Courses (MOOCs), they now account for approximately one quarter of MOOCs in the world and the numbers are constantly rising. Since May 2014, the EU has also its own global ranking system: U-Multirank.

Even though it is difficult to predict in what ways technological change will affect higher education in the longer term, it is clear that sustained effort and on-going international cooperation will be required to improve current structures and take full advantage of the impact of new technologies.