

# The European Higher Education Area in 2018

*Bologna Process  
Implementation Report*

## **Chapter 1: The European Higher Education Area Landscape**



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Implementation Report**

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## FOREWORD

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The Bologna Process has brought us a long way towards achieving the goals for European higher education set two decades ago. This third edition of the Bologna Process Implementation Report provides clear evidence of change in the higher education landscape. It shows where progress has been made, but also points to the gaps that need to be filled if we are to strengthen European higher education cooperation on the basis of quality and mutual trust.

Higher education has been evolving rapidly to respond to fast changing demands. Overall in Europe, we are becoming better educated, as more students have the opportunity to develop the high-level skills and knowledge that our societies require. Thanks to the Bologna Process and the Erasmus+ programme, students have become more mobile, and can benefit from study and employment opportunities abroad. Yet we also face challenges in this changing environment: How do we recognise and reward good teaching as well as good research? How do we ensure that young people from disadvantaged backgrounds can access and successfully complete higher education? How do we remove burdensome recognition procedures to ensure that students and graduates can be mobile? And how do we increase the relevance of higher education programmes for a labour market that is in a state of permanent transformation? The Bologna Process provides a space for countries to discuss these challenges, and this dialogue remains critical.

Twenty years ago four countries signed the Sorbonne Declaration, initiating a wave of coordinated higher education reform through the Bologna Process. Now ministers from 48 European countries will gather in Paris to take stock of our current situation, and to discuss the path forward. This geographical evolution illustrates the impact the Bologna Process has had – and it highlights Europe's potential to set high standards for modern and relevant educational provision. The Bologna Process has not only inspired change within European higher education, but also across other world regions. This is important to recognise, as today, more than ever, Europeans have to embrace an increasingly complex and inter-connected global reality.

We should of course be proud of our achievements. But we must not be complacent. We need to redouble our efforts to bring Europe's higher education institutions, researchers and students even closer together. The technical goals of the Bologna Process – converging degree structures, shared standards for quality assurance and common recognition practice – were never ends in themselves. Rather they were the preconditions for ensuring that we understand and trust each other's higher education provision, enabling us to work together in a more seamless way. This is what our young people demand, this is what our economies require and this is what our societies need.

The European Commission's role is to support, but also to drive positive change. And this is why we have been working on proposals to create a European Education Area by 2025. Our ambition is to

enable EU Member States to intensify and accelerate their cooperation in areas such as mobility, multilingualism, innovation and mutual recognition of diplomas, and thus also to provide inspiration to non-EU countries to follow. Our vision for 2025 is of a Europe in which learning, studying and doing research will not be hampered by borders and in which people have a strong sense of their identity as Europeans.

Where the Bologna Process has provided stable foundations, we must now build on them. Yet where the foundations are still not stable, we must secure them. The Commission's actions will aim both at working jointly with the EU Member States towards the European Education Area and at strengthening the Bologna process with all partner countries.

Tibor Navracsics

Commissioner for  
Education, Culture, Youth and Sport

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# EXECUTIVE SUMMARY

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The Bologna Process Implementation Report provides a wide-ranging and detailed picture of how the European Higher Education Area (EHEA) has been moving forward since the Yerevan Conference in 2015. This has not been a period of radical change. Instead, for most countries, the recent years have focused on consolidating the implementation of reforms.

The Bologna Follow Up Group has identified **three key commitments** that underpin the EHEA. These commitments concern the implementation of the three-cycle degree structure, recognition of qualifications and quality assurance. They can be considered as the foundations of the EHEA: if these foundations are not in place, further European higher education cooperation is undermined.

In addition to the implementation of these commitments, the priorities of the Bologna Process as set out in the Yerevan Communiqué are learning and teaching, social inclusion and employability – all topics addressed centrally in this report. In Yerevan, ministers also pledged to continue to foster mobility and internationalisation, and called for attention to the values of the EHEA.

## Three-cycle degree structures

Implementation of the Bologna three-cycle degree commitments is improving, with most countries having made the necessary reforms in line with Bologna guidelines. The main Bologna tools – ECTS, Diploma Supplement and national qualifications frameworks – are also well implemented in most countries. Nevertheless, there remains a minority of countries where this is not the case. These countries still need to implement further reforms to ensure that their degree programmes are coherent with those in other EHEA countries.

The dominant European model is now a clearly structured three-cycle degree system. However, although Bologna commitments have mostly been met, there remain significant differences in degree structures across the EHEA as a whole.

In around half of the EHEA countries, the majority of first-cycle graduates continue to study in a second-cycle programme while in a quarter of countries it is less than 25 % that move directly into the second cycle. This may suggest significant differences in labour market recognition of first-cycle qualifications across the EHEA.

Alongside the three main cycles, around half of all EHEA countries offer short-cycle higher education programmes. These programmes are usually vocational, offered at ISCED 5 level, and most often have a workload of 120 ECTS. In around half of the countries with such programmes, learning achievements can be fully recognised within first-cycle studies in the same field, while in the other half recognition is less substantial. Comparing short-cycle higher education programmes across the EHEA is further complicated by the existence in many countries of 'short-cycle tertiary education' programmes, which are not recognised within the national higher education systems.

Most EHEA countries also offer other programmes outside the three-cycle-degree structure. 'Integrated' or 'long' programmes of at least five years duration leading directly to a second-cycle degree exist in most EHEA countries, usually in regulated professional fields. They involve fewer than 5 % of students in some countries, but more than 20 % in others. In around a quarter of EHEA countries, there are also other programmes outside the main three-cycle degree framework.

There has been good progress since 2015 in the implementation of the Diploma Supplement. Indeed, most EHEA countries now comply with all the commonly agreed principles. The Diploma Supplement

is also commonly issued after short-cycle higher education programmes, but is far from being the norm in the third cycle.

Good progress can also be observed in the implementation of national qualifications frameworks (NQFs). Most countries have established a national qualifications framework for higher education, self-certified it to the Framework for Qualifications of the European Higher Education Area (QF-EHEA) and it is used by national authorities in public policy. In most countries, NQFs for higher education are integrated into NQFs for lifelong learning, which suggests widespread efforts in using NQFs for coordinating qualifications across sectors and levels of education.

Although many countries have now completed their NQF, there remain a few where development is slow or not moving. These countries are missing the opportunity to increase the transparency of their qualifications system both within and outside the country.

### Recognition of qualifications

Formal compliance with most aspects of the Lisbon Recognition Convention (LRC) at national level is well established across the EHEA, as the content of national legislation and regulations is generally coherent with the international legal framework. However, work still needs to be done to ensure that appropriate procedures are established and followed for recognition of qualifications of refugees, displaced persons and persons in a refugee-like situation as specified in Article VII of the LRC.

Nevertheless recognition problems are reported to be still prevalent. This could be because higher education institutions, who are usually responsible for recognition decisions for academic purposes, may not always follow all the required principles of good recognition practice.

With regard to the goal of securing more 'automatic recognition' – understood as system-level recognition for the purposes of further academic study – considerable effort is still required to agree on a common understanding of the concept, and to make it a reality.

### Quality assurance

Quality assurance continues to be an area of dynamic development in European higher education. The requirement for higher education institutions to develop and publish quality assurance strategies and evaluation reports is becoming increasingly established, while external quality assurance is almost always undertaken by independent agencies working in line with the Standards and Guidelines for European Quality Assurance (ESG). Indeed the adoption and integration of the ESG in national practice has been widely addressed and achieved.

Nevertheless, there are still areas where attention is needed. Some countries still need to take action to ensure that students are fully involved in all quality assurance processes as equal partners. It is also worth noting that improvement-oriented models of external quality assurance are far less prevalent in the EHEA than supervisory models. Higher education institutions in many countries are also restricted to using national quality assurance agencies to fulfil their external quality assurance obligations, rather than benefitting from the work of other suitable EQAR-registered European agencies. In addition, the European Approach to the Quality Assurance of Joint Programmes, although adopted in Yerevan, has hardly been implemented. Indeed it is not yet permitted by national legislation in many countries, and in particular in those where programme accreditation is required. These are precisely the countries where the European Approach to the Quality Assurance of Joint Programmes potentially offers the greatest potential benefit as a more appropriate, effective and efficient form of quality assurance.



## Learning and teaching

Improving learning and teaching is among the most fundamental objectives of the Bologna Process. Strategies to achieve this objective are now quite widespread across the EHEA, both at national level and within higher education institutions. Steering commonly promotes the development of international opportunities, academic staff development and measures to improve teaching. Digitally enabled teaching and learning is also increasingly addressed strategically at national and institutional levels.

In most countries ECTS has been integrated as both a credit accumulation and transfer system, with learning outcomes and student workload increasingly used as the basis for credit allocation. This provides common foundations for the understanding of European higher education programmes. However, there is a need to ensure that the 2015 ECTS Users Guide adopted by ministers is the basis for correct implementation of the system. To this end, around a third of the countries could take action to encourage quality assurance processes to pay attention to this issue.

Higher education teachers are the key players in enabling students' learning, and appropriate training in teaching skills both before being employed and throughout careers is an essential pre-requisite for a high quality system. Yet, regulations rarely require academics to hold a teaching qualification, and the development of teaching skills is often left to ad hoc measures.

## Opening higher education

Social dimension challenges have accompanied the Bologna Process throughout its existence. Yet, disadvantaged learners still face access barriers to higher education: students from low and medium-educated families are strongly under-represented, and are more likely to enter higher education with a delay; gender imbalances, if improving slightly, still persist and remain marked in some discipline areas with significant implications for the labour market and society; and life-long learning is not a reality for learners in many countries.

In addition to barriers to access, disadvantaged students also face difficulties in completing higher education, dropping out in higher proportions. Despite evidence of these trends over a number of years, and commitments re-iterated in several ministerial communiqués, only a few countries have introduced measures in recent years to improve the conditions for under-represented groups to access and complete higher education.

## Employability

Employment of recent graduates has improved as countries recover from the economic crisis. Nevertheless, graduate unemployment remains a significant problem in some parts of Europe, as not all countries have recovered to the same extent and at the same speed. There is also a gender aspect to employment issues, as in some countries women face more difficulties than men in finding employment after graduation.

Systematic efforts to improve the relationship between higher education and the labour market still need to be better developed and implemented. Action could include using labour market forecasts, involving employers in curriculum planning and higher education governance, providing incentives to include work placements in higher education programmes, improving career guidance services, as well as encouraging student mobility.

## Internationalisation

The trend for internationalisation is growing across the EHEA. However, mobility flows and the level of engagement in internationalisation activities vary considerably from country to country. There has been a significant increase in the use of targets to support and monitor progress in student mobility with only one quarter of all countries now having no targets for either incoming or outgoing student mobility.

There continue to be substantial differences between countries with regard to portability of domestic student financial support. Only around one-third of EHEA countries enable domestic financial support to be portable for credit and degree mobility. Moreover there is almost no support facilitating the mobility of students from under-represented groups in the majority of countries. Staff mobility targets are also reported by almost half of all EHEA countries, but often refer only to a general objective of increasing the numbers of mobile staff.

## Values

The Yerevan Communiqué emphasises shared values as the foundation of a renewed vision of the European Higher Education Area. Specifically, the ministers highlight academic freedom and autonomy of higher education institutions, while EHEA values also include student and other stakeholder participation in the democratic governance and management of higher education.

While concerns have been raised about violations of values in some EHEA countries, it is difficult to find causal explanations related to the different systems of higher education governance in operation across the EHEA. There is nevertheless a continuing need to discuss the values that unite higher education systems, and to be vigilant that robust legal protection is in place – including defining and limiting the role of governments in the organisation and management of higher education institutions.

# INTRODUCTION

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## The Bologna Process

The Bologna Declaration was signed in 1999 by ministers responsible for higher education from 29 European countries. However its origins lie a year further back in the Sorbonne Conference and Declaration of 1998. These events and texts set in motion a European cooperation process that has radically changed higher education. Reforms have affected countries within and beyond Europe, and the number of official signatory countries has risen to 48, with Belarus the most recent state to join in 2015.

The chart below outlines the main milestones and commitments of the ministerial conferences within the Bologna Process up to 2015. It illustrates that several main themes can be followed throughout the process – mobility of students and staff, a common degree system, the social dimension, lifelong learning, a European system of credits, quality assurance and the development of Europe as an attractive knowledge region. Learning and teaching was added as an explicit priority in the Yerevan Communiqué.

The Yerevan Communiqué sets out a streamlined and updated policy agenda focusing on four key policy areas: implementation of key commitments; learning and teaching; employability; and social inclusion. These goals and objectives are all addressed in the report, and the combined analysis across the seven chapters aims to present a picture of the current reality of the European Higher Education Area (EHEA).

## The Bologna Process: from Sorbonne to Yerevan, 1998-2015

<b>Mobility of students and teachers</b>	Mobility also for researchers and administrative staff	Social dimension of mobility	Portability of loans and grants	Attention to visa and work permits	Attention also to pension systems and recognition	Benchmark of 20 % by 2020 for student mobility	Explore path to automatic recognition of academic qualifications	Implementation of key commitments
<b>A common two-cycle degree system</b>	Easily readable and comparable degrees	Fair recognition Development of joint degrees	Inclusion of doctoral level as third cycle	QF-EHEA adopted National Qualifications Frameworks (NQFs) launched	NQFs by 2010	NQFs by 2012	Roadmaps for countries without NQF	Implementation of key commitments
		<b>Social dimension</b>	Equal access	Reinforcement of the social dimension	Commitment to national action plans	National targets for the social dimension to be measured by 2020	Widening access and completion rates	Social inclusion
		<b>Lifelong learning (LLL)</b>	Alignment of national LLL policies Recognition of Prior Learning (RPL)	Flexible learning paths	Partnerships to improve employability	LLL as a public responsibility Focus on employability	Enhance employability, LLL and entrepreneurial skills through cooperation with employers	Employability
<b>Use of credits</b>	A system of credits (ECTS)	ECTS and Diploma Supplement (DS)	ECTS for credit accumulation		Coherent use of tools and recognition practices	Implementation of Bologna tools	Ensure that Bologna tools are based on learning outcomes	Adoption of ECTS Users Guide
	<b>European cooperation in quality assurance (QA)</b>	Cooperation between QA and recognition professionals	QA at institutional, national and European level	European Standards and Guidelines for quality assurance (ESG) adopted	Creation of the European Quality Assurance Register (EQAR)	Quality as an overarching focus for EHEA	Allow EQAR registered agencies to perform their activities across the EHEA	Adoption of revised ESG and European Approach to QA of joint programmes
<b>Europe of Knowledge</b>	European dimensions in higher education	Attractiveness of the EHEA	Links between higher education and research areas	International cooperation on the basis of values and sustainable development	Strategy to improve the global dimension of the Bologna Process adopted	Enhance global policy dialogue through Bologna Policy Fora	Evaluate implementation of 2007 global dimension strategy	
								<b>Learning and Teaching: Relevance and quality</b>
1998 Sorbonne Declaration	1999 Bologna Declaration	2001 Prague Communiqué	2003 Berlin Communiqué	2005 Bergen Communiqué	2007 London Communiqué	2009 Leuven/ Louvain-la-Neuve Communiqué	2012 Bucharest Communiqué	2015 Yerevan Communiqué

## Report outline

This report has been prepared for the European Ministerial Conference in Paris, France, on 24-25 May 2018. It provides a snapshot of the state of implementation of the Bologna Process from various perspectives using data collected mostly in the first half of 2017. It provides both qualitative information and statistical data, and covers all main aspects of higher education reforms aiming at a well-functioning EHEA.

The report is a successor to the two Bologna Process Implementation Reports (2012 and 2015) and has been developed through collaboration between the Bologna Follow-up Group (BFUG) and Eurostat, Eurostudent and Eurydice. For the first time, it also includes some indicators collected by the European Students Union (ESU), the European University Association (EUA), and the European Quality Assurance Register for higher education (EQAR).

The development of the report has been overseen by the Bologna Follow-up Group (BFUG), and specifically by a working group established to guide all aspects of the reporting process. The group was co-chaired by Tone Flood Strøm (Norway), Andrejs Rauhvargers (Latvia) and David Crosier (Eurydice). Close collaboration was also established with all BFUG advisory and working groups.

Qualitative information was gathered through two extensive questionnaires (an Excel questionnaire and an on-line questionnaire) addressed to BFUG members. These were submitted, after consultation with all relevant national actors, by the Bologna representatives in all 48 countries between March and December 2017. For the United Kingdom and Belgium, two responses each were submitted. The United Kingdom (England, Wales and Northern Ireland) is therefore treated as a separate higher education system to that of Scotland, while the Flemish and French Communities of Belgium are also considered as distinct higher education systems. However where statistical data is combined for Belgium and the United Kingdom in Eurostat's database, it is presented in a combined form in this report.

The qualitative data is based mainly on official information about legislation, regulations and national policies, and in some cases country representatives are asked to report on their perception of specific aspects of higher education reality. The data refers to higher education institutions that are directly or indirectly administered by a public education authority, which means public and publicly-subsidised private higher education institutions.

With regard to statistical data, the European Union's Education, Audiovisual and Culture Executive Agency (EACEA), working through a consortium led by Sogeti, Luxembourg, undertook a specific data collection in 2017 for the EHEA countries that are not part of regular Eurostat data gathering exercises.

The report draws upon a number of additional data sources. Eurostudent data is provided by the Eurostudent VI survey and focuses on the social and economic conditions of student life in Europe. The reference year for the data is 2016/17, and the report covers 28 of the 48 EHEA countries.

Information from the European University Association's Trends 2018 report is used substantially in Chapter 2 on learning and teaching. This report provides an institutional perspective on higher education developments in Europe. The reference year for this survey is 2017, and it involves 303 higher education institutions from 43 of the EHEA systems.

Certain indicators throughout the report are provided by the European Student Union (ESU) member organisations. This data was collected through an online survey to European student unions in the second half of 2017, and will also be used in ESU's 2018 edition of Bologna with Student Eyes.

The European Quality Assurance Register (EQAR) also hosted a short survey on cross border higher education quality assurance, and the responses to this questionnaire are used for the report's information on cross border quality assurance.

The reference year 2016/17 is applicable for qualitative data throughout the report, as well as for Eurostudent indicators. Eurostat statistical indicators generally use 2015 as the most recent reference year, with other years shown where relevant to provide a picture of trends.

The report is divided into seven thematic chapters, with a structure that aims to maintain coherence with the previous Bologna Process Implementation Reports, but also to reflect the most recent political priorities set in Yerevan in 2015. Each chapter has an introduction presenting the relevance of the topic in the Bologna Process, the commitments made in the Yerevan Communiqué, and the main findings of the 2015 Bologna Process Implementation Report, where relevant. The chapter then presents information through comparative indicators whose purpose is to describe the state of implementation in all countries from various perspectives. The text explains main developments, highlights issues regarding implementation, and provides examples of practice that may be of general interest.

The majority of indicators were developed for the 2012 Bologna Process Implementation Report, were updated in 2015 and have again been updated in this report, sometimes with substantial modification. A number of new indicators have also been developed, particularly to investigate more recent policy priorities.

Among the indicators presented in the report are 13 'scorecard indicators' that are designed to track country progress in implementing Bologna Process policy commitments. These scorecard indicators were already used in the 2015 edition of the Bologna Process Implementation Report to cover all but one of the issues assessed, although in some cases there have been significant revisions to the indicators for this edition. The new scorecard indicator in this report focuses on system level (automatic) recognition for academic purposes.

# CHAPTER 1:

## THE EUROPEAN HIGHER EDUCATION AREA LANDSCAPE

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### The Yerevan Communiqué

The Yerevan Communiqué presents the diversity of countries in the European Higher Education Area (EHEA) by recognising that, '47 countries with different political, cultural and academic traditions cooperate on the basis of open dialogue, shared goals and common commitments' <sup>(1)</sup>.

While acknowledging the differences between countries, the Communiqué also emphasises the common goals and the basis for common reforms:

Together we are engaged in a process of voluntary convergence and coordinated reform of our higher education systems. This is based on public responsibility for higher education, academic freedom, institutional autonomy, and commitment to integrity. It relies on strong public funding, and is implemented through a common degree structure, a shared understanding of principles and processes for quality assurance and recognition, and a number of common tools <sup>(2)</sup>.

### The 2015 Bologna Process Implementation Report

The 2015 Implementation Report provided information on the framework conditions for higher education in the different countries of the European Higher Education Area (EHEA). These conditions vary enormously across the EHEA. In terms of student population, countries differ in the total number of tertiary education students, enrolment rates of eligible students, and the distribution of students among different levels of higher education. Countries also differ in changes of these indicators across time. In nearly one third of countries the student population was lower in 2012 than it was in 2006, but at the same time the enrolment rate for 18-34 year-olds increased in half of the EHEA countries.

The 2015 Implementation Report identified 60 % of EHEA countries that take into account demographic projections in their steering documents for higher education. Countries varied tremendously also in the number of higher education institutions – from over 200 in France, Germany, Poland and Russia to under ten in Andorra, Iceland, Liechtenstein, Luxembourg and Malta. There is great divergence also in the economic capacity of countries and in the portion of their resources they dedicate to higher education. Four EHEA countries (Ireland, Luxembourg, Norway and Switzerland) are among the ten wealthiest nations based on GDP per capita, while five other countries (Albania, Bosnia and Herzegovina, Georgia, Moldova and Ukraine) rank in the bottom half of the table (World Bank, 2016). Even when the different levels of wealth and prices are taken into account, there are vast differences in the amount countries spend per student: some countries spend five times more than others. With such economic diversity, it is clear that the structural conditions for higher education reform are very different from country to country.

However, the 2015 Implementation Report also provided strong evidence that public spending on higher education had been placed under considerable strain following the global economic crisis beginning in 2008.

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<sup>(1)</sup> Yerevan Communiqué, adopted at the EHEA Ministerial Conference in Yerevan, 14-15 May 2015, p. 1.

<sup>(2)</sup> Ibid.

## Chapter outline

This first chapter of the report sets the scene in which the higher education systems evolve across the EHEA. It provides insights into the student population in the EHEA area (Section 1.1), the structure of higher education systems in terms of institutions and staff (Section 1.2), and on higher education expenditure throughout the EHEA (Section 1.3). Where applicable, the chapter provides comparisons with the 2015 Implementation Report and notes continuing trends and new developments. The chapter ends with an exploration of values and governance in the EHEA. Section 1.4 considers values and governance, looking specifically at issues related to how academic freedom and institutional autonomy are understood and fostered.

### 1.1. Student population

There were around 37.7 million tertiary students in the EHEA in the academic year 2014/15 (see Figure 1.1)<sup>(3)</sup>. The number of students enrolled in tertiary education (ISCED levels 5-8) varies between 457 in Andorra to more than 7 million in Russia, a country which accounts for 19.7 % of the tertiary student population in the EHEA. Turkey is the country with the second largest tertiary student population, with just over 6 million or 16 % of the total. Compared to the 2015 Bologna Process Implementation Report, the difference between the total number of tertiary education students in Turkey and Germany – the country with the third biggest student population – has more than doubled. This is mostly due to the sharp increase in the number of students in Turkey: from 4.35 million in 2011/12 to 6.06 million in 2014/15 (39 % of them enrolled in distance education programmes, mostly in Open Education Faculties). Meanwhile there has also been a slow increase in student numbers in Germany – from 2.94 million in 2011/12 to 2.98 million in 2014/15 (see Chapter 2 for discussion of learning in digital environments in the EHEA). Students in the five countries with the highest number of tertiary education students (Russia, Turkey, Germany, France and the United Kingdom) amount to 56.3 % of the total. Spain, Italy, Ukraine and Poland have more than 1 500 000 tertiary students each, while there are fewer than 1 000 000 students per country in 38 EHEA countries analysed.

Most of the tertiary education students (58.8 %) are enrolled in first-cycle programmes (Bachelor's or equivalent level); 21.7 % are enrolled in second-cycle programmes (Master's or equivalent level); and 16.8 % are enrolled in short-cycle tertiary education. Only 3 % of students are enrolled in third-cycle programmes (doctoral or equivalent level)<sup>(4)</sup>.

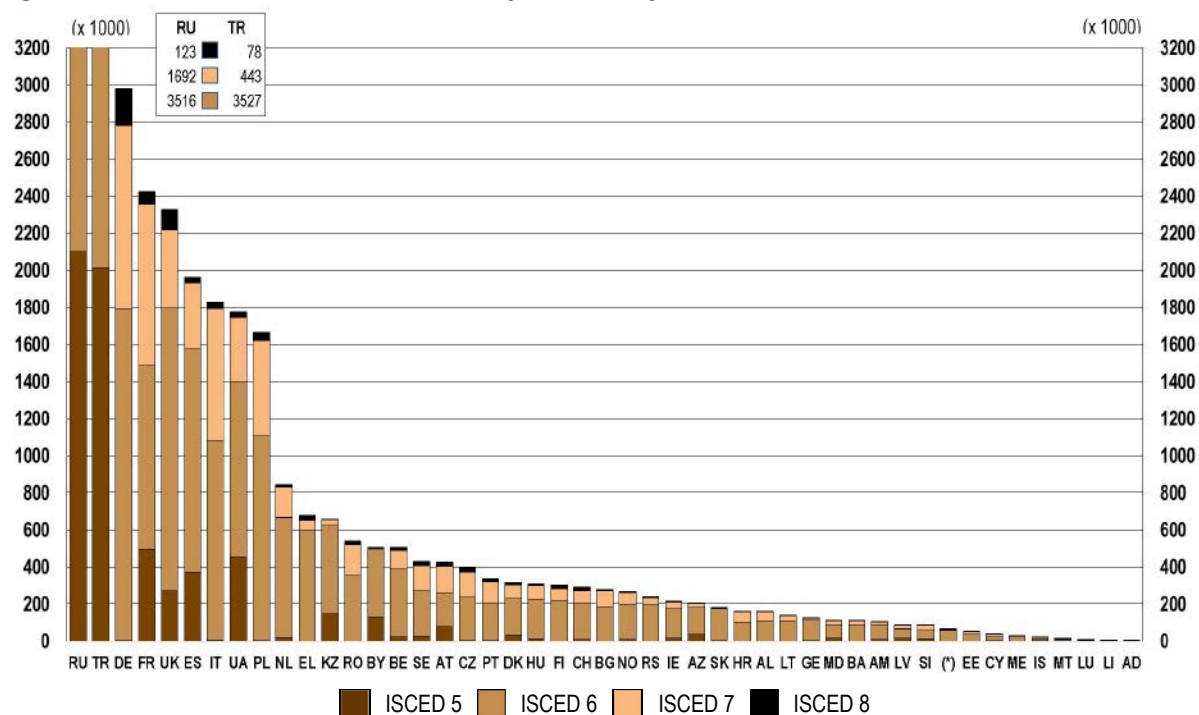
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<sup>(3)</sup> This number is not directly comparable to the 2015 report due to the introduction of the International Standard Classification of Education 2011 (ISCED 2011; see the Glossary and Methodological Notes for description) and the different set of countries included in the two reports.

<sup>(4)</sup> For further discussion of the distribution of students in ISCED 2011 levels, see Chapter 3.



Figure 1.1: Number of students enrolled in tertiary education by ISCED level, 2014/15



(\*): the former Yugoslav Republic of Macedonia

	RU	TR	DE	FR	UK	ES	IT	UA	PL	NL	EL	KZ
<b>Total</b>	7 435 216	6 062 886	2 977 781	2 424 158	2 330 334	1 963 924	1 826 477	1 776 190	1 665 305	842 601	677 429	658 413
<b>ISCED 5</b>	2 103 125	2 013 762	394	495 472	272 487	372 356	6 548	452 292	2 721	18 687	:	146 436
<b>ISCED 6</b>	3 516 093	3 527 649	1 792 434	991 175	1 523 902	1 204 409	1 076 667	947 210	1 104 364	646 851	598 990	477 387
<b>ISCED 7</b>	1 692 926	443 252	988 753	868 904	421 145	355 097	710 487	346 657	514 821	162 585	54 558	32 527
<b>ISCED 8</b>	123 072	78 223	196 200	68 607	112 800	32 062	32 775	30 031	43 399	14 478	23 881	2 063
	RO	BY	BE	SE	AT	CZ	PT	DK	HU	FI	CH	BG
<b>Total</b>	541 653	505 637	504 745	428 557	425 972	395 529	337 507	313 756	307 729	302 478	294 450	278 953
<b>ISCED 5</b>	:	128 975	24 414	25 244	77 877	994	395	34 973	11 655	:	10 280	:
<b>ISCED 6</b>	354 186	362 907	365 925	246 400	183 768	236 887	203 836	195 054	214 737	219 370	195 437	186 702
<b>ISCED 7</b>	168 152	8 855	97 920	135 555	140 269	133 066	113 966	73 790	74 113	63 239	65 036	85 634
<b>ISCED 8</b>	19 315	4 900	16 486	21 358	24 058	24 582	19 310	9 939	7 224	19 869	23 697	6 617
	NO	RS	IE	AZ	SK	HR	AL	LT	GE	MD	BA	AM
<b>Total</b>	268 231	241 054	214 632	204 152	184 390	162 022	160 527	140 629	127 640	109 395	108 714	103 672
<b>ISCED 5</b>	9 836	:	16 505	38 816	2 847	118	:	:	2 328	15 468	:	8 304
<b>ISCED 6</b>	188 823	194 696	161 302	143 620	102 434	100 879	110 159	108 083	109 424	71 071	87 926	79 623
<b>ISCED 7</b>	62 109	37 803	28 621	18 781	70 038	57 895	46 423	29 911	12 471	20 923	19 964	14 476
<b>ISCED 8</b>	7 463	8 555	8 204	2 935	9 071	3 130	3 945	2 635	3 417	1 933	824	1 269
	LV	SI	(*)	EE	CY	ME	IS	MT	LU	LI	AD	
<b>Total</b>	85 881	85 616	63 543	55 214	37 166	26 580	18 940	13 216	6 896	750	457	
<b>ISCED 5</b>	16 105	11 485	:	:	3 128	:	485	2 537	587	:	24	
<b>ISCED 6</b>	50 634	48 893	59 359	36 299	19 994	25 462	13 393	7 026	3 231	393	418	
<b>ISCED 7</b>	16 942	22 594	3 891	16 012	12 935	1 068	4 543	3 540	2 509	243	5	
<b>ISCED 8</b>	2 200	2 644	293	2 903	1 109	50	519	113	569	114	10	

Source: Eurostat, UOE and additional collection for the other EHEA countries.

**Notes:**

Countries are arranged by total number of students in tertiary education. The graph is scaled to 3 million for readability.

The size of the student population varies greatly among the 48 countries of the EHEA and depends on a number of factors that this report examines in detail in the following chapters. Demographic conditions (i.e. the size of young age cohorts) of course have a crucial impact on student enrolment. And it should be borne in mind that demographic changes (e.g. an increase or a decrease of a cohort)

only gradually affect the higher education system because of the 'continued impact of past cohorts' (Vincent-Lancrin, 2008). However, institutional factors and economic conditions determine the desire and ability of young people to enrol in higher education and the time it takes them to complete their degrees.

Some of these factors are:

- Admissions rules and procedures such as the qualifications required to enter tertiary education and the selection criteria for admission (see Chapter 5 for discussion of access to higher education);
- The costs and benefits of acquiring higher education such as tuition fees, employability of graduates, and alternative opportunities in the labour market (see Chapter 5 for discussion of fees and support, and Chapter 6 for discussion of employability);
- The length of studies which in turn depends on the structure of the programmes, the ability to attend part-time, etc. (see Chapter 3 for discussion of programme structures).

Figure 1.2 demonstrates the growth rate of the tertiary student population between some of the recent reference points of the Bologna Process (i.e. between 2009/10 and 2011/12, and between 2012/13 and 2014/15) as well as when considering this entire time period <sup>(5)</sup>. In the majority of countries in the EHEA, growth in tertiary education participation is slowing down. In the first period – between 2009/10 and 2011/12 – 25 countries recorded increases in their tertiary student population and 18 countries recorded decreases. In the second period – between 2012/13 and 2014/15 – 19 countries recorded increases and 26 countries recorded decreases. Only 15 of the 44 EHEA countries for which data is available for both periods recorded two consecutive increases. The countries on the top left-hand side of the graph have experienced an increase in their student population from 2012/13 to 2014/15, and the countries on the bottom row of the graph have experienced a decrease in the same time period. The fastest annual growth in enrolment was recorded in Albania, with a 30.1 % increase from 2009/10 to 2011/12. Romania experienced the sharpest annual decline in enrolment in the same time period, with a 29.4 % decrease.

Compared to the change in tertiary enrolment in the earlier period (2009/10 to 2011/12), nine countries (Turkey, Germany, Switzerland, Malta, Norway, Belgium, Greece, Serbia and Austria) have experienced a slower increase in enrolment in the later period (2012/13 to 2014/15), and 11 countries (Spain, Iceland, Croatia, Finland, the United Kingdom, the Czech Republic, Albania, Portugal, Liechtenstein, Belarus and Kazakhstan) have shifted from an increase to a decrease in tertiary enrolment in the second reference period. In five countries (Romania, Lithuania, Armenia, Latvia and Italy), the decrease in enrolment has slowed down. Only three countries – Cyprus, Georgia and Ireland – have shifted from a decrease in enrolment in the first reference period to an increase in enrolment in the second.

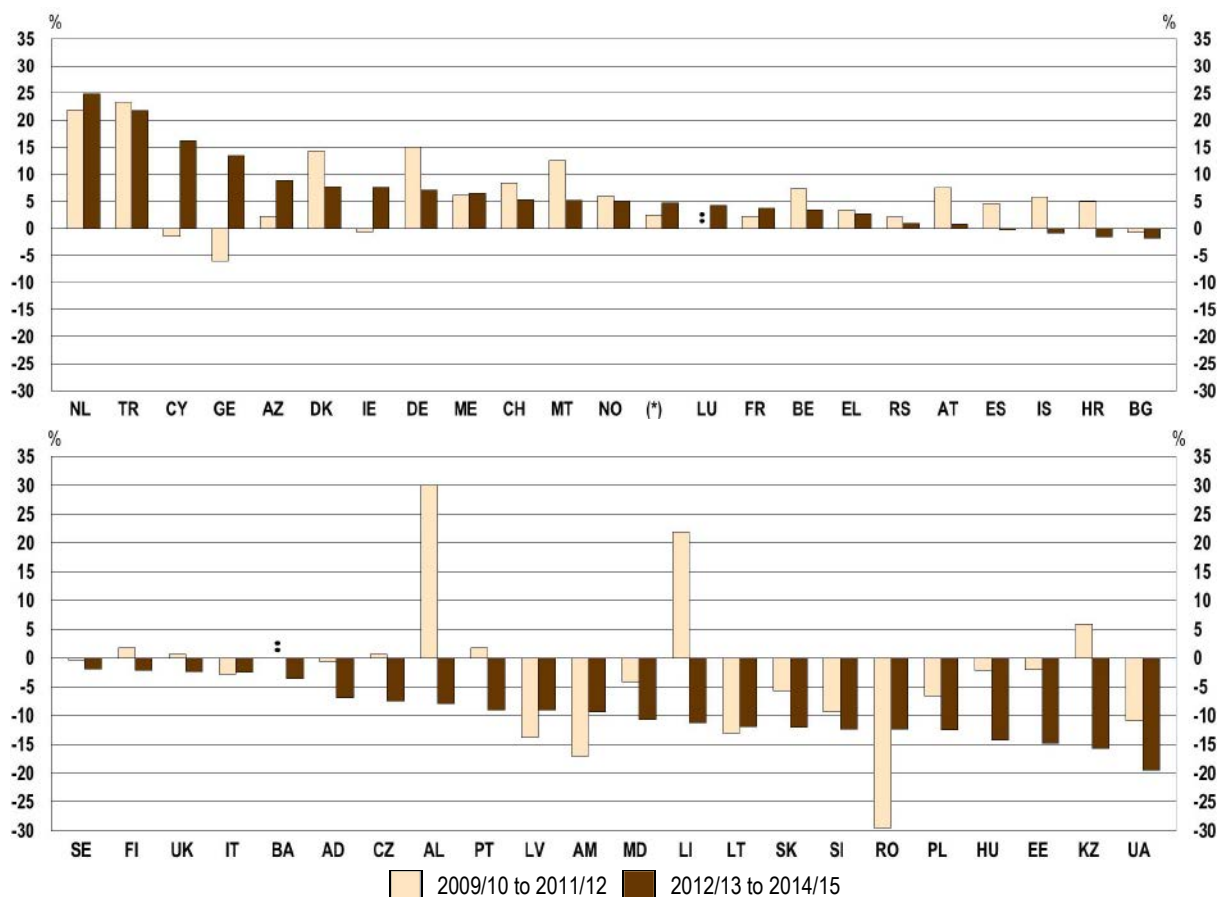
Looking at the entire period from 2010 to 2015, the total number of students enrolled in tertiary education is lower in 2014/15 than in 2009/10 in almost half of the EHEA countries for which data is available. The decrease was most pronounced in Romania (45.8 %), but in two more countries the decrease was higher than 30 % (Lithuania and Ukraine) and in seven other countries the decrease ranges between 20 % and 30 % (Latvia, Armenia, Slovakia, Slovenia, Poland, Hungary and Estonia). This marks a noteworthy change from the 2015 Bologna Process Implementation Report when only one country (Georgia) recorded a decrease higher than 30 % and one country (Latvia) reported a decrease between 20 % and 30 %.

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<sup>(5)</sup> It is important to note that ISCED 2011 (International Standard Classification of Education 2011) was introduced in the middle of the analysed time period. Some of the changes in student enrolment may be due to the different classification of students before and after 2011, but this is unlikely to affect the overall trend or direction of change for particular countries.

On the other hand, the total number of students enrolled in tertiary education is higher in 2014/15 than in 2009/10 in half of the EHEA countries for which data is available. The sharpest increase was recorded in Turkey (71.8 %), and Turkey is the only country which experienced an increase higher than 50 %. Denmark is the only country to report an increase between 30 % and 50 %. Here again, there is noteworthy change from the 2015 Bologna Process Implementation Report, when there were four countries reporting increases above 50 % and six countries reporting increases between 30 % and 50 %.

**Figure 1.2: Percentage change in the total number of students enrolled in tertiary education between 2009/10 and 2011/12 and between 2012/13 and 2014/15**



(\*): the former Yugoslav Republic of Macedonia

%	NL	TR	CY	GE	AZ	DK	IE	DE	ME	CH	MT	NO	(*)	LU	FR	BE
2009/10 to 2011/12	21.9	23.4	-1.4	-6.0	2.3	14.3	-0.7	15.0	6.2	8.4	12.6	6.0	2.5	:	2.3	7.3
2012/13 to 2014/15	24.9	21.9	16.3	13.4	8.8	7.8	7.6	7.1	6.5	5.2	5.1	5.0	4.7	4.2	3.7	3.3
2009/10 to 2014/15	29.5	71.8	15.3	20.8	13.0	30.4	10.6	16.5	11.5	18.4	21.9	19.4	2.9	:	8.0	13.3
%	EL	RS	AT	ES	IS	HR	BG	SE	FI	UK	IT	BA	AD	CZ	AL	PT
2009/10 to 2011/12	3.4	2.2	7.5	4.6	5.8	5.0	-0.7	-0.4	1.8	0.7	-2.8	:	-0.8	0.7	30.1	1.7
2012/13 to 2014/15	2.8	0.9	0.8	-0.3	-0.8	-1.6	-1.8	-1.8	-2.1	-2.3	-2.5	-3.6	-6.9	-7.5	-7.9	-9.0
2009/10 to 2014/15	5.5	6.3	21.6	4.5	4.9	8.1	-2.8	-5.8	-0.4	-6.0	-7.8	:	-12.8	-9.6	31.4	-12.0
%	LV	AM	MD	LI	LT	SK	SI	RO	PL	HU	BY	EE	KZ	UA		
2009/10 to 2011/12	-13.8	-17.1	-4.1	22.0	-13.1	-5.7	-9.5	-29.4	-6.6	-2.1	3.6	-2.0	6.0	-10.9		
2012/13 to 2014/15	-9.1	-9.4	-10.7	-11.2	-11.9	-12.0	-12.4	-12.4	-12.5	-14.3	-14.6	-14.8	-15.7	-19.5		
2009/10 to 2014/15	-23.7	-28.8	-16.0	-4.7	-30.2	-21.4	-25.5	-45.8	-22.5	-20.9	16.3	-20.0	-13.0	-32.6		

Source: Eurostat, UOE and additional collection for the other EHEA countries.

**Notes:**

Countries are arranged by the rate of change in total number of students enrolled in tertiary education between 2012/13 and 2014/15.

As mentioned above, the changes over time in the total number of students enrolled in tertiary education shown in Figure 1.2 can be a product of both demographic changes and changes in the economic and institutional conditions that may make entry into tertiary education more/less desirable and more/less difficult. Therefore, in order to evaluate the capacity of the education system to enrol students eligible for tertiary education, it is important to analyse the enrolment rate relative to the total population in that age group.

Figure 1.3 shows the enrolment rate for 18-34 year olds, the typical age for attending higher education, and how this enrolment rate changes over time. There are a variety of factors that affect the enrolment rate such as the age at which students complete secondary general education, the length of tertiary education programmes, and the actual time students spend in tertiary education.

In the majority of EHEA countries, the tertiary education enrolment rate for 18-34 year olds has stabilised (see Figure 1.3). The median in the EHEA was 15.9 % in 2015, which means that in half of the countries in the analysis this enrolment rate is above 15.9 %. This is virtually the same as the median in 2012, 16.2 %. The enrolment rate of 18-34 year olds increased in 2015 compared to 2009 and 2012 in 14 of the 38 EHEA countries for which data is available for all three years. Analysing only the countries for which data is available for all three reference years, median enrolment in the EHEA stabilised at 16 % in 2015, after a series of increases (13.5 % in 2006; 14.3 % in 2009; and 16.1 % in 2012). In 13 countries, there is a continued trend of increase in the enrolment rate (Turkey, Denmark, the Netherlands, Austria, Spain, Norway, Ireland, Croatia, Bulgaria, Serbia, the Czech Republic, Switzerland and Malta). The sharpest increases were recorded in Georgia (5.8 percentage points in 2015) and Turkey (5.7 percentage points in 2012 and 6.3 percentage points in 2015). In six countries, there is a continued decreasing trend in the enrolment rate (Lithuania, Latvia, Slovakia, Romania, Moldova and Azerbaijan).

There is wide variation between the countries with the highest and lowest enrolment rates for 18-34 year olds. Turkey had the highest enrolment rate in 2015, at 25 %, followed by Denmark, the Netherlands, Greece, Finland and Lithuania, all above the 20 % mark. At the other end of the spectrum, the enrolment rate in Moldova, Armenia, Liechtenstein, Azerbaijan, Luxembourg and Andorra is below 10 %. It is important to note that most tertiary students from Liechtenstein (around 95 %) are enrolled abroad mainly in Switzerland and Austria, while around 80 % of students from Luxembourg are also enrolled in higher education institutions abroad, mainly in Germany, Belgium and France; these students are therefore not captured in these enrolment rate statistics <sup>(6)</sup>.

Taking the data in Figures 1.2 and 1.3 together, it is clear that in some countries, the increase in total enrolment is slowing down (e.g. Turkey, Denmark, Germany, Switzerland, Malta, Norway and Serbia) but there is an increase in the enrolment rate of people 18-34, pointing to an increase in the capacity of these tertiary education systems to enrol students in this age group. This could be a product of a number of different factors: a time-lagged effect of changes in cohort size; changes in labour market conditions that make enrolment in tertiary education preferable to employment <sup>(7)</sup>; and/or changes in the tertiary education institutions that allow for more students to enrol and/or stay longer in tertiary education <sup>(8)</sup>. In Kazakhstan, Poland, Moldova, Hungary and Estonia, where total enrolment decreased, the enrolment for people aged 18-34 decreased as well.

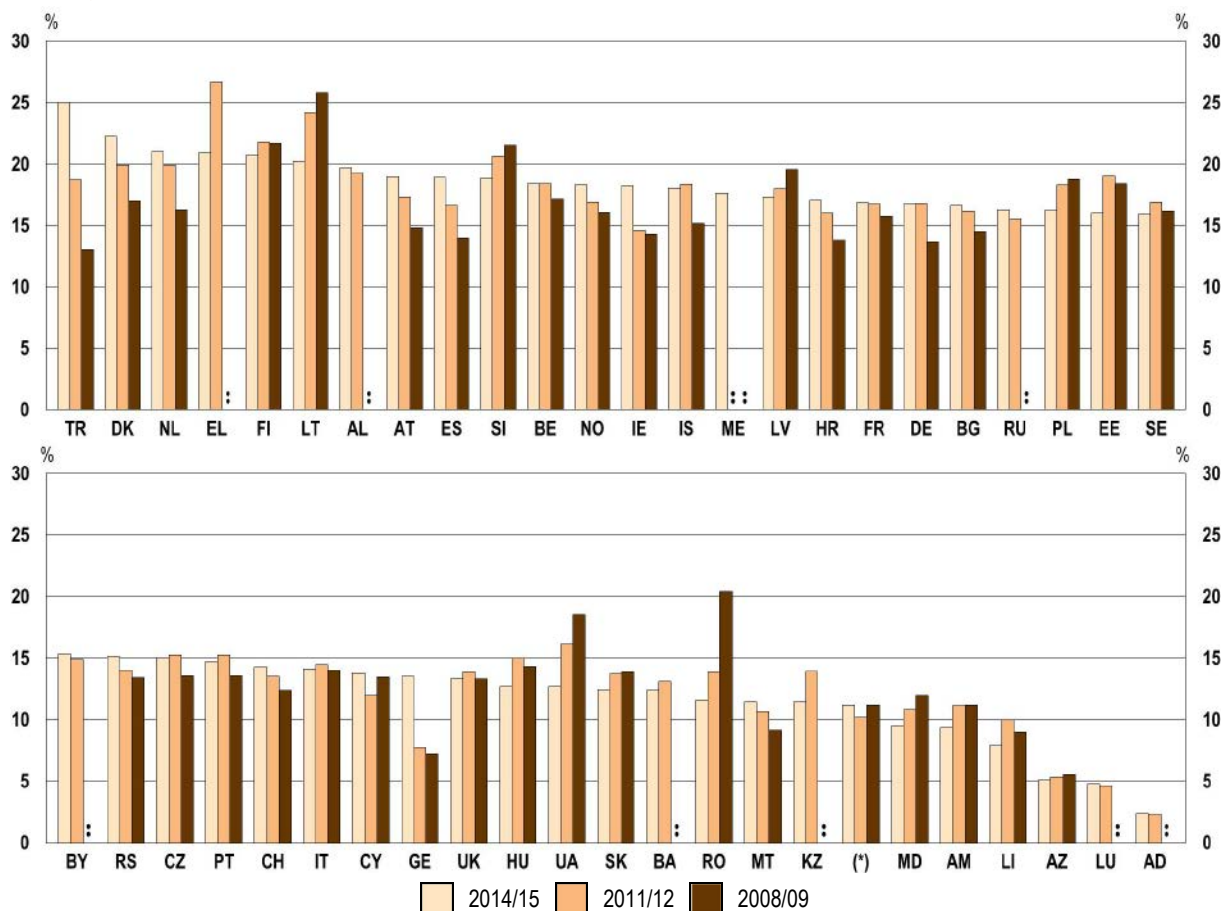
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<sup>(6)</sup> See Chapter 7 for further discussion of internationalisation and mobility.

<sup>(7)</sup> See Chapter 6 for discussion of employability of graduates.

<sup>(8)</sup> See Chapter 5 for discussion of the policy frameworks some countries have adopted to widen access to their higher education systems.

Figure 1.3: Enrolment rates in tertiary education for the 18-34 years old (% of the total population aged 18-34), 2008/09, 2011/12 and 2014/15



(\*): the former Yugoslav Republic of Macedonia

%	TR	DK	NL	EL	FI	LT	AL	AT	ES	SI	BE	NO	IE	IS	ME	LV
2014/15	25.0	22.3	21.0	20.9	20.7	20.2	19.7	18.9	18.9	18.8	18.4	18.3	18.2	18.0	17.6	17.3
2011/12	18.7	19.9	19.9	26.7	21.7	24.1	19.2	17.3	16.6	20.6	18.4	16.9	14.6	18.3	:	18.0
2008/09	13.0	17.0	16.3	:	21.7	25.8	:	14.8	14.0	21.5	17.2	16.0	14.3	15.2	:	19.6
%	HR	FR	DE	BG	RU	PL	EE	SE	BY	RS	CZ	PT	CH	IT	CY	GE
2014/15	17.0	16.8	16.7	16.6	16.2	16.2	16.0	15.9	15.3	15.1	15.0	14.7	14.3	14.1	13.8	13.5
2011/12	16.0	16.8	16.8	16.1	15.5	18.3	19.0	16.9	14.9	14.0	15.2	15.3	13.5	14.5	12.0	7.7
2008/09	13.8	15.7	13.6	14.5	:	18.8	18.4	16.1	:	13.4	13.6	13.6	12.4	14.0	13.4	7.2
%	UK	HU	UA	SK	BA	RO	MT	KZ	(*)	MD	AM	LI	AZ	LU	AD	EHEA
2014/15	13.3	12.7	12.7	12.4	12.4	11.6	11.4	11.4	11.1	9.5	9.4	7.9	5.1	4.8	2.4	15.9
2011/12	13.9	15.0	16.1	13.7	13.1	13.9	10.7	13.9	10.2	10.8	11.1	10.0	5.3	4.6	2.3	
2008/09	13.3	14.3	18.5	13.9	:	20.4	9.1	:	11.1	12.0	11.2	9.0	5.5	:	:	

Source: Eurostat, UOE and additional collection for the other EHEA countries.

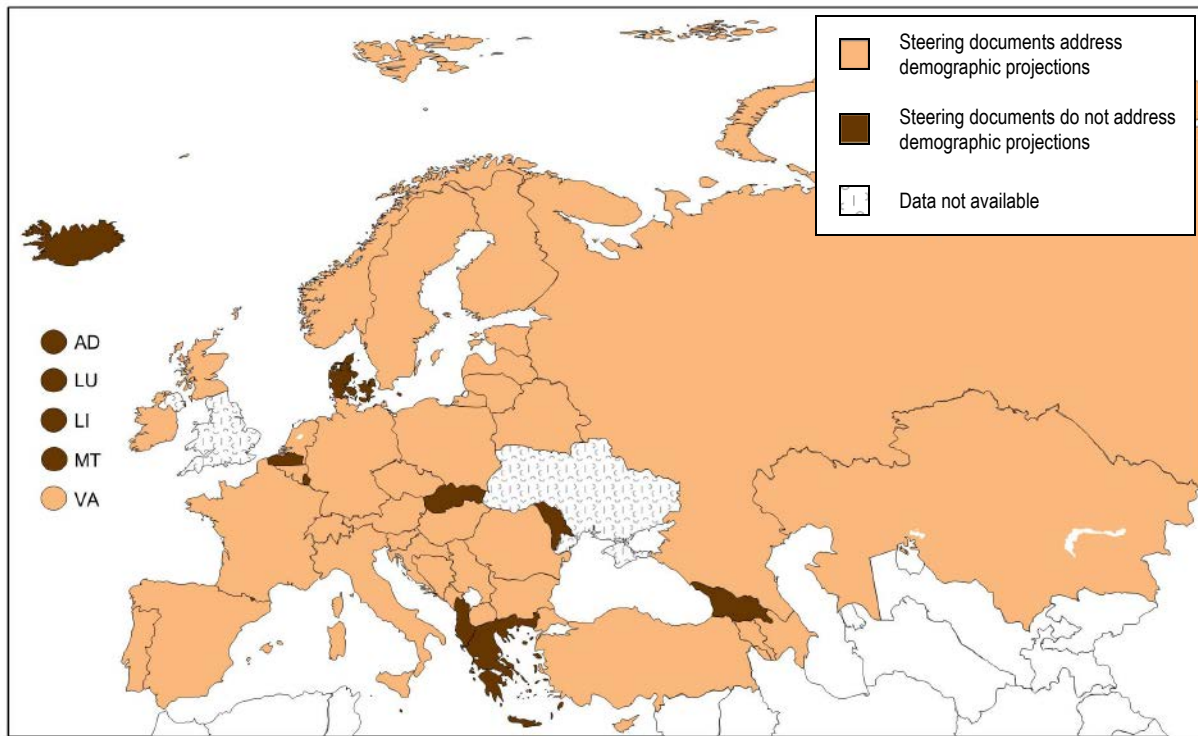
**Notes:**

EHEA refers to the EHEA median.

Countries are sorted by the enrolment rate in academic year 2014/15.

Demographic changes affecting the number of students have to be taken into consideration when designing higher education policies and goals. Many countries are concerned about the decreasing number of young people and how such changes will affect higher education participation and funding. Figure 1.4 shows that in 2016/17 in around three-quarters of countries, steering documents for higher education explicitly take into account demographic projections. This is a slight increase compared to 2015. Only 12 countries do not address demographic projections in their steering documents, four fewer than in 2013/14. Since the 2015 Bologna Process Implementation Report, three systems have introduced demographic projections in their steering documents (Bulgaria, Portugal and Romania).

**Figure 1.4: Demographic projections in steering documents for higher education policy, 2016/17**

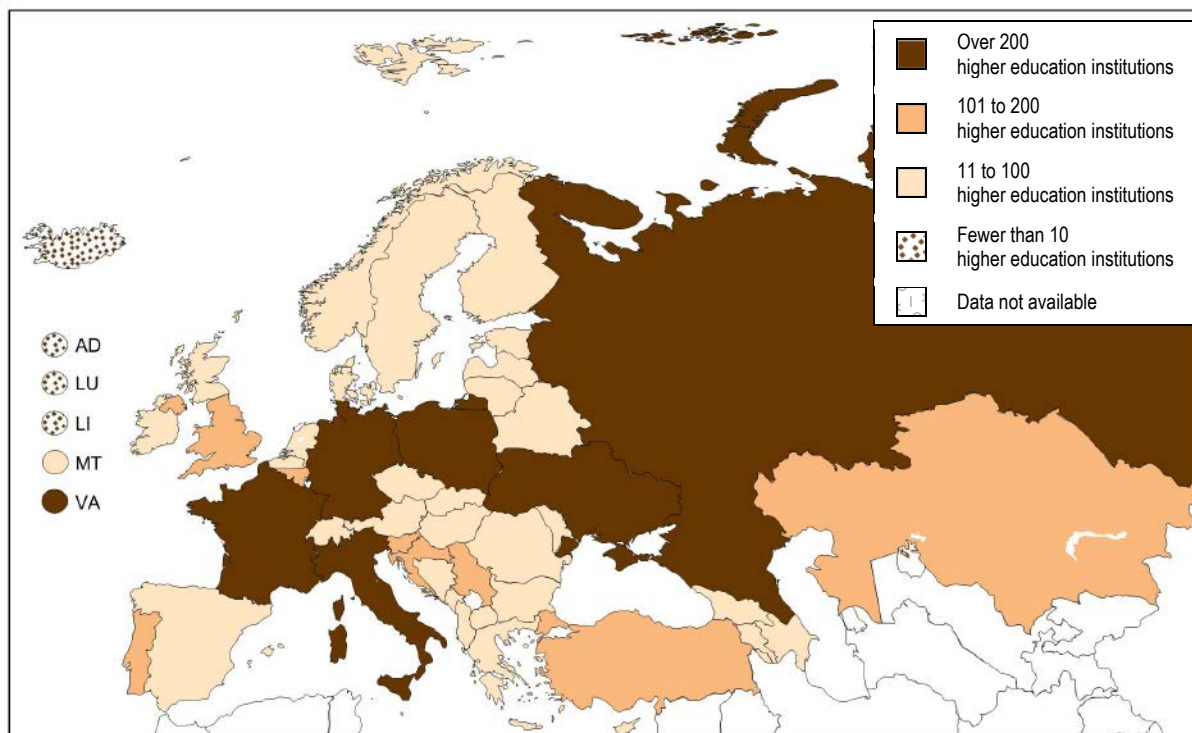


Source: BFUG data collection.

## 1.2. Higher education institutions and staff

Figure 1.5 shows the total number of recognised higher education institutions in EHEA countries. Most commonly, there are between 11 and 100 higher education institutions (30 systems). Eight systems have between 101 and 200 higher education institutions, and seven have over 200.

Figure 1.5: Number of higher education institutions in the EHEA, 2016/17

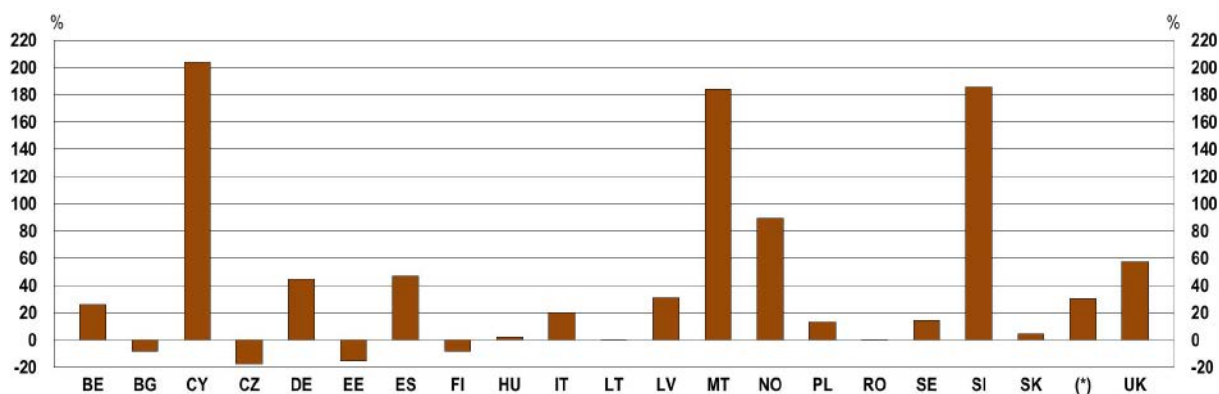


Source: BFUG data collection.

Figure 1.6 demonstrates the percentage change in the number of academic staff between 2000 and 2016. It shows that in most of the countries for which data is available there has been an increase in the number of academic staff. The most notable increases occurred in Cyprus (204 % increase), Malta (184 %), and Slovenia (186 %). In five countries – Bulgaria, the Czech Republic, Estonia, Finland and Romania – the number of academic staff decreased between 2000 and 2016. The evolution of staff numbers during the three sub-periods – 2000-2005, 2005-2010, 2010-2016 – shows that most of the decreases in academic staff occurred in the latter two periods. Seven countries report a decrease in 2005-2010, and 14 countries report a decrease in 2010-2016.

Even though data is not available for all countries and all corresponding years in both indicators, analysing changes in staff numbers alongside information on changes in the total number of student enrolment (see Figure 1.2 in this report and Figure 1.3 in the 2015 report) shows that changes in academic staff numbers do not necessarily follow changes in student enrolment. The staff increases from 2005 to 2016 in Cyprus and Malta correspond to student enrolment increases in the same time period. In Romania and Finland, the decrease in faculty numbers between 2010 and 2016 corresponds to a decrease in student enrolment. The sharp increase in staff in Slovenia, however, occurred alongside a series of consecutive decreases in student enrolment since 2005. Indeed, in seven of the countries for which data is available (Belgium, Bulgaria, Ireland, Slovenia, Sweden, Switzerland and the United Kingdom), the changes in staff and student numbers move in opposite directions for the 2010-2016 period.

Figure 1.6: Percentage change in the total number of academic staff between 2000 and 2016



(\*): the former Yugoslav Republic of Macedonia

%	AT	BE	BG	CH	CY	CZ	DE	EE	ES	FI	FR	HR	HU	IE	IS	IT
2000-2016	:	25.8	-8.2	:	204.3	-17.5	44.5	-15.3	46.7	-7.9	:	:	2.1	:	:	19.8
2000-2005	:	13.3	-14.3	:	34.1	21.4	4.8	:	35.4	14.7	16.3	:	19.6	:	6.8	25.7
2005-2010	:	12.3	-1.2	16.9	75.9	-31.5	28.3	:	7.1	-17.2	-17.5	79.4	-3.2	8.4	18.2	12.4
2010-2016	25.3	-1.2	8.4	-16.5	28.9	-0.85	7.5	:	1.1	-3.2	:	2.5	-11.8	-26.7	:	-15.2

%	LT	LU	LV	MT	NL	NO	PL	PT	RO	SE	SI	SK	(*)	TR	UK
2000-2016	0.1	:	31.2	183.9	:	89.6	13.3	:	-0.1	14.3	185.7	4.6	30.4	:	57.4
2000-2005	3.4	:	20.2	39.6	:	:	10.7	:	14.4	26.2	79.6	4.1	5.3	:	29.6
2005-2010	7.3	:	10.5	46.3	15.7	:	7.8	-1.5	0.8	-22.6	55.2	4.9	18.5	28.4	14.8
2010-2016	-9.7	-23.0	-1.3	39.0	25.8	27.0	-5.1	-10.7	-13.4	17.0	2.4	-4.2	4.4	:	5.8

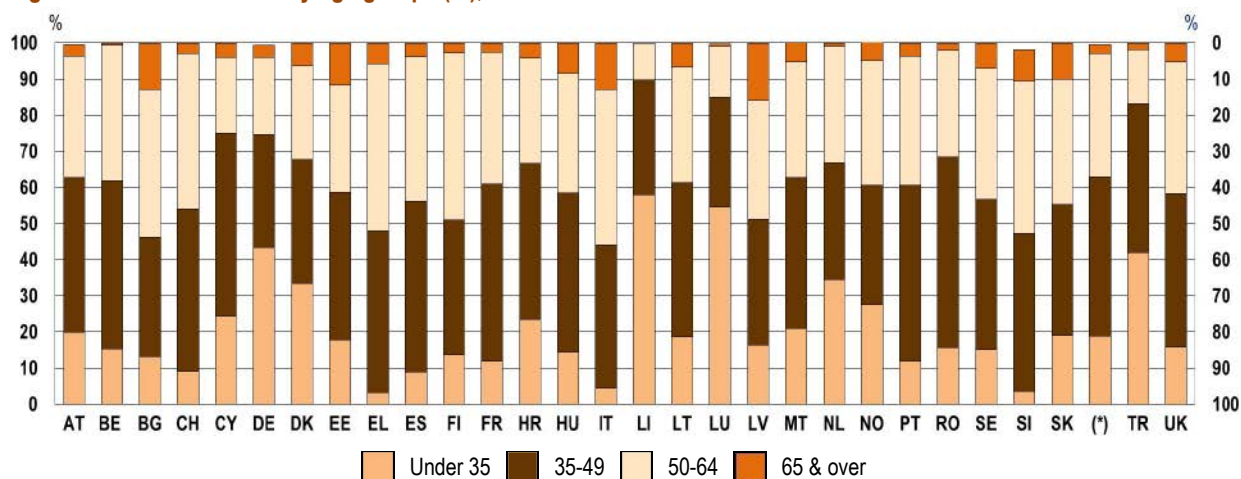
Source: Eurostat, UOE.

Figure 1.7 distributes academic staff into four age groups: those under 35, between 35 and 49, between 50 and 64, and 65 and over. It shows a heterogeneous distribution of these age groups in the countries for which data is available.

In most EHEA countries analysed, the largest share of academic staff is concentrated in the 35-49 age group. This group represents, depending on the country, between around one third and a half of all academics. In half of the countries, academic staff under 35 (the youngest age group) account for 17 % of all staff. In Switzerland, Spain, Italy and Slovenia less than 10 % of staff falls into this age group. While in Germany, Liechtenstein, Luxembourg and Turkey young academics represent a substantial proportion of the staff body (between 42 % and 58 %). The 50-64 age group is bigger than the under 35-year-olds in most countries (23 of 30 countries in the analysis), but smaller than the 35-49 age group in 25 countries. Yet, the share of the 50-64 year olds is still relatively high (40 % or more) in Bulgaria, Switzerland, Greece, Spain, Finland, Italy and Slovenia. The share of the oldest academic staff – those 65 and over – is relatively small overall. In half of the EHEA countries in the analysis, their share is under four percent. However, in five countries – Bulgaria, Estonia, Italy, Latvia and Slovakia – the proportion is equal to or exceeds 10 %. If academic staff under or above 50 years old are compared, in Bulgaria, Greece, Italy and Slovenia more than 50 % of staff is above 50.



Figure 1.7: Academic staff by age groups (%), 2015



(\*): the former Yugoslav Republic of Macedonia

%	AT	BE	BG	CH	CY	DE	DK	EE	EL	ES	FI	FR	HR	HU	IT
<35	20.0	15.4	13.3	9.1	24.4	43.4	33.4	17.8	3.3	8.9	13.8	12.0	23.5	14.4	4.6
35-49	42.8	46.6	33.0	45.0	50.6	31.3	34.4	40.9	44.7	47.3	37.3	49.1	43.2	44.1	39.6
50-64	33.5	37.4	40.9	43.0	21.0	21.3	25.8	29.8	46.2	39.9	46.3	36.3	29.1	33.1	43.0
65 and over	3.2	0.6	12.8	2.8	3.9	3.4	6.3	11.5	5.7	3.8	2.6	2.5	4.2	8.4	12.8

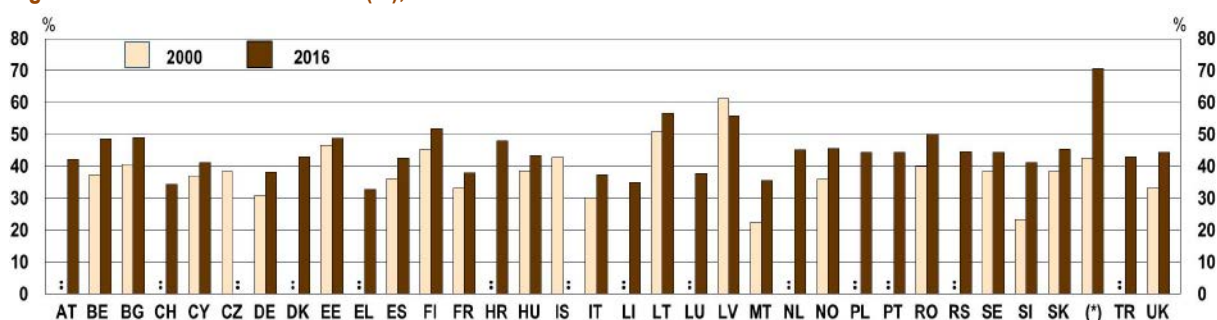
%	LI	LT	LU	LV	MT	NL	NO	PT	RO	SE	SI	SK	(*)	TR	UK
<35	58.0	18.7	54.6	16.4	21.1	34.6	27.5	11.9	15.8	15.2	3.6	19.1	18.8	42.0	15.9
35-49	31.9	42.7	30.5	34.8	41.7	32.3	33.1	48.7	52.7	41.6	43.8	36.2	44.1	41.4	42.5
50-64	10.1	32.0	14.0	32.8	32.0	32.3	34.5	35.8	29.6	36.2	42.0	34.6	34.2	14.8	36.4
65 and over	0.00	6.6	0.6	15.8	5.2	0.9	7.8	3.5	1.9	7.0	8.8	10.0	2.5	1.8	5.2

Source: Eurostat, UOE.

Figure 1.8 shows the gender distribution among academic staff. In 2016, in half of the EHEA countries for which data is available, 44.4 % of academic staff identified as female. The countries with the lowest proportion of female academic staff are Greece (32.7 %), Switzerland (34.3 %), Liechtenstein (35 %), and Malta (35.4 %). In only five countries, female academic staff accounts for 50 % or more of all academic staff: Romania (50 %), Finland (51.7 %), Latvia (55.7 %), Lithuania (56.5 %) and the former Yugoslav Republic of Macedonia (70.7 %).

Looking at the change since 2000, in all but one country (Latvia) there has been an increase in the share of female academic staff. The countries with the highest relative change are the former Yugoslav Republic of Macedonia (28.2 percentage points), Malta (12.9 percentage points) and Slovenia (18 percentage points). In Latvia, the share of female academic staff decreased by 5.5 percentage points between 2000 and 2016. It should be noted, however, that Latvia already has a relatively high proportion of female staff (62.1 % in 2000 and 55.7 % in 2016).

Figure 1.8: Female academic staff (%), 2000 and 2016



(\*): the former Yugoslav Republic of Macedonia

Source: Eurostat, UOE.

**Data Figure 1.8**

%	AT	BE	BG	CH	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IS	IT
2000	:	37.4	40.5	:	37.0	38.4	31.0	:	46.4	:	36.0	45.3	33.0	:	38.5	42.6	30.0
2016	42.1	48.6	48.9	34.3	41.2	:	38.2	42.8	48.7	32.7	42.5	51.7	38.0	48.0	43.2	:	37.3
%	LI	LT	LU	LV	MT	NL	NO	PL	PT	RO	RS	SE	SI	SK	(*)	TR	UK
2000	:	50.8	:	61.2	22.5	:	35.9	:	:	39.8	:	38.3	23.1	38.4	42.5	:	33.1
2016	35.0	56.5	37.8	55.7	35.4	45.2	45.5	44.4	44.4	50.0	44.6	44.3	41.1	45.4	70.7	42.8	44.4

(\*): the former Yugoslav Republic of Macedonia

Source: Eurostat, UOE.

### 1.3. Expenditure on higher education

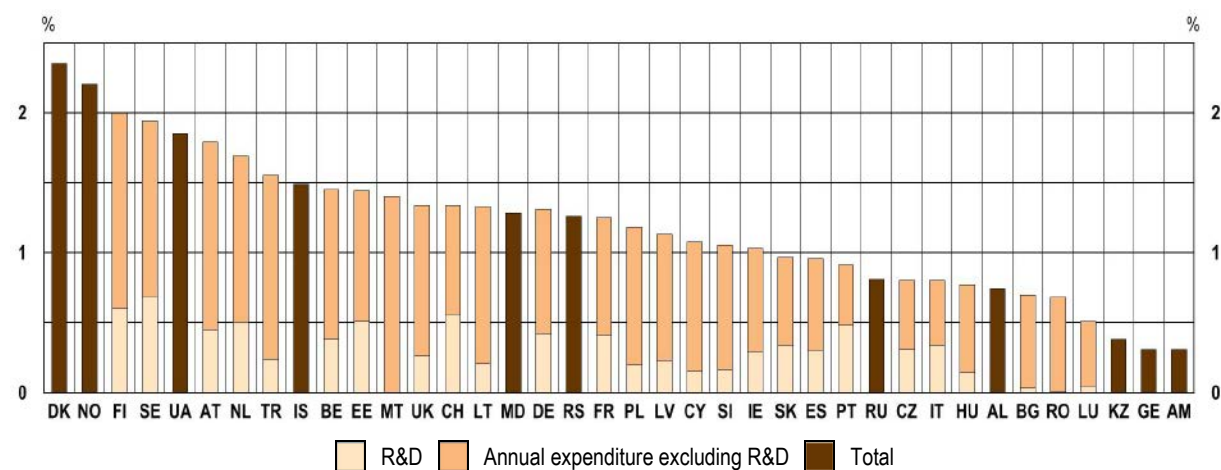
European higher education institutions are funded predominantly from public sources. This section compares public expenditure on higher education in the EHEA based on Eurostat indicators: public expenditure as percentage of GDP and as percentage of total public expenditure, yearly changes in real public expenditure, and total public and private expenditure per student in purchasing power standard (PPS). Alone, none of the indicators presented below can provide a sufficient basis for comparing EHEA countries; but taken together they provide a broad overview of similarities and differences between them. The 2008 global economic crisis had a strong impact on the level of public funding of education and higher education systems. The data presented in this chapter shows that up until 2014 higher education systems were still dealing with the reverberations of the crisis.

Annual public expenditure on tertiary education as a percentage of GDP is often used as an indicator of a country's public financial effort in supporting its higher education system. It is appropriate for comparative analysis because it takes into account the relative size of the country's economy. Annual public expenditure on tertiary education includes spending from all levels of government and covers both direct funding for higher education institutions and funding for all other institutions providing tertiary education-related services. The former includes expenditure that is directly related to instruction and research such as faculty and staff salaries, research grants, university and institutions' buildings, teaching materials, laboratory equipment, etc. The latter includes funding for entities that administer higher education (e.g. ministries or departments of education), that provide ancillary services (i.e. services provided by educational institutions that are peripheral to the main educational mission), and entities that perform educational research, curriculum development and educational policy analysis.

Annual public expenditure on tertiary education also includes public transfers and payments to private entities such as public subsidies to households (including scholarships and grants, public loans to students, specific public subsidies in cash or in kind for transport, medical expenses, books and other materials, etc.). However, annual public expenditure does not include tuition fees that are not covered by scholarships, grants or loans, and that are directly paid by households.

Figure 1.9 shows annual public expenditure on tertiary education as % of GDP and how much of that is spent on research and development. In 2014, half of the countries in the EHEA spent more than 1.2 % of GDP on tertiary education. The three countries with the highest spending were Denmark (2.3 %), Norway (2.2 %) and Finland (2 %). Sweden, Ukraine, Austria, the Netherlands and Turkey spend more than 1.5 % of GDP on tertiary education. These eight countries spending the most on tertiary education relative to the size of their economies also have tertiary education enrolment rates for 18-34 years olds above the median for the EHEA (15.9 %). All except Sweden are among the twelve countries with the highest enrolment rates in 2014/15 (see Figure 1.3). Annual public expenditure on tertiary education is the lowest and below 1 % of GDP in Slovakia, Spain, Portugal, Russia, the Czech Republic, Italy, Hungary, Albania, Bulgaria, Romania, Luxembourg, Kazakhstan, Georgia and Armenia. Almost all of the countries in this latter group (except Georgia and Luxembourg) have experienced a decline in tertiary student enrolment from 2012/13 to 2014/15 (see Figure 1.2).

**Figure 1.9: Annual public expenditure on tertiary education as a % of GDP, total with R&D and total without R&D, 2014**



%	DK	NO	FI	SE	UA	AT	NL	TR	IS	BE	EE	MT	UK	CH	LT	MD	DE	RS	FR	PL
<b>Total</b>	2.35	2.20	2.00	1.94	1.85	1.79	1.69	1.55	1.49	1.45	1.44	1.40	1.34	1.34	1.33	1.28	1.31	1.26	1.25	1.18
<b>R&amp;D</b>	:	:	0.60	0.69	:	0.45	0.50	0.24	:	0.38	0.51	0.00	0.26	0.56	0.21	:	0.42	:	0.41	0.20
<sup>(1)</sup>	:	:	1.40	1.25	:	1.34	1.19	1.31	:	1.07	0.93	1.40	1.08	0.78	1.12	:	0.89	:	0.84	0.98

%	LV	CY	SI	IE	SK	ES	PT	RU	CZ	IT	HU	AL	BG	RO	LU	KZ	GE	AM	EHEA
<b>Total</b>	1.13	1.08	1.05	1.03	0.97	0.96	0.91	0.81	0.80	0.80	0.77	0.74	0.70	0.68	0.51	0.38	0.31	0.31	1.22
<b>R&amp;D</b>	0.23	0.15	0.16	0.29	0.34	0.30	0.48	:	0.31	0.34	0.14	:	0.03	0.01	0.05	:	:	:	
<sup>(1)</sup>	0.90	0.93	0.89	0.74	0.63	0.66	0.43	:	0.49	0.46	0.63	:	0.67	0.67	0.46	:	:	:	

<sup>(1)</sup> Annual public expenditure excluding R&D

Source: Eurostat, UOE and additional collection for the other EHEA countries.

**Notes:**

EHEA refers to the EHEA median.

Countries are arranged according to total annual public expenditure.

Figure 1.9 also shows how much of a country's annual public expenditure is directed to research and development. There is wide variation in R&D spending in the EHEA. Such direct R&D expenditure might be funded through different modes: institutional funding and/or project-based funding and depends on the overall institutional setting of EHEA countries' research systems. Sweden and Finland both spend about 0.6 % of GDP on R&D. Bulgaria and Romania spend the lowest among EHEA countries on R&D, 0.03 % and 0.01 % of GDP respectively. It is important to also consider R&D spending as a share of total public expenditure on tertiary education as this is where there is the most variation between countries. Portugal dedicates more than half (53 %) of its tertiary education spending to R&D. Switzerland, Italy, the Czech Republic, Sweden, Estonia and Slovakia all spend above 35 % (but under 50 %) of total tertiary education expenditure on R&D. At the other end of the spectrum, Bulgaria and Romania spend 4.3 % and 1.5 % respectively on R&D as a share of total tertiary education spending.

The public financial effort directed to tertiary education can also be expressed as a share of total public expenditure. Indeed, in periods of public budget rationalisation and constraint, the analysis of annual public expenditure on tertiary education as a share of the total public expenditure indicates the relative priority attached to tertiary education compared to other levels of education and to other functions of public funding (e.g. health care, pensions, infrastructure, police forces, etc.). Figure 1.10 shows that in 2014, half of the EHEA countries for which data is available spent more than 2.6 % of their total public expenditure on tertiary education. The countries allocating the highest share of public expenditure to tertiary education were Norway (4.8 %), Denmark (4.2 %) and Switzerland (4 %). Eight countries spent less than 2 % of total public expenditure on tertiary education in 2014 – the Czech Republic, Portugal, Bulgaria, Italy, Hungary, Armenia, Luxembourg and Georgia.

In eight countries, there is a continued trend of increase in the share of public spending on tertiary education as a percentage of total public expenditure over the three reference years: Estonia, the Netherlands, Malta, Austria, Iceland, Latvia, the United Kingdom and Poland. These eight countries are already spending above the EHEA median. In another eight countries there is a continued trend of decrease: Ireland, Belgium, Spain, France, Romania, Portugal, Bulgaria and Italy. The latter six spend below the EHEA median, and three of them (Portugal, Bulgaria and Italy) also spend under 2 % of total public expenditure. In 2014, there was a sharp decline – more than half – in the share of public expenditure on tertiary education in Cyprus, even though Cyprus also reports a 16.3 % increase in total tertiary enrollment and a 13.8 % increase in the tertiary enrolment rate for 18-34 year olds in 2014/15.

As this indicator is a ratio between two indicators, changes over time can be produced by an increase or decrease in the amount spent on tertiary education, by an increase or decrease in the amount of total public expenditure, or (and most likely) by increase or decrease in both. A constant ratio through time indicates that both public expenditure on tertiary education and total public expenditure grew or diminished at the same rate. It suggests that tertiary education is given the same relative public financial priority over time.

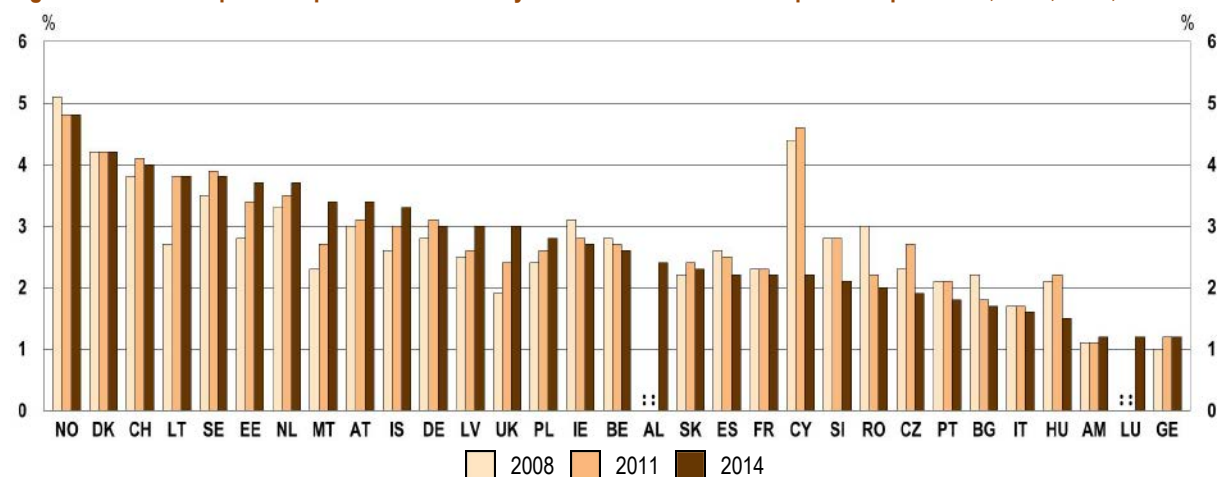
The ratio increases when public expenditure on tertiary education grows more rapidly (or declines less rapidly) than total public expenditure. Such a situation indicates that tertiary education is given higher priority compared to other public expenditure or that it has been less severely hit by budgetary cuts than other areas of public expenditure. The ratio decreases when public expenditure on tertiary education grows more slowly (or declines more rapidly) than total public expenditure. In such a case tertiary education is given lower priority compared to other public expenditure categories.

Two groups of countries are identified when analysing the evolution of the share of public expenditure directed to tertiary education between 2008, 2011 and 2014. In the first group of countries (nearly half of the EHEA countries for which data is available), the percentage of total public expenditure devoted to tertiary education is higher in 2014 than in 2008. In these countries – Switzerland, Lithuania, Sweden, Estonia, the Netherlands, Malta, Austria, Iceland, Germany, Latvia, the United Kingdom, Poland and Georgia – annual public expenditure on tertiary education increased faster than the total public expenditure (or decreased at a slower pace than the total public expenditure). Eight of them (Estonia, the Netherlands, Malta, Austria, Iceland, Latvia, the United Kingdom and Poland) reported three consecutive increases in the years between 2008, 2011 and 2014. The sharpest increase in annual public expenditure on tertiary education as percent of total public expenditure in this period was observed in the United Kingdom – from 2.7 % in 2008 to 3.8 % in 2011.

In the second group of countries (nearly half of the EHEA countries for which data is available), the percentage of total public expenditure devoted to tertiary education was lower in 2014 than in 2008. In these countries – Norway, Ireland, Belgium, Spain, France, Cyprus, Slovenia, Romania, the Czech Republic, Portugal, Bulgaria, Italy and Hungary – public expenditure on tertiary education increased at a slower pace than public expenditure (or decreased more rapidly than public expenditure). Six of them (Ireland, Belgium, Spain, Romania, Portugal and Bulgaria) reported three consecutive decreases in 2008, 2011 and 2014. The sharpest decline in annual public expenditure on tertiary education as a percentage of total public expenditure in this period was observed in Cyprus – from 4.56 % in 2011 to 2.2 % in 2014.

In only five countries – Denmark, Slovakia, France, Italy and Armenia – the ratio between public spending on higher education and total public spending remained roughly unchanged in 2014 relative to 2008, changing by a maximum 0.1 percentage points in 2014 compared to 2008. In these countries, public expenditure on higher education grew or decreased more or less at the same pace as total public expenditure.

Figure 1.10: Annual public expenditure on tertiary education as a % of total public expenditure, 2008, 2011, 2014



%	NO	DK	CH	LT	SE	EE	NL	MT	AT	IS	DE	LV	UK	PL	IE	BE
2008	5.1	4.2	3.8	2.7	3.5	2.8	3.3	2.3	3.0	2.6	2.8	2.5	1.9	2.4	3.1	2.8
2011	4.8	4.2	4.1	3.8	3.9	3.4	3.5	2.7	3.1	3.0	3.1	2.6	2.4	2.6	2.8	2.7
2014	4.8	4.2	4.0	3.8	3.8	3.7	3.7	3.4	3.4	3.3	3.0	3.0	3.0	2.8	2.7	2.6

%	AL	SK	ES	FR	CY	SI	RO	CZ	PT	BG	IT	HU	AM	LU	GE	EHEA
2008	:	2.2	2.6	2.3	4.4	2.8	3.0	2.3	2.1	2.2	1.7	2.1	1.1	:	1.0	2.8
2011	:	2.4	2.5	2.3	4.6	2.8	2.2	2.7	2.1	1.8	1.7	2.2	1.1	:	1.2	
2014	2.4	2.3	2.2	2.2	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.2	1.2	1.2	

Source: Eurostat, UOE and additional collection for the other EHEA countries.

**Notes:**

EHEA refers to the EHEA median.

Figure 1.11 shows yearly changes in real public expenditure on tertiary education. Expressing public expenditure on tertiary education at constant prices allows price inflation to be taken into account over time. Only two countries in the EHEA (Luxembourg and Denmark) increased public expenditure for tertiary education at a constant price in all four years between 2011 and 2015. In Luxembourg, the lowest yearly change in public expenditure for tertiary education at a constant price was 3.8 % over this period. In Denmark, over the same period, the lowest yearly change at constant prices was 3.1 %, and the highest yearly change was 10.8 %. Kazakhstan, Armenia and Iceland also report only yearly increases in the same period, but data is missing for some of the four years for these countries.

In a second set of 16<sup>(9)</sup> countries, there were small yearly decreases (under 5 %) in public spending on tertiary education. The Czech Republic is the only country in this group recording three consecutive yearly decreases on tertiary education spending at constant prices.

The third set of 19<sup>(10)</sup> countries for which data is available experienced yearly decreases of over 5 % in public spending on tertiary education. In this group, Slovenia and Albania report three consecutive years of decreases in tertiary education expenditure at constant prices.

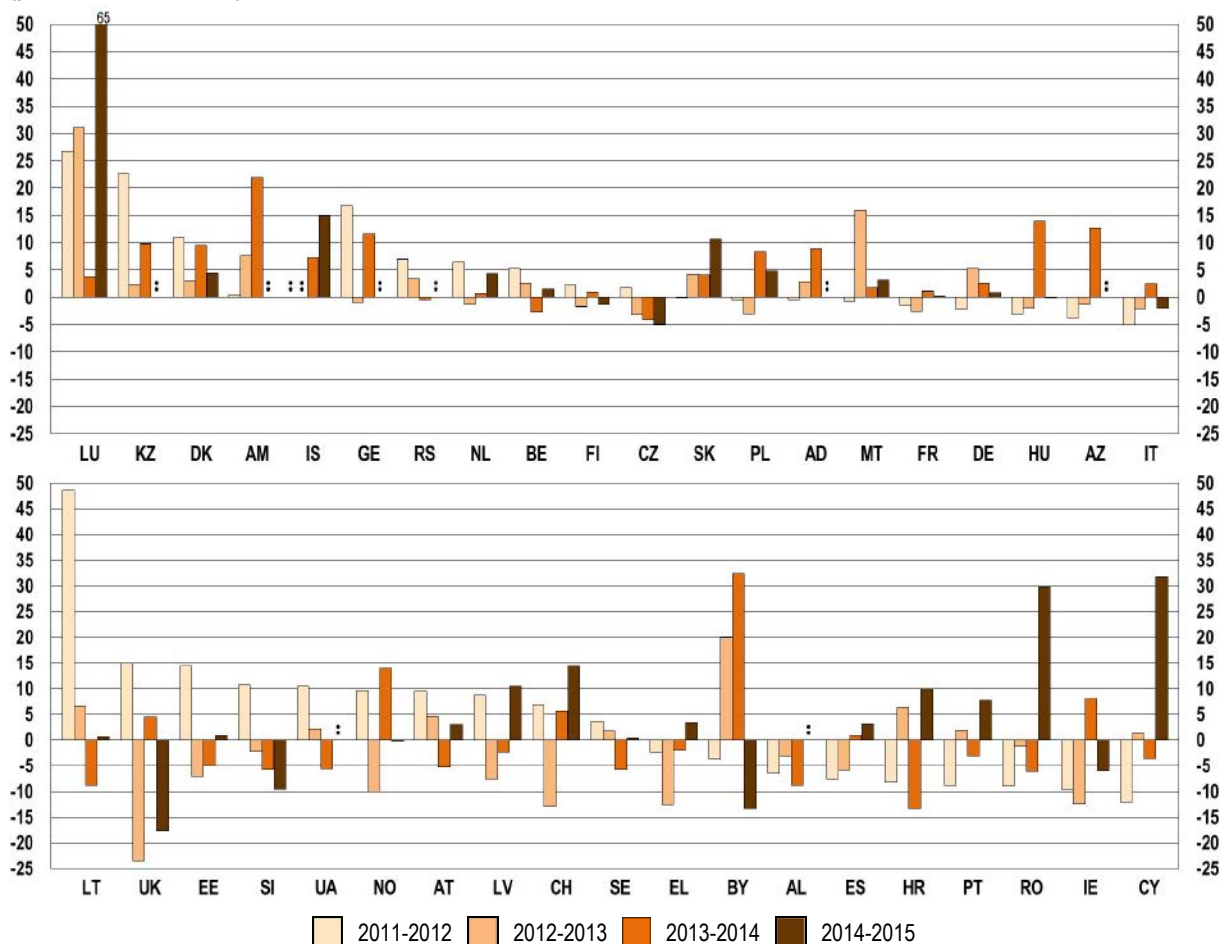
Direct comparison with the 2015 Bologna Process Implementation Report is not possible because a different set of countries is included in the two reports. However, it should be noted that in the previous report four countries (Luxembourg, France, Denmark and Germany) had increased public expenditure on tertiary education as a constant price in the analysed time period, while in the current report there are only two countries with yearly increases in all four years in the analysed time period (Luxembourg

<sup>(9)</sup> Georgia, Serbia, the Netherlands, Belgium, Finland, Czech Republic, Slovakia, Poland, Andorra, Malta, France, Germany, Hungary, Azerbaijan, Italy and Bulgaria

<sup>(10)</sup> Lithuania, the United Kingdom, Estonia, Slovenia, Ukraine, Norway, Austria, Latvia, Switzerland, Sweden, Greece, Belarus, Albania, Spain, Croatia, Portugal, Romania, Ireland and Cyprus

and Denmark). France and Germany have joined the second set of countries with small yearly decreases in spending. Slovenia, Norway, Sweden and Spain have shifted from the group with yearly decreases in spending below 5 % to the group with yearly decreases over 5 %. And only three countries – the Czech Republic, Poland and Bulgaria – have shifted in the opposite direction from the group with larger yearly decreases to the group with yearly decreases under 5 %. Bulgaria barely makes it under the 5 % mark in 2011-2012.

**Figure 1.11: Yearly changes in real public expenditure on tertiary education between year 2011 and year 2015 (price index 2010=100)**



	LU	KZ	DK	AM	IS	GE	RS	NL	BE	FI	CZ	SK	PL	AD	MT	FR	DE	HU	AZ	IT
2011-2012	26.8	22.6	10.8	0.5	:	16.7	6.9	6.5	5.3	2.2	1.7	-0.2	-0.5	-0.5	-0.7	-1.4	-2.2	-3.0	-3.8	-5.0
2012-2013	31	2.3	3.1	7.6	:	-1.0	3.5	-1.4	2.6	-1.7	-3.2	4.2	-3.0	2.9	15.8	-2.6	5.2	-1.9	-1.3	-2.1
2013-2014	3.8	9.8	9.5	21.9	7.3	11.5	-0.5	0.7	-2.7	1.0	-4.1	4.0	8.3	8.9	1.7	1.0	2.6	14.0	12.7	2.4
2014-2015	64.1	:	4.5	:	14.9	:	:	4.3	1.5	-1.3	-4.8	10.7	4.8	:	3.3	0.3	0.9	0.0	:	-1.9
	BG	LT	UK	EE	SI	UA	NO	AT	LV	CH	SE	EL	BY	AL	ES	HR	PT	RO	IE	CY
2011-2012	-5.0	48.7	15.1	14.5	10.7	10.5	9.6	9.5	8.8	6.8	3.6	-2.3	-3.7	-6.5	-7.6	-8.2	-8.8	-8.9	-9.5	-12.2
2012-2013	6.6	6.6	-23.4	-7.1	-2.3	2.2	-10.1	4.6	-7.5	-12.9	1.8	-12.6	19.9	-3.0	-5.9	6.3	2.0	-1.2	-12.4	1.4
2013-2014	15.6	-8.8	4.5	-5.1	-5.8	-5.7	13.9	-5.3	-2.3	5.6	-5.8	-2.0	32.4	-8.8	0.9	-13.3	-3.1	-6.1	8.1	-3.5
2014-2015	-0.7	0.7	-17.6	0.9	-9.4	:	-0.2	3.1	10.5	14.4	0.4	3.4	-13.2	:	3.3	10.1	7.8	29.8	-5.9	31.8

Source: Eurostat, COFOG and additional collection for the other EHEA countries.

**Notes:**

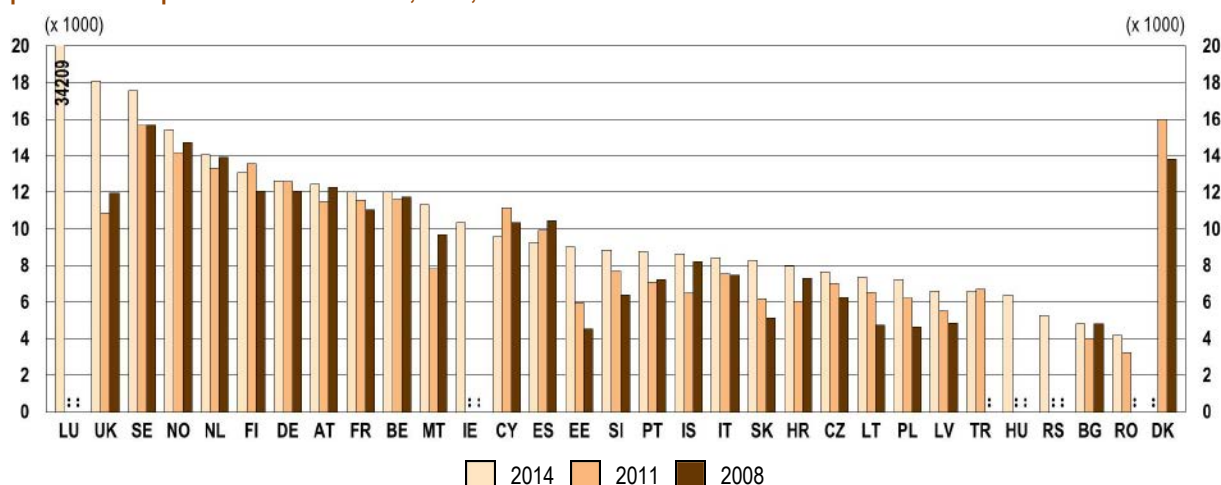
Within each group, countries are arranged according to the magnitude of change between 2011 and 2012.

As discussed in section 1.1, the countries in the EHEA vary tremendously in terms of the total number of tertiary students and the tertiary enrolment rate for 18-34 year olds. Therefore, it is important to take into account the size of a country's student population in the comparison of expenditure indicators. Figure 1.12 shows total public and private expenditure on tertiary education per full-time equivalent

student in PPS. This indicator is different from the previously discussed indicators in three ways. It covers both public and private spending on tertiary education, and in that sense captures countries' total financial investment on tertiary education. It takes into account the size of the student population in a country by showing spending per full-time equivalent student. And it takes into account the different price levels in each country, and therefore it allows for meaningful comparisons across countries with very different price levels (see the Glossary and Methodological Notes for an explanation of how PPS and full-time equivalent student measures are calculated).

In 2014, the median public and private expenditure on tertiary education per full-time equivalent student in PPS for countries in the EHEA area was 8 900. This means that half of the EHEA countries spent more than PPS 8 900 per student, and the other half of countries spent less than PPS 8 900 per student. There are wide disparities between countries in the EHEA: from PPS 34 209 in Luxembourg to PPS 4 180 in Romania. The highest level of expenditure per full-time equivalent student in Luxembourg is more than eight times higher than the lowest one in Romania.

**Figure 1.12: Annual public and private expenditure on public and private tertiary education institutions, per full-time equivalent student in PPS, 2008, 2011 and 2014**



	LU	UK	SE	NO	NL	FI	DE	AT	FR	BE	MT	IE	CY	ES	EE	SI
2014	34 209	18 093	17 568	15 391	14 041	13 065	12 639	12 407	12 013	12 005	11 333	10 348	9 584	9 247	8 986	8 815
2011	:	10 832	15 660	14 172	13 309	13 541	12 579	11 504	11 565	11 599	7 792	:	11 161	9 909	5 929	7 669
2008	:	11 926	15 676	14 705	13 897	12 045	12 029	12 258	11 053	11 725	9 672	:	10 343	10 422	4 493	6 398
	PT	IS	IT	SK	HR	CZ	LT	PL	LV	TR	HU	RS	BG	RO	DK	EHEA
2014	8 757	8 609	8 410	8 290	7 979	7 639	7 362	7 213	6 588	6 560	6 399	5 265	4 829	4 180	:	8 900
2011	7 089	6 478	7 515	6 147	6 024	6 995	6 533	6 221	5 506	6 712	:	:	3 998	3 255	15 987	
2008	7 228	8 220	7 457	5 121	7 295	6 240	4 741	4 622	4 856	:	:	:	4 821	:	13 787	

Source: Eurostat, UOE and additional collection for the other EHEA countries.

**Notes:**

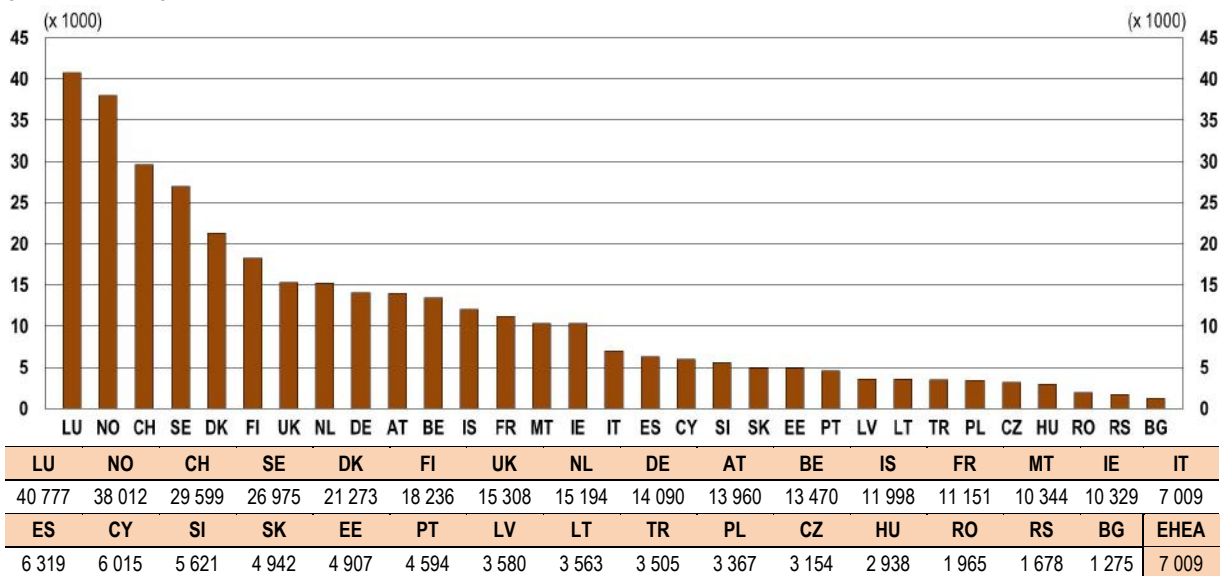
EHEA refers to the EHEA median.

The difference observed in terms of annual expenditure per full-time equivalent student should also be considered in relation to how spending changes across time. Ten countries show three consecutive increases in annual expenditure on tertiary education per full-time equivalent student in PPS in 2008, 2011, and 2014. Annual expenditure per full-time equivalent student in Estonia doubled from 2008 and 2014. Such a large increase may be caused by more investment in tertiary education but it may also be amplified by a decrease or a slower growth in the student population. There is evidence in the data for both of these explanations. Estonia recorded an increase in annual public expenditure in tertiary education as percent of total public expenditure, but also a decrease in the number of enrolled tertiary students (see Figures 1.2 and 1.10). Other big increases in annual public and private expenditure on tertiary education in the same time period were recorded in Slovakia (62 %), Poland (56 %), Lithuania

(55 %) and the United Kingdom (52 %). The smallest increases took place in the Netherlands (1 %), Austria (1 %) and Belgium (2 %). Compared to the years analysed in the 2015 Bologna Process Implementation Report (i.e. 2005 – 2011), there were fewer significant increases in annual spending in this reference period (2008 – 2014), but there were also fewer decreases. When comparing 2008 and 2014 only two EHEA countries – Cyprus (7 %) and Spain (11 %) – decreased annual expenditure.

Luxembourg, Switzerland and the Nordic countries spend the most per full-time equivalent student in absolute terms. At the other end of the spectrum, East European countries spend the least per student. The difference of spending varies considerably with the three highest spenders reaching more than 25 000 euros per student and the ten lowest countries spending less than 5 000 euros per student. Figure 1.12 above provides a more meaningful comparison between countries as the measure of spending takes into account the difference in price levels across the EHEA.

**Figure 1.13: Annual public expenditure on public and private tertiary education institutions, per full-time equivalent student in euro, 2014**



Source: Eurostat, UOE and additional collection for the other EHEA countries.

**Notes:**

EHEA refers to the EHEA median.

A comparative analysis of the expenditure on tertiary education should also take into account the wealth of each country. The level of the GDP per capita could be considered as the country’s ability to pay for the tertiary education of its population. Cross-country comparison of this indicator is easier for primary and secondary education as enrolment rates across countries show similar levels. Indeed, in countries where primary and secondary education is nearly universal, this indicator informs about the amount spent per pupil. For higher education, cross-country comparison is more complex as enrolment rates vary in greater proportions (see Figure 1.3): countries where the enrolment rate is low could show higher expenditure per full-time equivalent students than countries with higher enrolment rates.

A positive relationship between the wealth of a country (expressed as GDP per capita) and the investment per student (expressed as annual expenditure on public and private tertiary education institutions per full-time equivalent student) is expected, and clearly identifiable in Europe (see Figure 1.14). However, this correlation does not imply a direct causal relationship between the two variables in the short term. Indeed, public expenditure (i.e. the major part of total expenditure on tertiary education) involves long-term commitments (e.g. capital expenditure or staff salaries) and



cannot be adjusted rapidly to unexpected changes in economic conditions; the number of students is the result of multi-cohorts behaviors and their attitudes towards tertiary education.

In all reference years, there was higher expenditure on tertiary education institutions and higher GDP per capita in the Nordic countries, and there was lower expenditure on tertiary education institutions and lower GDP per capita in East European countries. Norway was identified as a clear outlier in the 2015 Bologna Process Implementation Report, and the situation has not changed as demonstrated by the three graphs below. It spends less per student than expected for its level of GDP per capita; it spends at the same rate as the other Nordic countries which have lower GDP per capita levels.

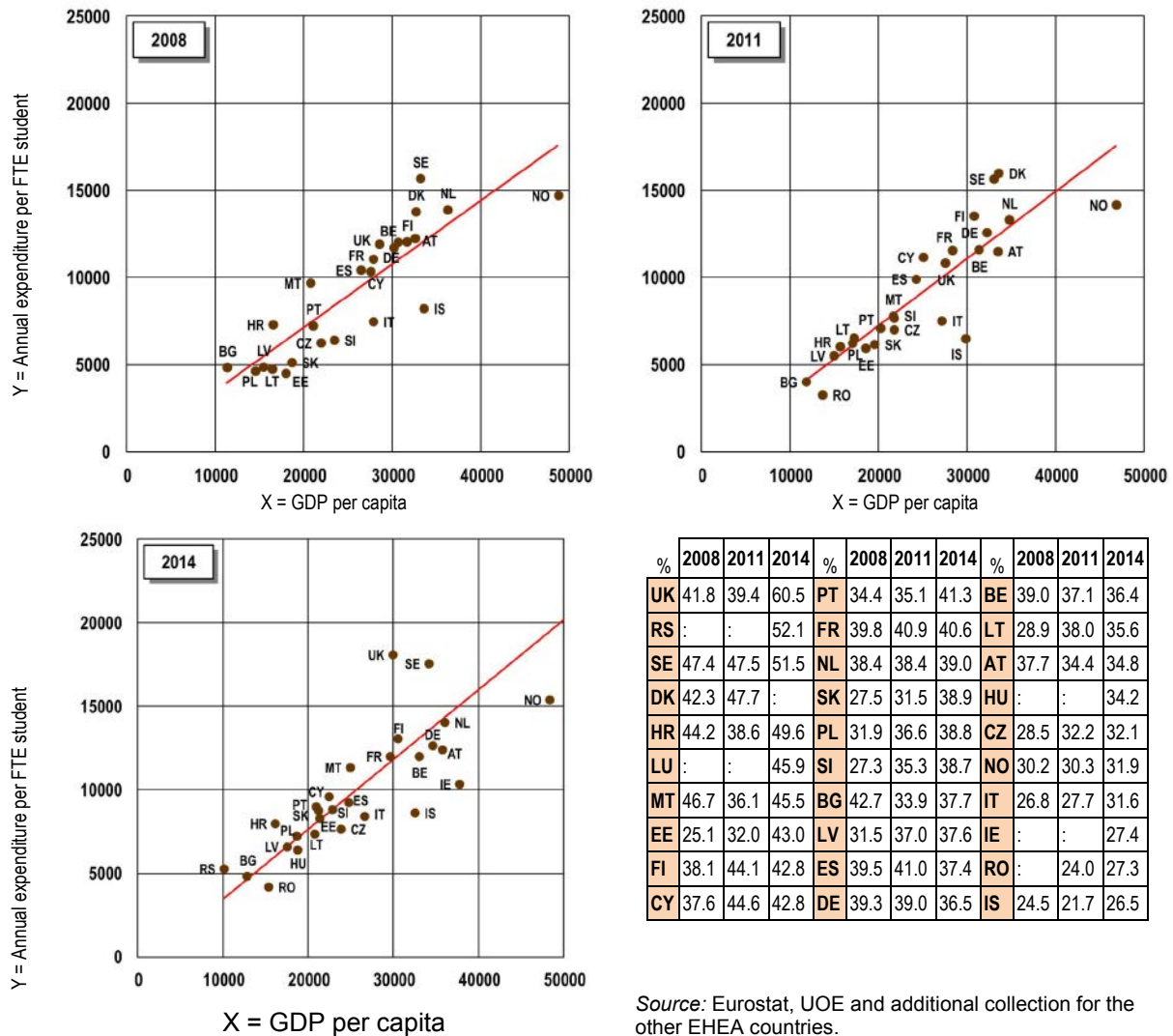
It is also important to note the United Kingdom's drastic shift in spending per student in the graph for 2014. Without any substantial increase in GDP per capita between 2011 and 2014 (from PPS 27 500 to PPS 29 900), spending on tertiary education per full-time equivalent student increased from PPS 10 832.1 to PPS 18 093.1, or a 67 % increase. Since this increase could have occurred in 2012, 2013 and/or 2014, it is impossible to pinpoint the cause with certainty. One likely explanation, however, is the increase of fees to £ 9 000 per year in 2012.

The table below the first graph shows how much of GDP per capita is spent on each tertiary student. This can be understood as a measure of public and private investment in higher education. The table reveals that countries with different levels of wealth and annual expenditure per student make a similar relative financial effort towards tertiary education. For example, in 2014 Serbia and Croatia spent about 50 % of their GDP per capita on each tertiary student which is very similar to the share Sweden spent, while the Nordic countries' GDP per capita and annual expenditure per student are more than double those of Serbia and Croatia.

It is important to consider also how the ratio of public and private expenditure on tertiary education per full-time equivalent student and GDP per capita changes over time. Changes in this ratio result from the combination of two trends and their respective rate of change: the first is total (public and private) expenditure on tertiary education per full-time student, and the second is GDP per capita. A constant ratio across the three years indicates that both spending per student and GDP per capita grew or diminished at the same rate. It suggests that investment in tertiary education is given the same priority over time. It is important to note that this measure of expenditure includes both public and private spending, so it is impossible to tell from this particular indicator how public expenditure reacts to changes in the GDP per capita. As the discussion of the United Kingdom above demonstrates, it is possible to achieve an increase in the ratio even when public spending decreases if private spending on tertiary education increases at the same time (see Figures 1.9, 1.10 and 1.11 for discussion of changes in public expenditure only).

Of the 24 EHEA countries for which data is available for all three reference years, the ratio of public and private expenditure per full-time equivalent student and GDP per capita decreased in six countries (Malta, Bulgaria, Spain, Germany, Belgium and Austria). This means that in these countries public and private investment in higher education declined relative to the country's wealth. In Malta, Bulgaria, Germany, Belgium and Austria expenditure on tertiary education per student grew slower than GDP per capita. In Spain, expenditure declined at a faster rate than GDP per capita declined over this time period.

Figure 1.14: Annual public and private expenditure on public and private education institutions on tertiary education, per full-time equivalent student in PPS relative to the GDP per capita in PPS, 2008, 2011 and 2014



Source: Eurostat, UOE and additional collection for the other EHEA countries.

## 1.4. Values and governance

In the Yerevan Communiqué, Ministers reaffirmed their common conviction that the EHEA 'is based on public responsibility for higher education, academic freedom, institutional autonomy, and commitment to integrity' <sup>(11)</sup>. The Communiqué commits Ministers to take action to support and protect values. More precisely, through the Communiqué, Ministers specify that they will:

support and protect students and staff in exercising their right to academic freedom and ensure their representation as full partners in the governance of autonomous higher education institutions. We will support higher education institutions in enhancing their efforts to promote intercultural understanding, critical thinking, political and religious tolerance, gender equality, and democratic and civic values, in order to strengthen European and global citizenship and lay the foundations for inclusive societies <sup>(12)</sup>.

This strong emphasis on shared values is the foundation of a renewed vision of European higher education, and it comes at an important time. The EHEA is comprised of very diverse countries in

<sup>(11)</sup> Yerevan Communiqué, adopted at the EHEA Ministerial Conference in Yerevan, 14-15 May 2015, p. 1.

<sup>(12)</sup> Ibid., p. 2.

almost all aspects – size, socio-economic conditions, history, culture, etc. And yet these very diverse countries have agreed to work together in the larger interest of constructing an open and inclusive higher education area on the basis of shared values.

### **Academic freedom and institutional autonomy: legal protection and other measures**

Academic freedom, institutional autonomy and respect for the rule of law in relations between public authorities, higher education institutions and students are essential to democratic societies, and can be considered as the fundamental values of the EHEA.

The UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel, 1997 (UNESCO, 1997a) provides the following definitions of academic freedom and institutional autonomy:

#### Academic Freedom:

Higher-education teaching personnel are entitled to the maintaining of academic freedom, that is to say, the right, without constriction by prescribed doctrine, to freedom of teaching and discussion, freedom in carrying out research and disseminating and publishing the results thereof, freedom to express freely their opinion about the institution or system in which they work, freedom from institutional censorship and freedom to participate in professional or representative academic bodies. All higher-education teaching personnel should have the right to fulfil their functions without discrimination of any kind and without fear of repression by the state or any other source. Higher-education teaching personnel can effectively do justice to this principle if the environment in which they operate is conducive, which requires a democratic atmosphere; hence the challenge for all of developing a democratic society. (Article 27)

#### Institutional autonomy:

Autonomy is that degree of self-governance necessary for effective decision making by institutions of higher education regarding their academic work, standards, management and related activities consistent with systems of public accountability, especially in respect of funding provided by the state, and respect for academic freedom and human rights. However, the nature of institutional autonomy may differ according to the type of establishment involved. (Article 13)

Autonomy is the institutional form of academic freedom and a necessary precondition to guarantee the proper fulfilment of the functions entrusted to higher-education teaching personnel and institutions. (Article 14)

These UNESCO definitions are particularly useful in bringing out the link between the concepts of academic freedom and institutional autonomy. Academic freedom can be understood as the conviction that freedom of enquiry is a fundamental principle of the higher education mission, and that academic staff should have freedom to teach and research ideas and facts (including those that are inconvenient to external political groups or to authorities). Institutional autonomy, encompassing the autonomy of teaching and research as well as financial, organisational and staffing autonomy, is a necessary condition to ensure that academic freedom can operate.

The question remains, however, as to what guarantees can be provided that these shared values are genuinely supported and protected. This is a difficult topic to explore, and it may be easier to recognise threats to values than to identify clear safeguards. For example, since the Yerevan Communiqué was signed, there have been several cases which, at the very least, raise serious questions about commitment to these values in the respective countries. These cases have all been reported by the Magna Charta Observatory and Scholars at Risk – two international network organisations whose mission to promote and enhance academic freedom and institutional autonomy includes drawing attention to perceived violations. They include:

- 1) The decree <sup>(13)</sup> of 23 July 2016 by the Turkish government that ordered the closure of 15 higher education institutions after the failed coup attempt in the country <sup>(14)</sup>;

The Council of the Magna Charta Observatory issued a statement on 25 July 2016 which states that it 'views the treatment of Turkish universities and academics by the Higher Education Council in the aftermath of the failed coup of July 15th with increasing concern. The latest reports refer to the forced resignation of 1577 university deans, and to suspensions and travel bans affecting many more academics and student' <sup>(15)</sup>.

- 2) The revoking of the license of the European University in St Petersburg in March 2017 by Russian authorities <sup>(16)</sup>;

The European University in St Petersburg (EUSP) is a research university known for graduate programmes in the social sciences and humanities. In June 2016, Vitaly Milonov, a prominent Member of Parliament, lodged an official complaint against the university related to the teaching of gender studies. Russia's Federal Service for Supervision in Education and Science (Rosobrnadzor), along with other government agencies, conducted investigations into the university over the summer and fall of 2016. On 12 December 2016, the school's licence was suspended, and revoked on 20 March 2017 <sup>(17)</sup>. Following unsuccessful appeals, EUSP has applied for a new licence.

- 3) Hungary's act on higher education of 4 April 2017 <sup>(18)</sup>

On 4 April 2017, the Hungarian Parliament adopted a new act amending the Higher Education Act of 2011. The changes added new requirements as regards the name of foreign higher education institutions, the need for bilateral agreements between Hungary and a non-European Economic Area (EEA) country of origin of the foreign higher education institution, the need to provide higher education services also in the country of origin as well as additional requirements for the registration and authorisation of higher education services in Hungary. Foreign higher education institutions must meet the new conditions by 1 January 2019.

Upon assessment of the law, the European Commission took the view that it is not compatible with EU law and launched infringement proceedings against Hungary. The stated rationale of the amendment was to strengthen quality assurance of foreign providers. However the new requirements appear to unreasonably restrict the rights of foreign education and to affect a single institution, the Central European University (CEU).

The task of the following section is to make a first attempt at analysing how values are protected and supported. Although academic freedom and institutional autonomy are essential, they are neither absolute nor static concepts. Both need to be considered in the light of evolving societal needs and developments, contextualised, and broken down into different dimensions.

### Legal basis for academic freedom

EHEA country representatives reported on whether or not the concept of academic freedom is mentioned in national legislation. It is indeed mentioned in the legislation of all but four systems – the Flemish Community of Belgium, Belarus, Hungary and Malta. However, there is substantial variation in

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<sup>(13)</sup> Kanun Hükmünde Kararname KHK/667: <http://www.resmigazete.gov.tr/eskiler/2016/07/20160723-8.htm>;  
English translation: <https://rm.coe.int/168069661d>

<sup>(14)</sup> <https://www.scholarsatrisk.org/2016/07/15-universities-shut-connection-state-emergency/>

<sup>(15)</sup> <http://www.magna-charta.org/publications-and-documents/observatory-publications/statement-concerning-universities-in-turkey>

<sup>(16)</sup> <http://monitoring.academicfreedom.info/reports/2017-03-20-european-university-st-petersburg>

<sup>(17)</sup> <http://isga.obrnadzor.gov.ru/rlic/details/e349be5359314960a144896bc296aac8/>

<sup>(18)</sup> No T/14686, amending Act No 204 of 2011 on higher education

how and to what degree the concept is specified. Most commonly academic freedom is defined in legislation as the freedom to organise teaching (e.g. choice of pedagogical approach, textbooks), research (e.g. choice of topic, methodology) and artistic activities, and for higher education institutions to be self-governing/autonomous.

In some countries, the concept extends more broadly to embrace the notion of access to higher education and the right to learn (e.g. Bulgaria, the Czech Republic, Georgia, Latvia, Russia, Slovakia and the former Yugoslav Republic of Macedonia).

### Composition of governing bodies

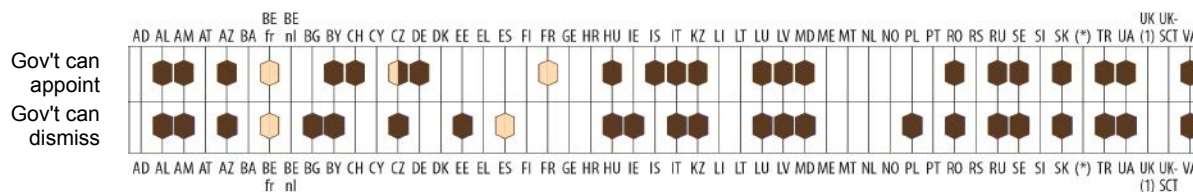
There is substantial variation in how institutions of higher education are governed and in how the membership of the governing bodies is (s)elected. In one third of the higher education systems in the EHEA there are different types of governing bodies for different types of public higher education institutions (e.g. universities, universities of applied sciences, etc.). In almost all systems, the membership/composition and the decision-making responsibilities of these governing bodies is regulated in legislation. The exceptions are the United Kingdom (England, Wales, Northern Ireland and Scotland) where the decision-making responsibilities are set out in the Higher Education Code of Governance 2014 and the Scottish Code of Good Higher Education Governance, and Russia where neither the membership/composition nor the decision-making responsibilities are regulated in legislation but are decided by the higher education institution.

The requirements for the composition of governing bodies vary across countries in the EHEA. In half of the education systems, there is a requirement for the governing bodies of higher education institutions to include a government representative. Almost all education systems require student and staff representatives, and about two thirds of the systems require other representatives (e.g. local authorities, unions, business/industry, science councils). In two thirds of the education systems, there is a legislative framework for the organisation of academic structures for teaching and research within higher education institutions.

### Appointment and dismissal of higher education executive heads

There is more uniformity among EHEA countries when it comes to the appointment and dismissal of higher education institution executive heads (rectors) and staff (e.g. professors). Figure 1.15 shows the legal authority to appoint and/or dismiss rectors and academic staff. In 18 education systems, the government (Ministry or Head of State) can both appoint and dismiss rectors: Albania, Armenia, Azerbaijan, Belarus, the Czech Republic, Hungary, Italy, Kazakhstan, Luxembourg, Latvia, Moldova, Romania, Russia, Sweden, Slovakia, Turkey, Ukraine and the Holy See.

**Figure 1.15: Legal authority to appoint and/or dismiss higher education institution executive heads (rectors) and some categories of higher education staff (e.g. professors), 2017**



(\*): the former Yugoslav Republic of Macedonia; UK (1): UK-ENG/WLS/NIR

■ Rector ■ Professor

Source: BFUG data collection.

In Germany and Iceland, the government can only appoint rectors, and in Bulgaria the government can only dismiss rectors.

It should be noted that in many countries in which the government formally appoints rectors, they are first elected or selected by the higher education institution's governing body (e.g. this is the case in Romania and Sweden).

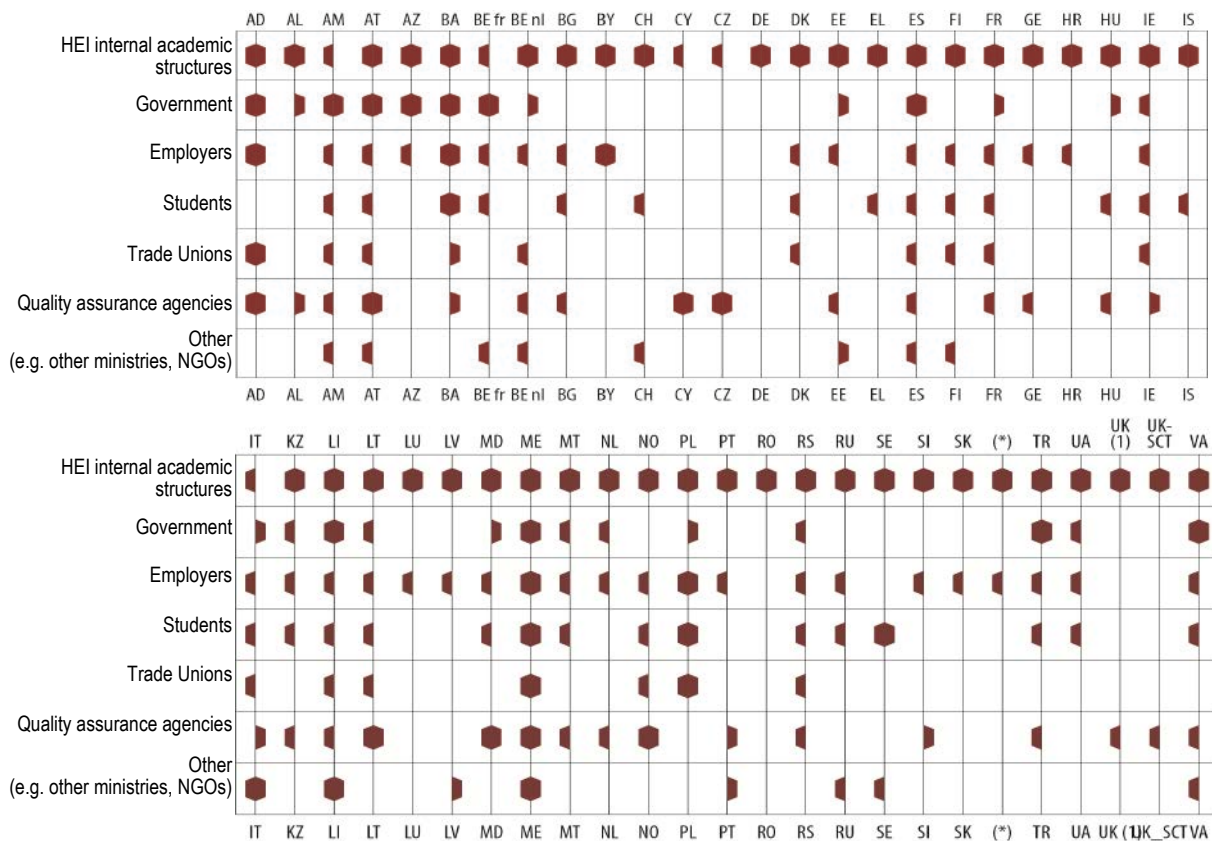
In only three education systems can the government appoint professors: the French Community of Belgium, the Czech Republic and France. And in only two higher education systems can the government dismiss professors: the French Community of Belgium and Spain.

### Decision-making responsibility for new study programmes

Figure 1.16 shows the social actors most commonly consulted and/or most commonly making decisions regarding the development of new higher education programmes. In all 50 education systems, higher education institution internal academic structures are most commonly consulted regarding the development of new study programmes. This is followed by employers – in 38 systems; students – in 29; quality assurance agencies in 26; the government in 17; and trade unions in 16.

A similar pattern applies to decision-making on the development of new study programmes. In 45 systems, higher education institution internal academic structures make these decisions (except in Armenia, the French Community of Belgium, Cyprus, the Czech Republic and Italy). In slightly more than one-third (19) of the systems governments are also involved in decision-making. Employers are involved in the decision-making in only five of the systems (Andorra, Bosnia and Herzegovina, Belarus, Montenegro and Poland). Quality assurance agencies are involved in 14 systems. Unions are involved in four systems, while students are involved in the decision-making in only three systems.

Figure 1.16: Decision making regarding the development of new higher education programmes, 2017



(\*): the former Yugoslav Republic of Macedonia; UK (1): UK-ENG/WLS/NIR

Left: Most commonly consulted; Right: Most commonly takes decisions

Source: BFUG data collection.

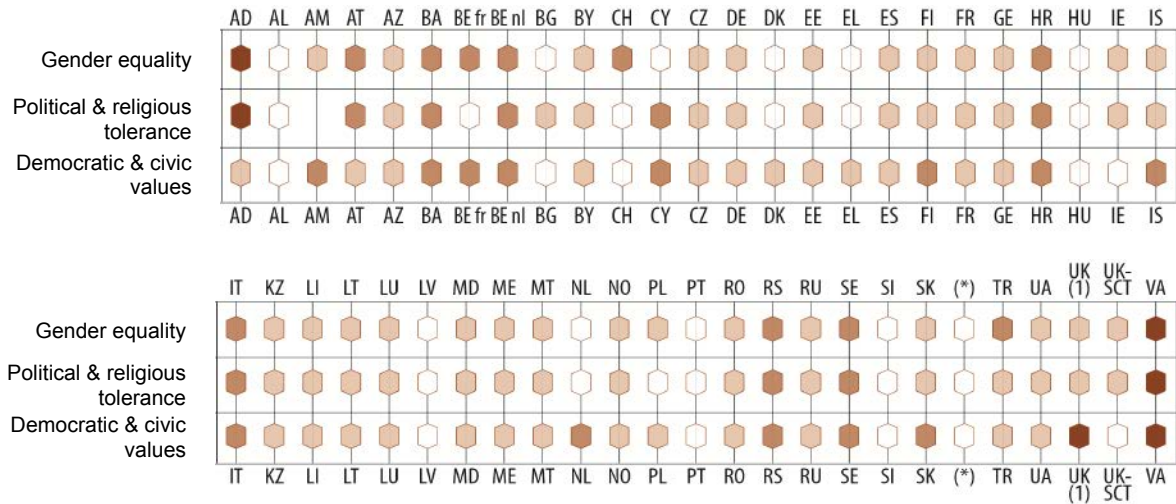
## Consultation on top level action to implement higher education reforms

When planning top-level action to implement higher education reforms – including those committed to the Bologna process – there is a requirement to consult higher education institutions in only 22 of the 48 EHEA education systems. It must be noted, however, that they are commonly consulted even if there is no formal requirement. In 17 systems, there is a requirement to consult students on higher education reform, but again they are commonly consulted even if it is not required. In 14 systems staff, trade unions are mandatorily consulted. In 12 systems there is a requirement to consult employers, and in 14 there is a requirement to consult quality assurance agencies.

In more than half (26) of the EHEA education systems, there is no structural organisation overseeing and coordinating the implementation of commitments made in the Bologna Process. In these countries, the ministry responsible for higher education has the task of following up Bologna Process commitments.

In more than half of the EHEA systems, higher education institutions are supported to promote gender equality, political and religious tolerance, and democratic and civic values by top-level legislation. In about a quarter of the systems, there is specific higher education legislation supporting institutions in the promotion of these societal goals and values. And in another quarter of education systems, higher education systems are left to decide their own actions regarding the promotion of these values. The most common requirements listed in such legislation regarding the promotion of gender equality, political and religious tolerance, and democratic and civic values are anti-discrimination measures in appointment and promotion of staff and equal access to education and learning.

**Figure 1.17: Support for higher education institutions to promote gender equality, political and religious tolerance, and democratic and civic values, 2017**



(\*): the former Yugoslav Republic of Macedonia; UK (1): UK-ENG/WLS/NIR

Top level legislation
  Specific HE legislation
  Other forms of support
  HEIs decide on their own

Source: BFUG data collection.

## 1.5. Conclusions

The framework conditions for higher education in the different countries of the EHEA vary enormously. Student populations vary dramatically in size, with 56 % of the 37.7 million students studying in the five largest countries. Most students (58.8 %) are enrolled in first-cycle programmes (Bachelor's or equivalent level), while 21.7 % are enrolled in second-cycle programmes (Master's or equivalent level), and 16.8 % are enrolled in short-cycle tertiary education. Only 3 % of students are enrolled in third-cycle programmes (doctoral or equivalent level).

Numbers of higher education institutions also mirror the diversity in the student population. Thirty systems have between 11 and 100 higher education institutions, eight systems have between 101 and 200 institutions, and seven now have over 200. Most countries with available data have also seen an increase in the number of academic staff, although this does not correlate clearly to changes in the student population. Some countries also have a sizeable share of academic staff over the age of 50 (in five cases over 50 %), and may now be facing challenges in renewing this population.

European higher education institutions continue to be funded predominantly from public sources. Nevertheless there are major differences in the economic capacity of countries, and in the share of their resources that they dedicate to higher education. Analysis of recent trends (2011 – 2015) shows that most countries have experienced decreases in public expenditure on higher education.

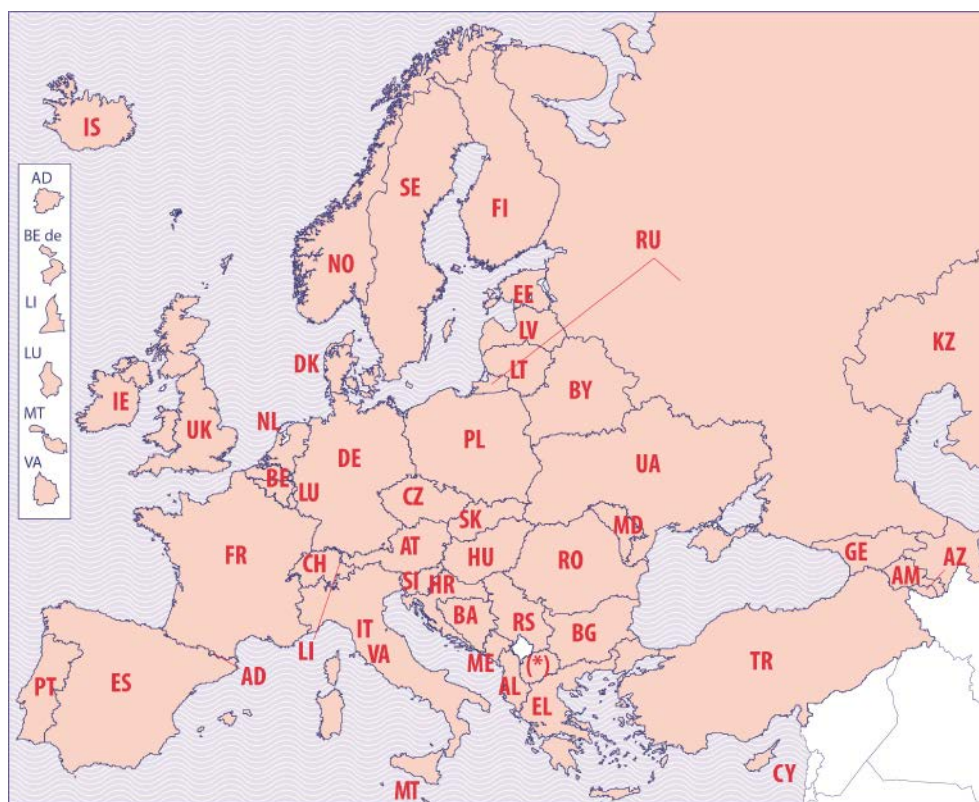
While the conditions for higher education are very different from country to country, the Yerevan Communiqué emphasises the shared values that underpin the EHEA. Specifically, the ministers highlight academic freedom and autonomy of higher education institutions, while EHEA values also include student and other stakeholder participation in the democratic governance and management of higher education. While concerns have been raised about violations of values in some EHEA countries, it is difficult to find causal explanations related to the different systems of higher education governance in operation across the EHEA. There is nevertheless a continuing need to be vigilant that robust legal protection is in place – including defining and limiting the role of governments in the organisation and management of higher education institutions.



# GLOSSARY AND METHODOLOGICAL NOTES

## I. Codes, abbreviations and acronyms

### I.1. Country Codes



<b>AD</b>	Andorra	<b>EL</b>	Greece	<b>NL</b>	Netherlands
<b>AL</b>	Albania	<b>ES</b>	Spain	<b>NO</b>	Norway
<b>AM</b>	Armenia	<b>FI</b>	Finland	<b>PL</b>	Poland
<b>AT</b>	Austria	<b>FR</b>	France	<b>PT</b>	Portugal
<b>AZ</b>	Azerbaijan	<b>GE</b>	Georgia	<b>RO</b>	Romania
<b>BA</b>	Bosnia and Herzegovina	<b>HR</b>	Croatia	<b>RS</b>	Serbia
<b>BE de</b>	Belgium – German-speaking Community	<b>HU</b>	Hungary	<b>RU</b>	Russia
<b>BE fr</b>	Belgium – French Community	<b>IE</b>	Ireland	<b>SE</b>	Sweden
<b>BE nl</b>	Belgium – Flemish Community	<b>IS</b>	Iceland	<b>SI</b>	Slovenia
<b>BG</b>	Bulgaria	<b>IT</b>	Italy	<b>SK</b>	Slovakia
<b>BY</b>	Belarus	<b>KZ</b>	Kazakhstan	<b>(*)</b>	The former Yugoslav Republic of Macedonia (Provisional code)
<b>CH</b>	Switzerland	<b>LI</b>	Liechtenstein	<b>TR</b>	Turkey
<b>CY</b>	Cyprus	<b>LT</b>	Lithuania	<b>UA</b>	Ukraine
<b>CZ</b>	Czech Republic	<b>LU</b>	Luxembourg	<b>UK-ENG</b>	United Kingdom – England
<b>DE</b>	Germany	<b>LV</b>	Latvia	<b>UK-NIR</b>	United Kingdom – Northern Ireland
<b>DK</b>	Denmark	<b>MD</b>	Moldova	<b>UK-SCT</b>	United Kingdom – Scotland
<b>EE</b>	Estonia	<b>ME</b>	Montenegro	<b>UK-WLS</b>	United Kingdom – Wales
		<b>MT</b>	Malta	<b>VA</b>	Holy See

## I.2. Abbreviations

:	Data not available
BFUG	Bologna Follow-Up Group
CEEPUS	Central European Exchange Program for University Studies
COFOG	Classification of the Functions of Government
EEA	European Economic Area
EHEA	European Higher Education Area
ENIC	European Network of Information Centres
ESG	European Standards and Guidelines for Quality Assurance
EU	European Union
EUA	European University Association
EU-SILC	European Union Statistics on Income and Living conditions
EU-LFS	EU Labour Force Survey
FTE	Full-time equivalent
GDP	Gross Domestic Product
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
NARIC	National Academic Recognition Information Centres
OECD	Organisation for Economic Co-operation and Development
PPS	Purchasing Power Standard
R&D	Research and Development
UNESCO-UIS	United Nations Educational, Scientific and Cultural Organization, Institute for Statistics
UOE	UNESCO-UIS/OECD/Eurostat

## II. General terms

### *Access routes to higher education*

Routes to higher education are the different formal access requirements that are defined to be the necessary conditions of higher education access. Questions of selection or acceptance into a programme are not part of the definition.

Standard route: entering higher education with a standard entry qualification. The standard entry qualification is the most widely used diploma or certificate issued by a competent authority attesting the successful completion of an education programme and giving the holder of the qualification the right to be considered for admission to higher education (typically the upper secondary school leaving certificate).

Alternative route: entering higher education without a standard entry qualification, based on requirements other than the standard entry requirements (e.g. based on qualification other than the standard entry qualification or based on the recognition of prior non-formal and informal learning).

### *Admission (to higher education institutions and programmes)*

The act of, or system for, allowing qualified applicants to pursue studies in higher education at a given institution and/or a given programme (see the Lisbon Recognition Convention (<sup>143</sup>)).

### *Completion*

The successful finishing of a study programme (graduation).

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<sup>(143)</sup> Council of Europe Convention on the Recognition of Qualifications concerning Higher Education in the European Region, ETS No.165, [Online] Available at: <http://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/165> [Accessed 22 February 2018].

### ***Credit accumulation/Accumulation of credits***

The process of collecting credits awarded for achieving the learning outcomes of educational components in formal contexts and for other learning activities carried out in informal and non-formal contexts. A student can accumulate credits in order to obtain qualifications, as required by the degree-awarding institution, or to document personal achievements for lifelong learning purposes (European Commission 2015 p. 66).

### ***Credit mobility***

Credit mobility is a short-term form of mobility – usually a maximum of one year – aiming at the acquisition of credits in a foreign institution in the framework of on-going studies at the home institution.

### ***Credit transfer/Transfer of credits***

Is the process of having credits awarded in one context (programme, institution) recognised in another formal context for the purpose of obtaining a qualification. Credits awarded to students in one programme may be transferred from an institution to be accumulated in another programme offered by the same or another institution. Credit transfer is the key to successful study mobility. Institutions, faculties, departments may make agreements which guarantee automatic recognition and transfer of credits (European Commission 2015, p. 68).

### ***Cycle***

One of the objectives in the Bologna Declaration in 1999 was the ‘adoption of a system based on two main cycles, undergraduate and graduate.’ In 2003 doctoral studies were included in the Bologna structure and referred to as the third cycle. The EHEA has thus defined a hierarchy of three Higher Education cycles (first cycle, second cycle and third cycle). All higher education qualifications in the European Higher Education Area are located within these three cycles (European Commission 2015, p. 68).

### ***Degree mobility***

Degree mobility is a long-term form of mobility which aims at the acquisition of a whole degree or certificate in the country of destination.

### ***Digital certificates***

Two types exist: a) Certificates that confirm participation in/ completion of a course, b) Certificates that verify the learner’s identity and confirm attainment of learning outcomes. Digital certificates typically include a URL which leads to the course information and/or the display of certificate information at the website of the course provider to prove the authenticity of the credential (Witthaus, et al., 2016).

### ***Diploma Supplement (DS)***

Is a document accompanying a higher education diploma, providing a standardised description of the nature, level, context, content and status of the studies completed by its holder. It is produced by the higher education institutions according to standards agreed by the European Commission, the Council of Europe and UNESCO. The Diploma Supplement is also part of the Europass framework transparency tools.

It has the following eight sections of information: the holder of the qualification; the qualification; its level and function; the contents and results gained; certification of the supplement; details of the national higher education system concerned (provided by the National Academic Recognition Information Centres (NARICs)); any additional relevant information.

Graduates in all the countries taking part in the Bologna Process have the right to receive the Diploma Supplement automatically, free and in a major European language (European Commission 2015, p. 69).

#### ***Doctoral/Research school***

An organisational structure that includes only doctoral students. It may be organised around a particular discipline, research theme or a cross-disciplinary research area and/or it is focused on creating a research group/network and is project-driven. It may involve one institution or several institutions and organise co-operation among them (EUA 2007, p. 27).

#### ***Credit (ECTS)***

ECTS credits express the volume of learning based on the defined learning outcomes and their associated workload. 60 ECTS credits are allocated to the learning outcomes and associated workload of a full-time academic year or its equivalent, which normally comprises a number of educational components to which credits (on the basis of the learning outcomes and workload) are allocated. ECTS credits are generally expressed in whole numbers (European Commission 2015, p. 68).

#### ***Drop-out***

Refers to students who start but do not continue or finish a study programme.

#### ***European Association for Quality Assurance in Higher Education (ENQA)***

The association of quality assurance agencies in the European Higher Education Area was set up in 2000. It aims to disseminate information, experiences and good practices in the field of quality assurance in higher education. Membership of the association is open to quality assurance agencies in the EHEA member states. Membership of ENQA represents recognition that an agency complies with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).

#### ***European Credit Transfer and Accumulation System (ECTS)***

ECTS is a learner-centred system for credit accumulation and transfer, based on the principle of transparency of the learning, teaching and assessment processes. Its objective is to facilitate the planning, delivery and evaluation of study programmes and student mobility by recognising learning achievements and qualifications and periods of learning (European Commission 2015, p. 69).

#### ***European Qualifications Framework for Lifelong Learning (EQF)***

The European Qualifications Framework for lifelong learning is a common European reference framework which aims to increase the transparency, comparability and portability of qualifications systems and all types and levels of qualifications in Europe. The EQF uses eight common European reference levels based on learning outcomes that are defined in terms of knowledge, skills and competences. The EQF is implemented by referencing levels of national qualifications frameworks to the levels of the EQF. The EQF was adopted by the Council of Ministers in the EU in 2008 and revised in 2017.

#### ***European Quality Assurance Register for Higher Education (EQAR)***

The Register aims at increasing transparency of quality assurance in higher education across Europe. It has been founded in 2008 by the European Association for Quality Assurance in Higher Education (ENQA), the European Students' Union (ESU), the European University Association and the European Association of Institutions in Higher Education (EURASHE). EQAR publishes and manages a list of quality assurance agencies that substantially comply with the European Standards and Guidelines for

Quality Assurance (ESG) to provide clear and reliable information on quality assurance agencies operating in Europe (<sup>144</sup>).

### ***External quality assurance***

External quality assurance refers to the process of evaluation or audit of a higher education programme or institution undertaken by a specialised body outside the institution. Typically the body may be a quality assurance or accreditation agency, or an ad hoc panel of experts and peers constituted by the responsible Ministry. The evaluation will involve the collection of data, information and evidence for assessment against agreed standards.

### ***Fee***

Any sum of money paid by students with which they formally and compulsorily contribute to the cost of their higher education. This may include, but is not restricted to e.g. a registration fee, tuition fees, graduation fees, administrative fees, etc. Payments to student unions are not taken into account.

### ***Formal learning***

Formal learning means learning which takes place in an organised and structured environment, specifically dedicated to learning, and typically leads to the award of a qualification, usually in the form of a certificate or a diploma. It includes systems of general education, initial vocational training and higher education (<sup>145</sup>).

### ***Framework for Qualifications of the European Higher Education Area /Qualifications Framework for the European Higher Education Area (QF-EHEA)***

Refers to the overarching framework for qualifications in the EHEA, which comprises three cycles (including, within national contexts, the possibility of intermediate qualifications), generic descriptors for each cycle based on learning outcomes, and credit ranges in the first and second cycles. In order to prove the compatibility of national qualifications frameworks for higher education with the QF EHEA, NQFs need to be self-certified to the QF-EHEA.

### ***Funding formulas***

Funding formulas are formulas that automatically allocate funds to institutions. They may vary on the basis of the factors used in their development. These might include among others inputs, such as students or staff, nominal, real or average costs per student and performance-based criteria (Salmi and Hauptman 2006, p. 10).

### ***Governing bodies***

Refers to structures with responsibility for the strategic orientation and organisation/management of higher education institutions.

### ***Graduate tracking surveys***

A survey of graduates from institutions of higher education (sometimes also called as 'alumni survey' or 'follow-up survey') that usually aims at mapping the labour market situation (professional success, relevance of skills etc.) of graduates. Graduate surveys provide information for evaluating the results of the education and training of a specific institution of higher education (Schomburg 2003, p. 11).

Regular graduate tracking surveys are conducted repeatedly, in regular intervals.

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<sup>(144)</sup> For more details on the European Quality Assurance Register for Higher Education (EQAR), see <http://www.egar.eu/> [Accessed 8 March 2018].

<sup>(145)</sup> Council Recommendation of 20 December 2012 on the validation of non-formal and informal learning, O.J. 2012/C 398/01.

### **Grant**

Non-repayable public financial support. A need-based grant is awarded on the basis of financial hardship/socio-economic background of students. Universal grants are awarded to (almost) all students. For the purposes of this report, grants can be regarded as universal if they are awarded to at least 50 % of students. A merit-based grant is awarded on the basis of the academic performance of students.

### **Higher education institution**

Any institution providing services in the field of higher and/or tertiary education, as defined by national law.

### **Higher education qualification**

Any degree, diploma or other certificate issued by a competent authority attesting the successful completion of a higher education programme (Lisbon Recognition Convention <sup>(146)</sup>).

### **Incentives**

Apart from regulations, educational authorities can also encourage higher education institutions to follow certain policy lines (e.g. support under-represented groups, enhance completion, include work placements or mobility windows into study programmes, etc.) through incentives. Incentives can be financial, based on funding formulas or performance-based funding, or can include organisational or managerial support.

### **Incoming mobility**

Incoming mobility refers to students that moved (i.e. crossed a national border) to a specified country to study.

### **Informal learning**

Informal learning means learning resulting from daily activities related to work, family or leisure and is not organised or structured in terms of objectives, time or learning support; it may be unintentional from the learner's perspective; examples of learning outcomes acquired through informal learning are skills acquired through life and work experiences, project management skills or ICT skills acquired at work, languages learned and intercultural skills acquired during a stay in another country, ICT skills acquired outside work, skills acquired through volunteering, cultural activities, sports, youth work and through activities at home (e.g. taking care of a child) <sup>(147)</sup>.

### **Integrated/long programmes**

Programmes including both the first and the second cycle and leading to a second-cycle qualification.

### **Internal quality assurance**

Internal quality assurance refers to the processes involved in assuring and/or improving the quality of defined areas of activity within higher education institutions. Typically, it involves the systematic collection and analysis of administrative data, as well as the feedback of students, lecturers, other staff and external stakeholders.

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<sup>(146)</sup> Council of Europe Convention on the Recognition of Qualifications concerning Higher Education in the European Region, ETS No.165, [Online] Available at: <http://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/165> [Accessed 22 February 2018].

<sup>(147)</sup> Council Recommendation of 20 December 2012 on the validation of non-formal and informal learning, O.J. 2012/C 398/01.

### *Joint degree*

A joint degree is a single document officially recognised by the appropriate (national or, if applicable, regional) authorities of at least two countries.

### *Joint programme*

Joint programmes are usually inter-institutional arrangements among higher education institutions leading to a joint degree. Parts of joint programmes undertaken by students at partner institutions are recognised automatically by the other partner institutions. The same is true for joint degrees.

### *Labour market/skills forecasting*

'Forecasting skill needs involves estimating the expected future number of jobs available in an economy [in the medium or long term] and their particular skill or qualification requirements. Skills needs forecasts are complemented by forecasts of the number of people (supply) with particular skills. The comparison of demand and supply can indicate potential imbalances or skill mismatches in future labour markets. Most typically, skills supply and demand is forecasted in order to help different labour market actors – employees, employers, students and parents, social partners, policy makers – to take informed decisions and appropriate action concerning the labour market. Labour market forecasting is usually conducted by occupation and qualification levels (Cedefop, 2012).

### *Learning outcome*

Learning outcomes are statements of what the individual knows, understands and is able to do on completion of a learning process. The achievement of learning outcomes has to be assessed through procedures based on clear and transparent criteria. Learning outcomes are attributed to individual educational components and to programmes at a whole. They are also used in European and national qualifications frameworks to describe the level of the individual qualification (European Commission 2015, p. 72).

### *Lisbon Recognition Convention (LRC)*

The Convention on the Recognition of Qualifications concerning Higher Education in the European Region <sup>(148)</sup> was developed by the Council of Europe and UNESCO and adopted in 1997 in Lisbon. It aims to ensure that holders of a qualification from one European country have that qualification recognised in another.

### *Loan*

Repayable financial aid. Student loan models may differ in many aspects, such as in their repayment plans, the level of subsidy, the expenses covered, eligibility rules, etc. A student loan is subsidised when the government bears a part of the costs. This can take the form of a government guarantee, when student loans are guaranteed or insured by the government against the risk of default and loss (Salmi and Hauptman 2006, p. 43).

### *Massive Open Online Courses (MOOCs)*

Courses which allow open entry, are free, and are delivered online usually with peer or automated support. They often have large enrolment numbers. For the purposes of this data collection, we consider MOOCs as (usually shorter) online courses which do not result in degree qualifications. MOOCs may be provided by higher education institutions as well as other providers.

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<sup>(148)</sup> Council of Europe Convention on the Recognition of Qualifications concerning Higher Education in the European Region, ETS No.165, [Online] Available at: <http://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/165> [Accessed 22 February 2018].

### ***Mobility window***

A period of time reserved for international student mobility that is embedded into the curriculum of a study programme.

### ***Monitoring***

Monitoring is the process of systematic data gathering, analysis and use of information by top-level authorities to inform policy. Systematic monitoring must include mechanisms of cross-institutional data gathering and allow cross-institutional data comparability.

### ***National qualifications frameworks for higher education***

National qualifications frameworks describe qualifications in terms of level, workload, learning outcomes and profile. They relate qualifications and other learning achievements in higher education coherently and are internationally understood.

### ***Non-formal learning***

Non-formal learning means learning which takes place through planned activities (in terms of learning objectives, learning time) where some form of learning support is present (e.g. student-teacher relationships); it may cover programmes to impart work skills, adult literacy and basic education for early school leavers; very common cases of non-formal learning include in-company training, through which companies update and improve the skills of their workers such as ICT skills, structured on-line learning (e.g. by making use of open educational resources), and courses organised by civil society organisations for their members, their target group or the general public (<sup>149</sup>).

### ***Online programme***

A higher education programme that is provided primarily or entirely through the use of an Internet-connected computer, rather than attending a programme in a traditional higher education institution/campus setting.

### ***Outward mobility***

Outward mobility refers to students that left their country of residence (i.e. crossed a national border) to study elsewhere (in which they are counted as inwardly mobile students).

### ***Performance-based mechanisms***

Performance-based mechanisms are funding mechanisms related to actual or intended results by an institution over a certain period. They may be based on outputs, such as number of graduates, or inputs, such as number of students/staff with certain characteristics. Performance-based mechanisms may take the form of performance contracts, performance set asides and payments for results in research and/or education (Salmi and Hauptman 2006, p. 16).

### ***Portability***

The possibility to take the support available to students in their home country abroad (within EHEA) for credit mobility (credit portability) or degree mobility (degree portability) (European Commission/EACEA/Eurydice 2016b, p. 57).

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<sup>(149)</sup> Council Recommendation of 20 December 2012 on the validation of non-formal and informal learning, O.J. 2012/C 398/01.



### ***Preferential treatment***

The treatment of one individual or group of individuals in a manner that is likely to lead to greater benefits, access, rights, opportunities or status than those of another individual or group of individuals. Regarding admission to higher education, preferential treatment can include, for example, entry quotas, the awarding of extra points in a selection process on the basis of belonging to an under-represented group, etc.

### ***Public higher education institution***

With this term we refer to higher education institutions directly or indirectly administered by a public education authority. Public higher education institutions thus include two categories of institution: 'public institution', i.e. an institution directly managed by a government agency/authority or by a governing body, most of whose members are either appointed by a public authority or elected by public franchise, and: 'government-dependent private higher education institution', i.e. an institution controlled/managed by a non-governmental organisation or where the governing board consists of members not selected by a public agency but receiving 50 percent or more of its core funding from government agencies or whose teaching personnel are paid by a government agency – either directly or through government.

### ***Quality assurance agency***

A body established by public authorities with responsibility for external quality assurance. Agencies are intended to play a strong role in ensuring accountability of higher education institutions and may have specific objectives and developmental roles regarding enhancing quality.

### ***Quantitative objectives***

Quantitative targets defining a goal to be reached (in terms of a concrete percentage) regarding the composition of students in various respects (e.g. regarding the proportion of under-represented groups entering higher education, completing it or participating in mobility programmes).

### ***Recognition of non-formal and informal learning***

Validation and formal recognition of learners' non-formal and informal learning experiences in order to:

- provide higher education access to candidates without an upper secondary school leaving certificate; or
- within a higher education programme, allocate credits towards a qualification and/or provide exemption from some programme requirements.

### ***Retention***

The successful continuation of a study programme.

### ***Self-certification***

A procedure when national authorities, other bodies and stakeholders certify the compatibility of their national qualifications framework for higher education with the overarching Qualifications Framework for the European Higher Education Area. A set of procedures for the transparent self-certification of compatibility by member states was agreed by higher education ministers in the Bologna Process.

### ***Short cycle***

Degree programmes of less than 180 ECTS (or lasting less than 3 years), leading to a qualification that is recognised at a lower level than a qualification at the end of the first cycle. Short-cycle qualifications are recognised in the overarching framework of qualifications for the European Higher Education Area (QF-EHEA).

### ***Socio-economic status***

A combined economic and sociological measure of an individual's or family's economic and social position relative to others, based on income, level of education, and occupation. Definitions of socio-economic status might differ depending on the national context.

### ***Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)***

European standards and guidelines are an agreed set of standards and guidelines for quality assurance in European higher education. They were developed by the 'E4 Group' (i.e. ENQA, EUA, EURASHE and ESU) and adopted by the ministers in Bergen in 2005. Revision to the ESG was undertaken between the Bucharest and Yerevan Ministerial Conferences, and an updated version of the ESG was adopted at the Yerevan Ministerial Conference in 2015 (<sup>150</sup>).

### ***Steering documents***

Official documents containing guidelines, obligations and/or recommendations for higher education policy and/or institutions.

### ***Strategy***

An official policy document developed by the central authorities in an effort to achieve an overall goal. A strategy can comprise a vision, identify objectives and goals (qualitative and quantitative), describe processes, authorities and people in charge, identify funding sources, make recommendations, etc.

### ***Student-centred learning***

The European Students' Union (ESU) defines student-centred learning as 'both a mindset and a culture [...] characterised by innovative methods of teaching which aim to promote learning in communication with teachers and other learners and which take students seriously as active participants in their own learning, fostering transferable skills such as problem-solving, critical thinking and reflective thinking' (ESU, 2015, n.p.).

### ***Tax benefits***

Tax relief of any kind, not limited to income tax.

### ***Under-represented groups of students***

Societal groups that may be considered as not being proportionally represented in higher education in different countries. Examples might include people with disabilities, migrants, ethnic groups, lower socio-economic status groups, women/men, etc.

### ***Vertical segregation***

Vertical segregation refers to the phenomenon that while women outnumber men amongst higher education graduates, they are slightly under-represented at doctoral level, and there are even fewer women amongst higher ranking academic staff in universities. Thus, vertical segregation refers to the under-representation of women at higher levels of the professional hierarchy.

### ***Workload***

An estimation of the time learners typically need to complete all learning activities such as lectures, seminars, projects, practical work, work placements, individual study required to achieve the defined learning outcomes in formal learning environments. The correspondence of the fulltime workload of an academic year to 60 credits is often formalised by national legal provisions. In most cases, student

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<sup>(150)</sup> For more details on the European Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), see <http://www.enqa.eu/index.php/home/esg/> [Accessed 8 March 2018].

workload ranges from 1 500 to 1 800 hours for an academic year, which means that one credit corresponds to 25 to 30 hours of work. It should be recognised that this represents the normal workload and that for individual learners the actual time to achieve the learning outcomes will vary. (European Commission 2015, p. 77)

#### ***Work placement/practical training***

The term 'work placement' refers to experience gained in a working environment as an integrative part of a higher education programme. Most typically, it refers to the placement of students in supervised work settings (e.g. through internships) so they can apply the knowledge and skills learned during their studies. Alternatively, it can also refer to a period of voluntary work (also referred to as 'student-community engagement') that is intended to allow students to become familiar with the working environment in general, whilst also conveying some benefit to the community (Bourner and Millican, 2011).

### **III. Statistical terms**

#### ***Academic staff (Figures 1.6, 1.7 and 1.8)***

This category includes:

- Personnel employed at the tertiary level of education whose primary assignment is instruction or research;
- Personnel who hold an academic rank with such titles as professor, associate professor, assistant professor, instructor, lecturer or the equivalent of any of these academic ranks;
- Personnel with other titles, (e.g. dean, director, associate dean, assistant dean, chair or head of department), if their principal activity is instruction or research.

It excludes student teachers, teachers' aides and paraprofessionals (UNESCO-UIS, OECD and Eurostat 2016, p. 43).

#### ***Access routes to higher education (Figure 5.16)***

Standard route: entering higher education with the standard entry qualification (the upper secondary school leaving certificate) obtained in direct relation to leaving school for the first time (e.g. *Matura*, *Abitur*, *Baccalauréat*), either in the country of survey or abroad.

Delayed route: entering higher education with the standard entry qualification (the upper secondary school leaving certificate) obtained with a delay, e.g. via evening classes or adult learning.

Alternative route: entering higher education without the standard entry qualification.

#### ***At-risk-of-poverty rate (Figure 6.8)***

The at-risk-of-poverty rate is the share of people with an equivalised disposable income (after social transfer) below the at-risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income after social transfers (Eurostat, 2018a).

The equivalised disposable income is the total income of a household, after tax and other deductions, that is available for spending or saving, divided by the number of household members converted into equalised adults; household members are equalised or made equivalent by weighting each according to their age, using the so-called modified OECD equivalence scale (Eurostat, 2018b).

### **Completion rate** (Figure 5.28)

Tertiary completion rates show the percentage of students who enter (i.e. entrants) a tertiary programme and ultimately graduate from it. The preferred method used to calculate the completion rate is the true cohort method based on panel data (survey or registers), which follow the individual student from entrance to graduation in the programme. The completion rate gives the proportion of entrants who graduated within the theoretical duration of the programme (N) plus 3 years (N+3), to ensure that only a minority of entrants are still enrolled in the system by that time. Unfortunately, as Figure 5.28 shows, only a limited number of countries apply the true cohort method to calculate completion rates.

### **Delayed transition students** (Figures 5.2 and 5.9)

Delayed transition is a characteristic used for defining a type of student, who entered higher education for the first time more than 24 months after leaving school.

### **Educational attainment** (Figures 5.1, 5.2, 6.1, 6.2, 6.3, 6.6, 6.7 and 6.8)

Educational attainment refers to the highest level of education successfully completed. Indicators using the International Standard Classification of Education (ISCED) often distinguish between low, medium and high educational attainment. These categories are compiled as follows (in EU LFS):

- Low educational attainment corresponds to completed pre-primary, primary and lower secondary education (ISCED levels 0, 1 and 2). For figures in Chapter 6, low educational attainment refers to completed lower secondary education (ISCED 2).
- Medium educational attainment corresponds to upper secondary and post-secondary non-tertiary education (ISCED levels 3 and 4). For figures in Chapter 6, medium educational attainment refers to completed upper secondary education (ISCED 4).
- High educational attainment corresponds to tertiary education (ISCED levels 5 to 8).

When referring to students with or without a higher education background (Figure 5.2), then students with higher education background are those whose parents' highest degree is at ISCED level 5-8; and students without higher education background are those whose parents' highest degree is at ISCED level 0-4.

### **Expenditure on tertiary education** (Figures 1.9, 1.10, 1.12, 1.13, 1.14 and 5.21)

Within the UOE data collection, education expenditure includes the following financial data:

- Goods and Services of educational institutions: All direct public, private and international expenditure whether educational or non-educational (e.g. ancillary services), but with some exceptions; and;
- Goods and Services purchased outside educational institutions: private expenditure on educational goods and services; plus
- Public subsidies to students for student living costs regardless of where or how the student spends these subsidies (UNESCO-UIS, OECD and Eurostat 2016, p. 48).

Public expenditure refers to spending of public authorities. Expenditure on education by other ministries or equivalent institutions, for example Health and Agriculture is included. It includes subsidies provided to households and other private entities (often in the form of financial aid to students) which can be attributable to educational institutions (e.g. fees) or not (e.g. private living costs outside of institutions). Expenditure that is not directly related to education (e.g., culture, sports, youth activities, etc.) is excluded unless provided as ancillary services. (Ibid, p. 56).

Three main types of government expenditure (at central, regional or local levels) on education are distinguished:

- Direct expenditure on educational institutions,
- Intergovernmental transfers for education, and
- Transfers or other payments from governments to households and other private entities.

Public subsidies to households includes:

- Scholarships and other grants (including child allowances contingent to student status, special public subsidies in cash or in kind that are contingent on student status) and
- Student loans (including those not attributable to household payments for educational institutions, such as subsidies for student living costs) (Ibid, p. 58).

On differences between the UOE data collection and data based on COFOG (see Figure 1.11), see Section IV.

#### **Formal student status (Eurostudent) (Figures 2.24 and 2.25)**

In the framework of Eurostudent research, formal status includes student's official registration, which is recognised by the state's order and/or the higher education institutions in the respective country. It contains the categories full-time, part-time, and other. A full-time/part-time student is a student who formally holds the respective status irrespective of the weekly number of hours spent on study-related activities (taught and personal study time) (Hauschildt et al., 2015).

#### **Full-time equivalent student (Figures 1.12, 1.13 and 1.14)**

A full-time equivalent (FTE) is a unit to measure students in a way that makes them comparable although they may study a different number of hours per week. The unit is obtained by comparing a student's average number of hours studied to the average number of hours of a full-time student. A full-time student is therefore counted as one FTE, while a part-time student gets a score in proportion to the hours he or she studies (Eurostat, 2015b).

#### **Gross income (Figures 6.6 and 6.7)**

Gross income is the sum of the variables PY010G 'Employee cash or near cash income' and PY020G 'Non-Cash employee income' derived from the EU-SILC database. Gross means that neither taxes nor social contributions have been deducted at source. Employee income is defined as the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during the income reference period.

Gross employee cash or near cash income (PY010G) refers to the monetary component of the compensation of employees in cash payable by an employer to an employee. It includes the value of any social contributions and income taxes payable by an employee or by the employer on behalf of the employee to social insurance schemes or tax authorities. Examples of items included are:

- Wages and salaries paid in cash for time worked or work done in main and any secondary or casual job(s);
- Remuneration for time not worked (e.g. holiday payments);
- Enhanced rates of pay for overtime;
- Supplementary payments (e.g. thirteenth month payment);
- Profit sharing and bonuses paid in cash;
- Allowances for transport to or from work.

Gross non-cash employee income (PY020G) refers to the non-monetary income components which may be provided free or at reduced price to an employee as part of the employment package by an employer (only the value of private use is taken into account). Examples are a company car and associated costs, free or subsidised meals, luncheon vouchers, reimbursement or payment of housing-related expenses.

***Incoming mobility rate*** (Figures 7.10, 7.11, 7.17, 7.18, 7.19 and 7.20)

Incoming mobility rate refers to mobile students (enrolments or graduates) from abroad studying in the country of destination as a percentage of the total number of students enrolled/graduating in the country.

***International Standard Classification of Education (ISCED)***

The International Standard Classification of Education (ISCED) has been developed to facilitate comparisons of education statistics and indicators across countries on the basis of uniform and internationally agreed definitions. The coverage of ISCED extends to all organised and sustained learning opportunities for children, young people and adults, including those with special educational needs, irrespective of the institutions or organisations providing them or the form in which they are delivered.

The older ISCED classification – known as ISCED 1997 (UNESCO, 1997b) – referred to seven levels of education:

- ISCED 0: Pre-primary education;
- ISCED 1: Primary education;
- ISCED 2: Lower secondary education;
- ISCED 3: Upper secondary education;
- ISCED 4: Post-secondary non-tertiary education;
- ISCED 5: Tertiary education (first stage);
- ISCED 6: Tertiary education (second stage).

The current classification – ISCED 2011 or 'ISCED' (UNESCO-UIS, 2012) – refers to the following levels of education:

**ISCED 0: Pre-primary education**

Programmes at level 0 (pre-primary), defined as the initial stage of organised instruction, are designed primarily to introduce very young children to a school-type environment, i.e. to provide a bridge between the home and a school-based atmosphere. Upon completion of these programmes, children continue their education at level 1 (primary education).

ISCED level 0 programmes are usually school-based or otherwise institutionalised for a group of children (e.g. centre-based, community-based, home-based).

Early childhood educational development (ISCED level 010) has educational content designed for younger children (in the age range of 0 to 2 years). Pre-primary education (ISCED level 020) is designed for children aged at least 3 years.

**ISCED 1: Primary education**

Primary education provides learning and educational activities typically designed to provide students with fundamental skills in reading, writing and mathematics (i.e. literacy and

numeracy). It establishes a sound foundation for learning, a solid understanding of core areas of knowledge and fosters personal development, thus preparing students for lower secondary education. It provides basic learning with little specialisation, if any.

This level begins between 5 and 7 years of age, is compulsory in all countries and generally lasts from four to six years.

#### ISCED 2: Lower secondary education

Programmes at ISCED level 2, or lower secondary education, typically build upon the fundamental teaching and learning processes which begin at ISCED level 1. Usually, the educational aim is to lay the foundation for lifelong learning and personal development that prepares students for further educational opportunities. Programmes at this level are usually organised around a more subject-oriented curriculum, introducing theoretical concepts across a broad range of subjects.

This level typically begins around the age of 11 or 12 and usually ends at age 15 or 16, often coinciding with the end of compulsory education.

#### ISCED 3: Upper secondary education

Programmes at ISCED level 3, or upper secondary education, are typically designed to complete secondary education in preparation for tertiary or higher education, or to provide skills relevant to employment, or both. Programmes at this level offer students more subject-based, specialist and in-depth programmes than in lower secondary education (ISCED level 2). They are more differentiated, with an increased range of options and streams available.

This level generally begins at the end of compulsory education. The entry age is typically age 15 or 16. Entry qualifications (e.g. completion of compulsory education) or other minimum requirements are usually needed. The duration of ISCED level 3 varies from two to five years.

#### ISCED 4: Post-secondary non-tertiary education

Post-secondary non-tertiary programmes build on secondary education to provide learning and educational activities to prepare students for entry into the labour market and/or tertiary education. It typically targets students who have completed upper secondary (ISCED level 3) but who want to improve their skills and increase the opportunities available to them. Programmes are often not significantly more advanced than those at upper secondary level as they typically serve to broaden rather than deepen knowledge, skills and competencies. They are therefore pitched below the higher level of complexity characteristic of tertiary education.

#### ISCED 5: Short-cycle tertiary education

Programmes at ISCED level 5 are short-cycle tertiary education, and are often designed to provide participants with professional knowledge, skills and competencies. Typically, they are practice-based and occupation-specific, preparing students to enter the labour market. However, these programmes may also provide a pathway to other tertiary education programmes.

Academic tertiary education programmes below the level of a Bachelor's programme or equivalent are also classified as ISCED level 5.

#### ISCED 6: Bachelor's or equivalent level

Programmes at ISCED level 6 are at Bachelor's or equivalent level, which are often designed to provide participants with intermediate academic and/or professional knowledge, skills and

competencies, leading to a first degree or equivalent qualification. Programmes at this level are typically theory-based but may include practical elements; they are informed by state of the art research and/or best professional practice. ISCED 6 programmes are traditionally offered by universities and equivalent tertiary educational institutions.

#### ISCED 7: Master's or equivalent level

Programmes at ISCED level 7 are at Master's or equivalent level, and are often designed to provide participants with advanced academic and/or professional knowledge, skills and competencies, leading to a second degree or equivalent qualification. Programmes at this level may have a substantial research component but do not lead to the award of a doctoral qualification. Typically, programmes at this level are theory-based but may include practical components and are informed by state of the art research and/or best professional practice. They are traditionally offered by universities and other tertiary educational institutions.

#### ISCED 8: Doctoral or equivalent level

Programmes at ISCED level 8 are at doctoral or equivalent level, and are designed primarily to lead to an advanced research qualification. Programmes at this ISCED level are devoted to advanced study and original research and are typically offered only by research-oriented tertiary educational institutions such as universities. Doctoral programmes exist in both academic and professional fields.

The first statistical data collection based on ISCED 2011 took place in 2014.

The ISCED classification also refers to fields of education. This area was revised in 2013 (ISCED-F 2013). The current classification refers to 'broad fields', which are further divided into 'narrow fields' and 'detailed fields' (UNESCO-UIS, 2015). The 'broad fields' are as follows:

- 00 Generic programmes and qualifications;
- 01 Education;
- 02 Arts and humanities;
- 03 Social sciences, journalism and information;
- 04 Business, administration and law;
- 05 Natural sciences, mathematics and statistics;
- 06 Information and Communication Technologies (ICTs);
- 07 Engineering, manufacturing and construction;
- 08 Agriculture, forestry, fisheries and veterinary;
- 09 Health and welfare;
- 10 Services;
- 99 Field unknown.



### ***International Standard Classification of Occupations (ISCO) (Figures 6.9, 6.10, 6.11 and 6.12)***

ISCO is a tool for organizing jobs into a clearly defined set of groups according to the tasks and duties undertaken in the job. The first version of ISCO was adopted in 1957 by the Ninth International Conference of Labour Statisticians (ICLS). The second version, ISCO-68 was adopted in 1966 and the third version, ISCO-88, in 1987. Though ISCO-88 was updated in December 2007 (ISCO-08), this report uses the classification of the ISCO-88 version, which defines the following major groups:

4. Legislators, senior officials and managers
5. Professionals
6. Technicians and associate professionals
7. Clerks
8. Service workers and shop and market sales workers
9. Skilled agricultural and fishery workers
10. Craft and related trades workers
11. Plant and machine operators and assemblers
12. Elementary occupations
13. Armed forces <sup>(151)</sup>

### ***Mature students (Figures 5.8, 5.9 and 5.32)***

For the purposes of this report, mature students are defined as students aged 30 or more years old.

### ***Median***

The median is the middle value in a group of numbers ranked in order of size, thus dividing the group into two halves. In other words, it is the number in a range of scores that falls exactly in the middle so that 50 % of the scores are above and 50 % are below (Eurostat, 2018c). In this report, the EHEA median refers to the median of values among the EHEA countries where data are available.

### ***Migrant status (Figure 5.6)***

In the Eurostudent survey, students are classified according to their own and their parents' places of birth and the location of their latest educational attainment. Students are classified as international students if they possess a foreign higher education entry qualification or have left the school system for the first time abroad (regardless of their and their parents' birthplace). Students with a national higher educational entry qualification, or who have left the regular school system for the first time without a qualification in the country of the survey, are further categorised according to their own and their parents' places of birth. First generation students with national educational background were born abroad, as were at least one of their parents. Second generation students with national educational background have one (mixed) or two (foreign) parents who were not born in the country of the survey. The category "Other" comprises students who were born abroad, but have parents born in the country of survey. Students without migration background and national educational background were born in the country of survey, as were their parents.

Eurostat data (Figure 5.7) only makes a distinction between the foreign-born and the native-born population, without reference to migrant status.

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<sup>(151)</sup> For more details on the ISCO classification, see: <http://www.ilo.org/public/english/bureau/stat/isco/> [Accessed 8 March 2018].

### ***New entrants (Figures 5.1, 5.3 and 5.4)***

New entrants to a level of education are students who, during the course of the reference school or academic year, enter for the first time any programme in a given level of education, irrespective of whether the students enter the programme at the beginning or at an advanced stage of the programme (e.g. by virtue of credits gained for relevant work experience or courses taken at another level of education) (UNESCO, OECD and Eurostat 2016, p. 36).

### ***Odds ratio (Figures 5.29 and 5.31)***

The odds ratio refers to the ratio of the likelihood that an event may occur in one group in comparison to its likelihood ratio in another group. An odds ratio of 1 indicates that the condition or event under study is equally likely to occur in both groups. An odds ratio greater than 1 indicates that the condition or event is more likely to occur in the first group. And an odds ratio less than 1 indicates that the condition or event is less likely to occur in the first group. An odds ratio is calculated in the following way (probabilities of the event in each of the groups are  $p_1$  (first group) and  $p_2$  (second group)):  $(p_1/(1-p_1))/(p_2/(1-p_2))$ .

### ***Outward mobility rate (Figures 7.12, 7.13, 7.16, 7.17, 7.18 and 7.21)***

Outward mobility rate refers to students (enrolment or graduates) from a country of origin studying abroad (outwardly mobile students) as a percentage of the total number of students with the same country of origin.

### ***Percentile***

The percentile  $X$  (with  $X \geq 0$  and  $\leq 100$ ) of a sampled variable is the value of the variable under which are  $X$  per cent of the observations in the sample. For example, a percentile 25 (denoted  $P_{25}$ ) of EUR 1 000 for an income variable means that 25 % of people in that sample earn less than EUR 1 000. Percentile 0 is the minimum, and  $P_{100}$  the maximum. The median is percentile 50 (Eurostat and Eurostudent 2009, p. 129).

### ***Purchasing power parity (PPP)***

A currency conversion rate which converts economic indicators expressed in a national currency into an artificial common currency that equalises the purchasing power of different national currencies. In other words, PPP eliminates the differences in price levels between countries in the process of conversion to an artificial common currency, called Purchasing Power Standard (PPS).

### ***Purchasing power standard (PPS) (Figures 1.12, 1.14, 6.6 and 6.7)***

The artificial common reference currency unit used in the European Union to express the volume of economic aggregates for the purpose of spatial comparisons in such a way that price level differences between countries are eliminated. Economic volume aggregates in PPS are obtained by dividing their original value in national currency units by the respective PPP (Purchasing power parity). PPS thus buys the same given volume of goods and services in all countries, whereas different amounts of national currency units are needed to buy this same volume of goods and services in individual countries, depending on the price level.

### ***Students enrolled as part-timers (Figures 2.21, 2.22 and 2.23)***

Within the UOE data collection, the part-time/full-time classification is regarded as an attribute of student participation rather than as an attribute of the educational programmes or the provision of education in general. A part-time student is one who is enrolled in an education programme whose intended study load is less than 75 % of the normal full-time annual study load (UNESCO-UIS, OECD and Eurostat 2016, p. 27).

### ***Tertiary education (as defined within the ISCED classification)***

Tertiary education builds on secondary education, providing learning activities in specialised fields of education. It aims at learning at a high level of complexity and specialisation. Tertiary education includes what is commonly understood as academic education but also includes advanced vocational or professional education. It comprises ISCED levels 5, 6, 7 and 8, which are labelled as short-cycle tertiary education, Bachelor's or equivalent level, Master's or equivalent level, and doctoral or equivalent level, respectively. The content of programmes at the tertiary level is more complex and advanced than in lower ISCED levels.

#### *Unemployment rate and unemployment ratio (Figures 6.1, 6.2, 6.3, 6.4 and 6.5)*

An unemployed person is defined by Eurostat, according to the guidelines of the International Labour Organization, as:

- someone aged 15 to 74 (in Italy, Spain, the United Kingdom, Iceland, Norway: 16 to 74 years);
- without work during the reference week;
- available to start work within the next two weeks (or has already found a job to start within the next three months);
- actively having sought employment at some time during the last four weeks.

The unemployment rate is the number of people unemployed as a percentage of the labour force (Eurostat, 2018d).

The *unemployment ratio* is the number of people unemployed as a percentage of the total population.

#### *Vertical mismatch (Figure 6.12)*

Refers to a situation in which the level of education or skills is less or more than the required level of education or skills (Cedefop 2010, p. 13). Regarding Figure 6.12, vertical mismatch refers to the situation in which people with tertiary qualifications have jobs not requiring this qualification level.

## **IV. Data sources**

### BFUG data collection

This direct data collection based on two questionnaires (an Excel questionnaire and an on-line questionnaire) was aimed at collecting information for the present report. The reference year was the academic year 2016/17. The questionnaires primarily focused on qualitative information, and consisted of several parts covering the following areas:

- contextual data;
- learning and teaching;
- degree structures, qualifications, and Bologna tools;
- quality assurance;
- social dimension policies and measures;
- fees, support and portability;
- employability;
- internationalisation and mobility.

When filling in the questionnaires, the Bologna Follow-Up Group representatives were asked to consult all the relevant actors/stakeholders in their respective systems to ensure the highest degree of accuracy possible.

The information covered by the questionnaires was submitted by all signatory countries.

### Bologna with Student Eyes 2018 (European Students' Union)

*Reference year: 2018*

*Coverage: 38 EHEA countries, 43 National Unions of Students*

#### **Description:**

With different methodological approaches, ESU has been reviewing the implementation of the Bologna Process since 2003 with the Bologna with Student Eyes (BWSE) publication, launched prior to each ministerial conference.

BWSE2018 explores the perception of implementation amongst ESU's members operating in EHEA countries and seeks to bring attention to the students' priorities and recommendations for the future of the Bologna Process.

The 2018 edition of the publication highlights the need for further implementation, the slow development within the field of social dimension and embraces the importance of respect for the fundamental values of the Bologna Process.

### Classification of Functions of Government (COFOG)

The Classification of Functions of Government (COFOG) was developed by the Organization for Economic Cooperation and Development (OECD) and is published by the United Nations Statistical Division (UNSD).

COFOG is regarded as the appropriate basis to examine the structure of government expenditure. It is a 3-level classification with 10 'divisions' at the top level, each of which is broken down to about 6 'groups' at the next level of detail, which in turn are subdivided into 'classes'. Divisions describe the broad objectives of government, while groups and classes both define the means by which these broad objectives are achieved <sup>(152)</sup>.

### EQAR/Eurydice survey to BFUG members

This data collection was undertaken through an on-line questionnaire. It aimed at collecting information to be presented in this report and used by EQAR on the legal frameworks allowing higher education institutions to choose a suitable EQAR-registered agency for external quality assurance processes. The reference year was the academic year 2016/17.

Questionnaires responses were submitted by national authorities in all signatory countries with the exception of Cyprus and the Holy See.

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<sup>(152)</sup> For more details on the Classification of Functions of Government (COFOG), see: [http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Classification\\_of\\_the\\_functions\\_of\\_government\\_\(COFOG\)](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Classification_of_the_functions_of_government_(COFOG)) [Accessed 8 March 2018].

## EU Labour Force Survey (EU-LFS)

The EU-LFS is the largest European household sample survey providing quarterly and annual results on labour participation of people aged 15 and over as well as on persons outside the labour force. It covers residents in private households. The EU-LFS is an important source of information about the situation and trends in the EU labour market.

The EU-LFS currently covers thirty-four countries (participating countries) providing Eurostat with data from national labour force surveys: the 28 Member States of the European Union, three EFTA countries (Iceland, Norway and Switzerland), and three candidate countries, i.e. the former Yugoslav Republic of Macedonia, Montenegro and Turkey. The EU-LFS is conducted by the national statistical institutes in accordance with Council Regulation (EEC) No. 577/98 of 9 March 1998 and the data are centrally processed by Eurostat.

Each quarter around 1.7 million interviews are conducted throughout the participating countries to obtain statistical information for some 100 variables. Due to the diversity of information and the large sample size the EU-LFS is also an important source for other European statistics like Education statistics or Regional statistics.

The main statistical objective of the EU-LFS is to divide the resident population of working age (15 years and above) into three mutually exclusive and exhaustive groups – persons employed, unemployed and economically inactive persons – and to provide descriptive and explanatory data on each of these categories. Respondents are assigned to one of these groups according to international classification on the basis of the information obtained through the survey questionnaire, which principally relates to their actual activity within a particular reference week. The EU-LFS defines the resident population as persons living in private households.

The EU-LFS data collection covers demographic background, labour status, employment characteristics of the main job, hours worked, employment characteristics of the second job, time-related underemployment, search for employment, education and training, previous work experience of persons not in employment, situation one year before the survey, main labour status and income <sup>(153)</sup>.

## Eurostudent VI survey

*Reference year: 2016/17*

*Coverage: 28 EHEA countries*

### *Description:*

EUROSTUDENT couples a central coordination approach with a strong network of national partners in each participant country. The EUROSTUDENT consortium provides national contributors with the EUROSTUDENT core questionnaire, as well as extensive instructions for conducting the field phase at the national level, data cleaning and weighting, calculation of indicators, and data delivery.

The national research teams are chosen and funded by the participating national ministries. The national research teams are responsible for implementing a national student survey, delivering the data to the EUROSTUDENT VI data team in accordance with EUROSTUDENT conventions, and providing national interpretations of the delivered data. The delivered data are checked in a series of

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<sup>(153)</sup> For more details on the EU-LFS, see: [http://ec.europa.eu/eurostat/statistics-explained/index.php/EU\\_labour\\_force\\_survey](http://ec.europa.eu/eurostat/statistics-explained/index.php/EU_labour_force_survey) [Accessed 8 March 2018].

feedback loops for accuracy and comparability and are validated for publication by the national research team.

EUROSTUDENT conventions are the instruments used to ensure the comparability and quality of the data collected. Since the 1st round of EUROSTUDENT, these conventions have been continuously developed further and are the result of productive discussions during several project meetings, intensive seminars, and workshops which were organised by the EUROSTUDENT consortium. They are documented in several handbooks which are provided to all EUROSTUDENT partners as well as the interested public.

The EUROSTUDENT core questionnaire details the items, responses, and instructions to be used in the national surveys. The questionnaire handbook provides in-depth explanations of the purpose of each question and instructions on adapting it, if necessary, to the national context.

The EUROSTUDENT VI questionnaire handbook is available on the EUROSTUDENT website.

The questionnaire handbook also provides guidelines for the preparation and execution of the survey at the national level. It provides information on the EUROSTUDENT standard target group, sampling guidelines, as well as information on the survey organisation and method.

#### **Target group:**

The EUROSTUDENT target group includes all students who are – at the time of observation (usually: semester) – enrolled in any national study programme regarded to be higher education in a country. Usually that corresponds to ISCED levels 5, 6, and 7.

This means all students should be included regardless of:

**Nationality** – National and foreign students should be included, as long as they are studying for a full degree in the country of observation (and are not only obtaining a limited number of credits, e.g. as an Erasmus student).

**Full-time/part-time status** – Full-time, part-time, and/or correspondence students should be included as long as the study programmes the students are enrolled in offer a minimum of physical face-to-face interaction in lectures/classes (not only exams).

**Character of the higher education institution (HEI) or study programme** – General as well as professional orientations of HEIs and study programmes should be included, as long as the programmes and institutions are considered to be higher education in the national context.

**Legal character of the HEI** – Public and private institutions should be included, as long as private institutions are considered to be a regular part of the higher education system in the national context.

Excluded from the EUROSTUDENT target group are:

Students on (temporary) leave, i.e. students who have officially or non-officially interrupted their studies at the time of observation for whatever reason.

Students on credit mobility, short-term mobile students (e.g. Erasmus students), i.e. students who are currently studying in the country of observation (incoming) or who have currently left the country of observation (outgoing) for a short time period (e.g. one or two semesters) with the purpose of gaining only a relatively small number of credits.

Students in ISCED 8 study programmes (PhD – and doctoral programmes).

Students in distance learning study programmes which do not offer any physical face-to-face lecture period at all, but are solely based on written/online interaction (apart from exams).

Students at very specialised HEIs, e.g. military or police academies, or HEIs directly affiliated with one company. This might also include programmes providing training only for public administration.

Students in programmes classified as ISCED (2011) levels 5 or 6 which are not regarded to be higher education in the national context. This could encompass, for example, further vocational training programmes for Master crafts(wo)men, or upper secondary schools or post-secondary programmes not regarded as higher education.

### EU-Statistics on Income and Living Conditions (EU-SILC)

The EU statistics on income and living conditions, abbreviated as EU-SILC, is the reference source for comparative statistics on income distribution and social inclusion in the European Union (EU). It is used for policy monitoring within the 'Open method of coordination (OMC)'.

EU-SILC was launched in 2003 on the basis of a gentlemen's agreement between Eurostat and six Member States (Austria, Belgium, Denmark, Greece, Ireland and Luxembourg) and Norway. It was formally launched in 2004 in fifteen countries and expanded in 2005 to cover all of the then EU-25 Member States, together with Norway and Iceland. Bulgaria launched EU-SILC in 2006 while Romania, Switzerland and Turkey introduced the survey in 2007. EU-SILC provides two types of annual data:

- cross-sectional data pertaining to a given time or a certain time period with variables on income, poverty, social exclusion and other living conditions;
- longitudinal data pertaining to individual-level changes over time, observed periodically over a four-year period.

EU-SILC is a multi-purpose instrument which focuses mainly on income. Detailed data are collected on income components, mostly on personal income, although a few household income components are included. However, information on social exclusion, housing conditions, labour, education and health information is also obtained.

EU-SILC is based on the idea of a common 'framework' and no longer a common 'survey'. The common framework defines

- the harmonised lists of target primary (annual) and secondary (every four years or less frequently) variables to be transmitted to Eurostat;
- common guidelines and procedures;
- common concepts (household and income) and classifications aimed at maximising comparability of the information produced.

The reference population in EU-SILC includes all private households and their current members residing in the territory of the countries at the time of data collection. Persons living in collective households and in institutions are generally excluded from the target population. Some small parts of the national territory amounting to no more than 2 % of the national population and the national territories may be excluded from EU-SILC. All household members are surveyed, but only those aged 16 and more are interviewed <sup>(154)</sup>.

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<sup>(154)</sup> For more details on the EU-SILC, see: [http://ec.europa.eu/eurostat/statistics-explained/index.php/EU\\_statistics\\_on\\_income\\_and\\_living\\_conditions\\_\(EU-SILC\)\\_methodology\\_-](http://ec.europa.eu/eurostat/statistics-explained/index.php/EU_statistics_on_income_and_living_conditions_(EU-SILC)_methodology_-)

## Trends 2018 (European University Association)

*Reference year: 2017*

*Coverage: 303 higher education institutions from 43 higher education systems*

### **Description:**

The Trends series has been published by the European University Association (EUA) and its predecessor organisation since the signing of the Bologna Declaration in 1999, with Trends 2018 presenting the eighth edition.

Trends provide an institutional perspective on higher education policy and institutional developments in Europe. Over the years, the focus of TRENDS has been changing. Whereas previous reports analysed mainly how the Bologna reforms have been implemented at the European universities, Trends 2015 discussed, amongst other themes, also developments in learning and teaching (L&T).

Trends 2018 research continues and further enhances this focus, and explores recent European policy developments and institutional strategies and practice on L&T.

## UOE data collection on education and training systems (UOE)

The UNESCO Institute for Statistics (UIS-UNESCO), the Organisation for Economic Co-operation and Development (OECD) and the Statistical Office of the European Union (Eurostat) jointly provide internationally comparable data on key aspects of education and training systems through the annual UOE data collection.

For tertiary education the collection covers entrants (input), enrolments (stock) and graduates (output). Data on education expenditure and personnel is also provided. The data are broken down by educational level (using the ISCED classification), as well as by sex, age, sector and field of education. Separate tables provide information on mobile and foreign students and graduates by country of origin (as well as by level, sex and field of education).

Within the UOE data collection, Eurostat collects and disseminates data from the EU Member States, candidate countries and EFTA countries. The OECD collects data from other OECD countries (such as Australia, Canada, Japan and the United States), while the UIS-UNESCO collects data from other participating countries. The validated data are used by the three organisations (<sup>155</sup>).

## V. Notes on figures

### Chapter 1

#### **Figure 1.1: Number of students enrolled in tertiary education by ISCED level, 2014/15**

**Belgium:** Data on 'Independent private institutions' not included, except at ISCED 6 and 7.

**Bosnia and Herzegovina, Bulgaria, Finland Greece, Liechtenstein, Lithuania, Montenegro, Romania and Serbia:** ISCED 5: not applicable.

**Greece:** ISCED levels are estimated.

**Estonia and the former Yugoslav Republic of Macedonia:** ISCED 5: not applicable according to Eurostat database.

Figure 1.2: Change in the total number of students enrolled in tertiary education between 2009/10 and 2011/12 and between 2012/13 and 2014/15

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[introduction#Main\\_characteristics\\_of\\_EU-SILC](#) [Accessed 8 March 2018].

(<sup>155</sup>) For more details on the UOE data collection, see: [http://ec.europa.eu/eurostat/statistics-explained/index.php/UNESCO\\_OECD\\_Eurostat\\_\(UOE\)\\_joint\\_data\\_collection\\_%E2%80%93\\_methodology#Introduction](http://ec.europa.eu/eurostat/statistics-explained/index.php/UNESCO_OECD_Eurostat_(UOE)_joint_data_collection_%E2%80%93_methodology#Introduction) [Accessed 8 March 2018].



**Belgium:** 2013-2015 - Data on 'Independent private institutions' not included, except at ISCED 6 and 7. 2010-2012 - Data exclude the German-speaking Community. Data exclude students in private independent institutions.

**Bosnia and Herzegovina, Bulgaria, Finland, Greece, Liechtenstein, Lithuania, Montenegro, Romania and Serbia:** 2013-2015 ISCED 5: not applicable.

**Cyprus:** 2010-2012 - Due to 2 years compulsory military service for men aged 18-20, some of them are not in education.

**Greece:** 2013-2015 ISCED levels are estimated.

**Liechtenstein and Romania:** 2010-2012 - ISCED 5B: not applicable.

Russia is not included in the analysis. Missing data for Bosnia and Herzegovina and Luxembourg for the 2009-2012 period.

Figure 1.3: Enrolment rates in tertiary education for the 18-34 years old (% of the total population aged 18-34), 2008/09, 2011/12, 2014/15

**Germany:** 2009: exclude ISCED 6.

**Romania:** 2010: Changes in classification at tertiary level.

Missing data for Montenegro (2012) and Albania, Andorra, Bosnia and Herzegovina, Greece, Kazakhstan, Luxembourg and Montenegro (2009).

### Figure 1.6: Percentage change in the total number of academic staff between 2000 and 2016

Data referring to 2000, 2005 and 2010 covers academic staff at ISCED 1997 levels 5-6. Data referring to 2016 covers academic staff at ISCED 2011 levels 5-8. All data covers all types of higher education institutions (i.e. public, private government dependent and private government independent).

**Belgium, the Czech Republic, Estonia, Germany, Italy, Latvia, the former Yugoslav Republic of Macedonia, Norway, Poland, Slovakia, Slovenia, Spain, Sweden and the United Kingdom** are represented by 2015 data.

### Figure 1.7: Academic staff by age groups (%), 2015

Data refers to academic staff at ISCED 2011 levels 5-8. It covers all types of higher education institutions (i.e. public, private government dependent and private government independent).

**Greece and Turkey** are represented by 2014 data.

### Figure 1.8: Female academic staff (%), 2000 and 2016

Data refers to academic staff at ISCED 2011 levels 5-8.

**Belgium, Croatia, Denmark, Estonia, France, Germany, Italy, Latvia, Luxembourg, the former Yugoslav Republic of Macedonia, Norway, Poland, Portugal, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom** are represented by 2015 data. **Greece and Turkey** are represented by 2014 data.

### Figure 1.9: Annual public expenditure on tertiary education as a % of GDP, total with R&D and total without R&D, 2014

**Belgium:** Expenditure in independent private institutions is not included

Countries not in the analysis: Andorra, Azerbaijan, Belarus, Bosnia and Herzegovina, Croatia, Greece, Liechtenstein, the former Yugoslav Republic of Macedonia and Montenegro.

### Figure 1.10: Annual public expenditure on tertiary education as a % of total public expenditure, 2008, 2011, 2014

EHEA is the EHEA median. Countries are sorted by the share of annual public expenditure on tertiary education in 2014. Countries not in the analysis: Andorra, Azerbaijan, Belarus, Bosnia and Herzegovina, Croatia, Finland, Greece, Holy See, Kazakhstan, Liechtenstein, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Russia, Serbia, Turkey, and Ukraine. Missing data for Albania and Luxembourg in 2011 and 2008. The numbers from 2015 report for 2011-2012 do not match the numbers for 2011-2012 in this report.

### Figure 1.11: Yearly changes in real public expenditure on tertiary education between year 2011 and year 2015 (price index 2010=100)

Countries not in the analysis – Bosnia and Herzegovina, Holy See, Liechtenstein, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Russia and Turkey. Missing data for Iceland (2011-2013), Albania, Andorra, Armenia, Azerbaijan, Georgia, Kazakhstan, Serbia, Ukraine (2014-2015).

### Figure 1.12: Annual public and private expenditure on public and private tertiary education institutions, per full-time equivalent student in PPS, 2008, 2011, 2014

**Austria:** 2008: Payments from private entities other than households to public educational institutions are not available.

**Belgium:** Expenditure exclude independent private institutions for all years and the German-speaking Community for years 2008 and 2011. 2014 - Expenditure in independent private institutions is not included

**Croatia:** 2008: Capital expenditure from private educational institutions is not available. 2008: Expenditure for compensation of personnel in private educational institutions is not available. 2008 and 2011: Payments from international agencies and other foreign sources to independent private educational institutions are not available. 2008: Expenditure for independent private

educational institutions is not available.

**Denmark:** Expenditure of post-secondary non-tertiary level of education is partially included in tertiary level of education. R&D expenditure is not available. 2011: Payments from other private entities to educational institutions are not available.

**Poland:** Payments from other private entities to educational institutions are not available. 2008: Payments from international agencies and other foreign sources to educational institutions are not available.

**Portugal:** Expenditure at local level of government is not available. 2008 and 2011: Expenditure of post-secondary non-tertiary level of education is partially included in upper secondary and tertiary level of education. 2008: Imputed retirement expenditure is not available; Payments from international agencies and other foreign sources to educational institutions are not available.

**Slovakia:** Expenditure of ISCED 5B is not included. 2008: Expenditure for independent private educational institutions is not available. Payments from international agencies and other foreign sources to private educational institutions are not available.

**Slovenia:** 2008: Capital expenditure from private educational institutions is not available.

**Spain:** 2008: Expenditure for ancillary services is not available.

**United Kingdom:** 2008-2011: Adjustment of educational expenditure of financial year that is running from 1 April to 31 March, to the calendar year.

Countries not in the analysis – Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Belarus, Georgia, Greece, Kazakhstan, Liechtenstein, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Russia, Switzerland and Ukraine. Missing data for Denmark (2014), Hungary, Ireland, Luxembourg, Serbia (2011), and Hungary, Ireland, Luxembourg, Turkey, Romania and Serbia (2008).

### Figure 1.13: Annual public expenditure on public and private tertiary education institutions per full-time equivalent student in euro, 2014

Countries not included in the analysis – Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Croatia, Russia, Georgia, Greece, Kazakhstan, Liechtenstein, the former Yugoslav Republic of Macedonia, Moldova, Montenegro and Ukraine.

### Figure 1.14: Annual public and private expenditure on public and private education institutions on tertiary education per full-time equivalent student in PPS relative to the GDP per inhabitant in PPS, 2008, 2011 and 2014

**Austria:** 2008: Payments from private entities other than households to public educational institutions are not available.

**Belgium:** Expenditure exclude independent private institutions for all years and the German-speaking Community for years 2008 and 2011.

**Croatia:** 2008: Capital expenditure from private educational institutions is not available. 2008: Expenditure for compensation of personnel in private educational institutions is not available. 2008 and 2011: Payments from international agencies and other foreign sources to independent private educational institutions are not available. 2008: Expenditure for independent private educational institutions is not available.

**Denmark:** Expenditure of post-secondary non-tertiary level of education is partially included in tertiary level of education. R&D expenditure is not available. 2011: Payments from other private entities to educational institutions are not available.

**Iceland:** 2008: Expenditure for ancillary services, payments from other private entities to educational institutions and payments from international agencies and other foreign sources to educational institutions are not available. 2008: Capital expenditure from private educational institutions is not available. 2011: R&D expenditure is not available.

**Norway:** 2008: Payments from other private entities to educational institutions are not available. Payments from international agencies and other foreign sources to educational institutions are not available.

**Poland:** Payments from other private entities to educational institutions are not available. 2008: Payments from international agencies and other foreign sources to educational institutions are not available.

**Portugal:** Expenditure at local level of government is not available. 2008 and 2011: Expenditure of post-secondary non-tertiary level of education is partially included in upper secondary and tertiary level of education. 2008: Imputed retirement expenditure is not available; Payments from international agencies and other foreign sources to educational institutions are not available.

**Slovakia:** Expenditure of ISCED 5B is not included. 2008: Expenditure for independent private educational institutions is not available. Payments from international agencies and other foreign sources to private educational institutions are not available.

**Slovenia:** 2008: Capital expenditure from private educational institutions is not available.

**Spain:** 2008: Expenditure for ancillary services is not available.

**United Kingdom:** 2008-2011: Adjustment of educational expenditure of financial year, that is running from 1st of April to 31 March, to the calendar year.

Countries missing in the analysis: for 2008 – Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Greece, Hungary, Ireland, Kazakhstan, Liechtenstein, Luxembourg, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Romania, Russia, Serbia, Switzerland, Turkey and Ukraine; for 2011 – Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Greece, Hungary, Ireland, Kazakhstan, Liechtenstein, Luxembourg, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Russia, Serbia, Switzerland, Turkey and Ukraine; for 2014 – Albania, Andorra, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Denmark, Georgia, Greece, Kazakhstan, Liechtenstein, the former Yugoslav Republic of Macedonia, Moldova, Montenegro, Russia, Switzerland, Turkey and Ukraine.

## Chapter 2

### **Figure 2.1: Expectations towards higher education institutions specified in national learning and teaching strategies (% of institutions reporting that there is a national strategy in place), 2017**

**Data source:** Trends 2018 (European University Association)

**Question:** Q.8.1: What does this national strategy imply? Higher education institutions are expected...

**Coverage:** The question was only answered by those institutions that reported the presence of a national learning and teaching strategy, or a national higher education strategy, which includes learning and teaching among other matters (234 institutions out of 301 institutions that replied to the question).

### **Figure 2.2: Elements included in institutional learning and teaching strategies (% of institutions reporting that there is an institutional strategy in place), 2017**

**Data source:** Trends 2018 (European University Association)

**Question:** Q.9.1: What elements does your institutional L&T strategy/policy address or include?

**Coverage:** The question was only answered by those institutions that indicated the presence of an institutional strategy on teaching and learning, including respondents referring to strategies at faculty/department level (260 institutions out of 303 institutions that replied to the question).

### **Figure 2.8: Impact of the learning outcomes approach in higher education institutions (% of institutions), 2017**

**Data source:** Trends 2018 (European University Association)

**Question:** Q.22.1: What effect on the institution has the introduction of learning outcomes had so far?

**Coverage:** The figure was calculated on a basis of replies from 264 higher education institutions. It shows the percentage of institutions that answered 'Yes, this is the case' or 'Yes, to some extent' to specific items in this question. Answers 'No impact' and 'Don't know/No opinion' are not shown in the figure.

### **Figure 2.11: Training for higher education teaching staff in developing learning outcomes (% of institutions), 2017**

**Data source:** Trends 2018 (European University Association)

**Question:** Q.39: Please indicate how teachers receive training in developing learning outcomes.

**Coverage:** The figure was calculated on a basis of replies from 285 higher education institutions.

### **Figure 2.14: Use of ECTS for credit accumulation and transfer by all higher education institutions, first- and second-cycle programmes, students' perspective, 2016/17**

**Data source:** ESU data collection (Bologna with Student Eyes 2018 (European Students' Union))

**Question:** 2.2. In first and second cycle programmes, in your country, ECTS is used as a ... 'credit accumulation system within higher education institutions'; 'credit transfer system for student learning outcomes acquired in another institution in the country', 'credit transfer system for periods of study abroad'.

### **Figure 2.15: Elements used for the calculation of ECTS points in public higher education institutions, students' perspective, 2016/17**

**Data source:** ESU data collection (Bologna with Student Eyes 2018 (European Students' Union))

**Question:** 2.1. Which elements are used in the calculation of ECTS points in your country?

### **Figure 2.17: Provision of part-time programmes or other alternative study forms by higher education institutions, 2016/17**

**Albania:** According to the new Law on Higher Education (October 2015), higher education institutions can offer only 'full-time' study programmes. However, they can offer 'extended form of study', but only for short-cycle study programmes (post-secondary), Professional Master and Executive Master. According to the higher education law, extended form of study means that the duration of studies does not exceed the double normal time of the respective study programme. At present, Albania is in a transitory phase: higher education institutions are reorganising their study programmes as foreseen in the abovementioned law, while students enrolled before 2015 will finish their studies with the same status they entered in. Thus some phasing out students with part-time status could be found among the majority of full-time students.

### **Figure 2.21: Median of country percentages of students enrolled as part-timers in tertiary education, by age, 2014/15**

**Data source:** Eurostat, [specific extraction from Eurobase: file 'ENRL3\_AGE&P'] and additional collection for the other EHEA countries.

**Albania, Azerbaijan, Kazakhstan, Moldova and Ukraine:** data are missing for ages 45+.

**Belgium:** Data on 'Independent private institutions' not included, except at ISCED 6 and 7.

**Greece:** ISCED levels are estimated.

**Coverage:** Albania, Andorra, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Denmark, Estonia, Finland, Germany, Hungary, Kazakhstan, Iceland, Ireland, Latvia, Liechtenstein, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, the United Kingdom.

### Figure 2.22: Students enrolled as part-timers in tertiary education, by country and by age (%), 2014/15

**Data source:** Eurostat, [specific extraction from Eurobase: file 'ENRL3\_AGE&P'] and additional collection for the other EHEA countries.

**Albania:** Missing values for ISCED 5.

**Austria, Greece, Italy, Serbia and Turkey:** Not applicable.

**Belgium:** Data on 'Independent private institutions' not included, except at ISCED 6 and 7.

**Cyprus, Czech Republic and France:** Not available.

**Kazakhstan:** Data cover ISCED level 6.

### Figure 2.23: 25, 50 and 75 percentile of countries according to the percentage of students enrolled as part-timers in tertiary education, by year, 2005-2015

**Data source:** Eurostat, [educ\_enr1ad] and [educ\_uae\_enr01] and additional collection for the other EHEA countries.

**Belgium:** Data on 'Independent private institutions' not included, except at ISCED 6 and 7.

**Coverage:** Albania, Andorra, Armenia, Azerbaijan, Belarus, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Kazakhstan, Latvia, Liechtenstein, Lithuania, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, the United Kingdom.

### Figure 2.24: Students qualifying themselves as full-timers (%), 2016/17

**Data source:** EUROSTUDENT VI, C.5.

**Countries in which no formal part-time status exists:** Austria, Denmark, France, Georgia, Serbia and Turkey.

**Countries which did not include part-time students in sample:** Albania and Latvia.

**No data:** Italy.

**EUROSTUDENT question(s):** 1.5 What is your current formal status as a student?

**Deviations from EUROSTUDENT conventions:** the Czech Republic, Italy, Romania and Switzerland.

**Deviations from EUROSTUDENT standard target group:** Albania, Germany, Ireland, Italy, Latvia and Serbia.

**Comments from national research teams on EUROSTUDENT data on part-time students:**

**Albania:** According to the new Law on Higher Education (October 2015), higher education institutions can offer only 'full-time' study programmes. However, they can offer 'extended form of study', but only for short-cycle study programmes (post-secondary), Professional Master and Executive Master. According to the higher education law, extended form of study means that the duration of studies does not exceed the double normal time of the respective study programme. At present, Albania is in a transitory phase: higher education institutions are reorganising their study programmes as foreseen in the abovementioned law, while students enrolled before 2015 will finish their studies with the same status they entered in. Thus some phasing out students with part-time status could be found among the majority of full-time students.

**Czech Republic:** We assume part-time students as those who are studying during the weekend etc. Full-time students go to school on daily basis.

**Slovenia:** Part-time students, unlike full-time students in 1st and 2nd cycle studies, have to pay (higher) tuition fees. Regarding the part-time studies, Article 37 of Higher Education Act states, that '...the organisation and schedule of lectures, seminars and practical exercises may be adapted to the possibilities of students (e.g. part-time studies)'. This shall be done in the manner and under the procedure laid down by the statute. Full-time study in Slovenia is study with a full load, i.e. 60 ECTS per year. It can be payable or unpayable. In case of 'part-time stud' the organization and schedule of lectures, seminars and exercises may be adapted to the possibilities of students – however, 'part-time study' still leads to 60 ECTS per year and is payable. Students, irrespective of whether the study is provided full-time or part-time, have the right to health care and other benefits and rights (e.g. food, transport, grants) in accordance with special regulations provided they are not in full-time employment or registered job seekers.

**Sweden:** The students course registrations defines if the student is a full-time student or not. The study pace is stated as a percentage of average credits per week throughout the course period. 1,5 ECTS credits per week = 100 % (and 30 credits per semester). A course comprising of 15 credits over a given term corresponds to a study pace of 50 % on this specific course. If the students are registered to more than one course during the same period, the total course registration credits for the period will define if the student is a full-time student or not. In Sweden distance studies and on-campus studies are also registered in the study administrative system. Of the students that only studied distance courses in the academic year 2015/2016, more than 71 percent studied free-standing courses. For students studying on campus the relationship was the reverse, 76 percent were programme students.

**Turkey:** In Turkey there are 'İkinci Öğretim Programı' in Turkish in higher education ('Evening Education Programme' in English) within the framework of the law 3843. According to this Law, Evening Education is defined as the formal education when the normal formal education (daytime education) has been completed in higher education institutions. There is no difference between Formal Education and Evening Education in terms of period of study, study guidelines for associate's degree and bachelor's degree levels, attendance, number of mid-term examinations, contribution to the success grade, implementation and make-up examination conditions, and other issues regarding education and training [these fall under the category 'other'].

### Figure 2.25: Part-time students according to their study intensity (self-reported) as % of students in different study intensity groups, 2016/17

**Data source:** EUROSTUDENT VI, C.5.

**Countries in which no formal part-time status exists:** Austria, Denmark, France, Georgia, Serbia and Turkey.

**Countries which did not include part-time students in sample:** Albania and Latvia.

**No data:** Italy.

**EUROSTUDENT question(s):** 1.5 What is your current formal status as a student?

**Deviations from EUROSTUDENT conventions:** the Czech Republic, Italy, Romania and Switzerland.

**Deviations from EUROSTUDENT standard target group:** Albania, Germany, Ireland, Italy, Latvia and Serbia.

### Figure 2.33: Trends in higher education institutions regarding digital learning, last three years (% of institutions), 2017

**Data source:** Trends 2018 (European University Association)

**Question:** Q.25: What are the main trends at your institution regarding digital learning in the last three years?

**Coverage:** The figure was calculated on a basis of replies from 293 higher education institutions. The figure shows the percentage of institutions that answered 'Yes, this is the case' or 'Yes, to some extent' to specific items in this question. Answers 'No' and 'Information unavailable' are not shown in the figure.

### Figure 2.34: Formal or most common requirements for holding higher education positions with teaching responsibilities (% of institutions), 2017

**Data source:** Trends 2018 (European University Association)

**Question:** Q.34: In your institution, what formal or most common requirements are needed for holding one of the positions below with teaching responsibilities?

**Coverage:** The figure was calculated on a basis of replies from 303 higher education institutions.

### Figure 2.36: Measures to promote and develop teaching skills of academics (% of institutions), 2017

**Data source:** Trends 2018 (European University Association)

**Question:** Q.38: Has there been a systematic effort to establish the following at your institution?

**Coverage:** The figure was calculated on a basis of replies from 287 higher education institutions. The figure shows the percentage of institutions that answered 'Yes' to specific items in this question. Answers 'No, but we are planning to do this', 'No' and 'Information unavailable' are not shown in the figure.

### Figure 2.37: Means of assessment/enhancement of teaching in place throughout the institution (% of institutions), 2017

**Data source:** Trends 2018 (European University Association)

**Question:** Q.36: Which of the following means and criteria are used for the assessment of teaching?

**Coverage:** The figure was calculated on a basis of replies from 289 higher education institutions. The figure shows the percentage of institutions that answered 'Yes, throughout the institution' to specific items in this question. Answers 'Yes, in some parts of the institution', 'No, but we are planning to do it' and 'No, we do not use this' are not shown in the figure.

### Figure 2.38: Students' satisfied with quality of teaching in their current study programme (%), 2016/17

**Data source:** EUROSTUDENT VI, J.29.

**No data:** Austria, Germany, Italy, Switzerland and Turkey.

**EUROSTUDENT Question(s):** 1.9 How satisfied are you regarding the following aspects of your current (main) study programme?

**Deviations from EUROSTUDENT standard target group:** Albania, Germany, Ireland, Italy, Latvia and Serbia.

### Figure 2.39: Students agreeing with the statement that their teachers inspire them (%), 2016/17

**Data source:** EUROSTUDENT VI, J.15.

**No data:** Austria, France, Germany, Italy, Switzerland and Turkey.

**EUROSTUDENT Question(s):** 1.13 To what extent do you agree with the following statements? - My teachers inspire me.

**Deviations from EUROSTUDENT standard target group:** Albania, Germany, Ireland, Italy, Latvia and Serbia.

## Chapter 3

### **Figure 3.1: Distribution of students enrolled in ISCED 5-8 programmes, 2014/15**

**Data source:** Eurostat, [educ\_uae\_enrt02] and additional collection for the other EHEA countries.

**Belgium:** Data on 'Independent private institutions' not included, except at ISCED 6 and 7.

**Bosnia and Herzegovina, Bulgaria, Finland Greece, Liechtenstein, Lithuania, Montenegro, Romania and Serbia:** ISCED 5: not applicable.

**Estonia and the former Yugoslav Republic of Macedonia:** ISCED 5: not applicable according to Eurostat database.

**Greece:** ISCED levels are estimated.

### **Figure 3.2: Share of first cycle-programmes with a workload of 180, 210, 240 or another number of ECTS credits, 2016/17**

**Coverage:** No data for the United Kingdom (England, Wales and Northern Ireland).

### **Figure 3.3: Share of second-cycle programmes with a workload of 60-75, 90, 120 or another number of ECTS credits, 2016/17**

**Coverage:** No data for Greece and the United Kingdom (England, Wales and Northern Ireland).

## Chapter 4

### **Figure 4.5: European Student Unions perception of student participation in external quality assurance, 2016/17**

**Data source:** ESU data collection (Bologna with Student Eyes 2018 (European Students' Union))

**Questions:** 3.2. Is there a requirement that students are involved in external quality assurance review teams?

### **Figure 4.11: Scorecard indicator n°7: Level of openness to cross border quality assurance of EQAR registered agencies, 2016/17**

**Data source:** EQAR/Eurydice survey to BFUG members, 2017.

## Chapter 5

### **Figure 5.1: Relationship between the educational background of first-cycle new entrants (ISCED 6) and the educational attainment of their parents' cohort (population aged 45-64), 2016/17**

**Data source:** Eurostat, EU-LFS (Population by educational attainment level, sex and age: edat\_lfse\_03).

**Luxembourg:** Data not reliable for proportions of the population aged 45-64 with different educational attainment levels.

### **Figure 5.2: Percentage of delayed transition students among students with/without higher education background, 2016/17**

**Data source:** EUROSTUDENT VI, B.4.

**No data:** Malta.

**EUROSTUDENT Question(s):** 2.3 How long after leaving the #regular school system for the first time did you enter higher education for the first time?

**Deviations from EUROSTUDENT survey conventions:**

Austria: Only national students.

France: Delay calculated using the moment of graduation from high school and the first entering into an higher education institution.

Germany: Delay calculated based on month and year of obtaining #matura or foreign equivalent.

Hungary: Delay calculated using additional questions about the high school type, year of maturation and starting year of higher education studies.

Switzerland: Information from national register of students (Swiss University Information System); duration of transition into higher education is approximated.

**Deviations from EUROSTUDENT standard target group:** Albania, Germany, Ireland, Italy, Latvia and Serbia.

### **Figure 5.3: Percentage of women among new entrants in tertiary education in 2004/05 and 2014/15**

**Data source:** Eurostat, [educ\_entr2tl] and [educ\_uae\_ent01] and additional collection for the other EHEA countries.

**Albania and Estonia:** 2015 - ISCED 5 not available

**Belgium, Ireland and Poland:** 2005 - ISCED 6 not included.

**Belgium and Malta:** 2015 - ISCED 8 not available

**Bosnia and Herzegovina, Bulgaria, Finland, Greece, Liechtenstein, Lithuania, Montenegro, Romania and Serbia:** 2015 - ISCED 5: not applicable.

**Croatia:** 2005 – not significant data.

**Finland:** 2005 - ISCED 5B not applicable.

**Finland and the Netherlands:** 2005 ISCED 6 not included.

**France:** 2005 – missing data. 2015 - ISCED 5, 6 and 7 are not available

**Germany:** 2005 ISCED 6 not included.

**Italy:** 2005: ISCED 5B not significant.

**Luxembourg, Latvia and Portugal:** 2005 – missing data.

**The Netherlands:** 2005 - ISCED 5B not applicable.

#### **Figure 5.4: Percentage of women among new entrants in tertiary education by level of education, 2014/15**

**Data source:** Eurostat, [educ\_uae\_ent01] and additional collection for the other EHEA countries.

**Albania and Estonia:** ISCED 5 not available

**Belgium and Malta:** ISCED 8 not available

**Bosnia and Herzegovina, Bulgaria, Finland, Greece, Liechtenstein, Lithuania, Montenegro, Romania and Serbia:** ISCED 5: not applicable.

**France:** ISCED 5, 6 and 7 are not available

#### **Figure 5.5: Median percentage of women among enrolled students in Bologna structures by field of education and level of Bologna structure (first and second cycle, ISCED 6 and 7), 2014/15**

**Data source:** Eurostat, [educ\_uae\_enr03] and additional collection for the other EHEA countries.

Country coverage ISCED 6:

**Education:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Sweden, Turkey, the United Kingdom, Spain, Switzerland, Ukraine.

**Arts and humanities:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, Georgia, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovenia, Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Social sciences, journalism and information:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Sweden, Spain, Switzerland, Turkey, Ukraine, the United Kingdom.

**Business, administration and law:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Spain, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Serbia, Sweden, Switzerland, Turkey, the United Kingdom, Ukraine.

**Natural sciences, mathematics and statistics:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Information and communication technologies:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Engineering, manufacturing and construction:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Agriculture, forestry, fisheries and veterinary:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Georgia, Germany, Denmark, Estonia, Finland, France, Hungary, Kazakhstan, Iceland, Italy, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Health and welfare:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Georgia, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Services:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Kazakhstan, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

Country coverage ISCED 7:

**Education:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia,

Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Arts and humanities:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Georgia, Hungary, Iceland, Italy, Kazakhstan, Lithuania, Luxembourg, Latvia, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Social sciences, journalism and information:** Austria, Albania, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovenia, Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Business, administration and law:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Natural sciences, mathematics and statistics:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Information and communication technologies:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Engineering, manufacturing and construction:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom, Ukraine.

**Agriculture, forestry, fisheries and veterinary:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Health and welfare:** Albania, Austria, Azerbaijan, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Kazakhstan, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom.

**Services:** Austria, Albania, Azerbaijan, Belgium, Bulgaria, Bosnia and Herzegovina, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Kazakhstan, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, the United Kingdom.

### Figure 5.6: Composition of students by migration background (%), 2016/17

**Data source:** EUROSTUDENT VI, A.4.

**No data:** Italy and Romania. International students: Germany.

**EUROSTUDENT Question(s):** 5.3 In which country were you and your parents (or those who raised you) born? 2.0 Do you have a standard entrance qualification or foreign equivalent? 2.2 [only students without Matura] Where did you last attend the regular school system

**Notes:** Sum of categories may deviate from 100 due to rounding.

**Deviations from EUROSTUDENT survey conventions:** Germany: no international students included in sample.

**Deviations from EUROSTUDENT standard target group:** Albania, Germany, Ireland, Italy, Latvia and Serbia.

### Figure 5.7: Participation rates in tertiary education among persons aged 18-29, foreign-born, native-born and total population (%), 2016

**Data source:** Eurostat, EU-LFS.

Bulgaria, Estonia, Lithuania, Malta, Romania and Slovakia: Not reliable and not publishable for foreign born.

Croatia, Latvia, the former Yugoslav Republic of Macedonia, Poland and Slovenia: Not reliable for foreign born.

### Figure 5.8: Percentage of students enrolled in tertiary education, 30 or more years old, in 2011/12 and 2014/15

**Data source:** Eurostat, [educ\_enr11t] and [educ\_uae\_enr02] and additional collection for the other EHEA countries.

**Belgium:** 2013-2015 - Data on 'Independent private institutions' not included, except at ISCED 6 and 7. 2010-2012 - Data exclude the German-speaking Community. Data exclude students in private independent institutions.

**Bosnia and Herzegovina, Bulgaria, Finland, Greece, Liechtenstein, Lithuania, Montenegro, Romania and Serbia:** 2013-2015 ISCED 5: not applicable.

**Cyprus:** 2010-2012 - Due to 2 years compulsory military service for men aged 18-20, some of them are not in education.

**Greece:** 2013-2015 ISCED levels are estimated.

**Liechtenstein and Romania:** 2010-2012 - ISCED 5B: not applicable.



### Figure 5.9: Percentage of delayed transition students among respondents 30 or more years old, 2016/17 and 2013/14

**Data source:** EUROSTUDENT VI, B.4.

**No data:** Malta. Too few cases: Albania.

**EUROSTUDENT Question(s):** 2.3 How long after leaving the #regular school system for the first time did you enter higher education for the first time?

**Deviations from EUROSTUDENT survey conventions:**

Austria: Only national students.

France: Delay calculated using the moment of graduation from high school and the first entering into an higher education institution.

Germany: Delay calculated based on month and year of obtaining #matura or foreign equivalent.

Hungary: Delay calculated using additional questions about the high school type, year of maturation and starting year of higher education studies.

Switzerland: Information from national register of students (Swiss University Information System); duration of transition into higher education is approximated.

**Deviations from EUROSTUDENT standard target group:** Albania, Germany, Ireland, Italy, Latvia and Serbia.

### Figure 5.16: Percentage of students entering higher education through standard and alternative routes, 2016/17

**Data source:** EUROSTUDENT VI, B.5 & B.9.

**No data:** Finland, Italy and Turkey. Too few cases: Slovakia (for delayed and alternative access routes).

**EUROSTUDENT Question(s):** 2.0 Do you have a #general precondition for HE access [named country-specific] or foreign equivalent? 2.1. [only students with country specific standard qualification] Did you obtain your #general precondition or foreign equivalent in direct relations (within 6 months) of leaving the #regular school [adapted nationally] system for the first time? 2.2 [only students without #general precondition for HE access] Where did you last attend the regular school system?

**Deviations from EUROSTUDENT conventions:**

Austria: All international students coded to have standard entry qualification, as the information was not asked.

Estonia: Entry into higher education without #Matura not possible in Estonia, so response option 'no, I do not have a #Matura' was not offered.

Hungary: Question 2.0 was asked in the English questionnaire only used by international students and not in the Hungarian version because regulations in Hungary only allow to apply for higher education studies for those having a matura. Questions 2.1 (Did you obtain your #Matura or foreign equivalent in direct relation (within 6 month) of leaving #regular school system for the first time?) & 2.2 (Where did you last attend the #regular school system?) were slightly altered in the Hungarian version as in most cases, finishing the high school in Hungary concurs with obtaining a matura. However, this combination of altered questions is unreliable when identifying students with a delayed transition or alternative access route. Thus, additional questions from the Hungarian questionnaire about the high school type, year of maturation and starting year of higher education studies were also employed during data cleaning process for calculating EUROSTUDENT-compatible indicators.

Switzerland: Information from national register of students (Swiss University Information System).

**Deviations from EUROSTUDENT standard target group:** Albania, Germany, Ireland, Italy, Latvia and Serbia.

### Figure 5.18: Percentage of first-cycle students who pay fees, 2016/17

**Data source:** EUROSTUDENT VI, F.171.

**No data:** Italy.

**EUROSTUDENT Question:** What are your average expenses for the following items during the current lecture period?

**Notes:** Fees include tuition fees, registration fees, examination fees, and administrative fees. Social welfare contributions to HEIs/student associations, learning materials, field trips should be excluded, but may have influenced students' perception.

**Deviations from EUROSTUDENT standard target group:** Albania, Germany, Ireland, Italy, Latvia and Serbia.

### Figure 5.20: Most common amount of yearly fees for full-time home students as a percentage of GDP per capita, 2016/17

**Data source:** Authors' calculation based on Student Fee and Support Systems in Europe 2016/17 (European Commission/EACEA/Eurydice, 2016a), the BFUG questionnaire and World Bank. NY.GDP.PCAP.CN, Data from database: World Development Indicators, Last Updated: 09/18/2017

**No data:** Andorra, Bulgaria, Croatia, Cyprus (second cycle), Estonia, France, Germany, Greece (second cycle), Holy See, Latvia, Liechtenstein, Lithuania, the former Yugoslav Republic of Macedonia, Moldova, Poland, Russia, Slovakia, Slovenia and Turkey

**Notes:** Fees are understood as all fees charged – whether for tuition, enrolment, certification or other administrative costs, except contributions to student organisations. There are no fees: in the first cycle - Cyprus, Greece, Malta and the United Kingdom – Scotland; in the first and second cycles: Denmark, Finland, Norway and Sweden

### Figure 5.21: Support to students enrolled at tertiary education level as a percentage of public expenditure on tertiary education, 2008, 2011, 2014

**Data source:** Eurostat, [educ\_fiaid] and [educ\_uoe\_fina01].

**Belgium:** 2011: Expenditure exclude independent private institutions and the German-speaking Community. 2014 - Expenditure in independent private institutions is not included.

**Bulgaria, Czech Republic and Estonia:** 2008: Student loans from public sources are not applicable.

**Croatia:** 2008: Public transfers to private entities other than households are not available. 2011: Public transfers to private

entities at local level of government are not available.

**Cyprus:** 2008 - 2011: Including financial aid to students studying abroad.

**Denmark:** Expenditure of post-secondary non-tertiary level of education is partially included in tertiary level of education.

**Hungary:** 2008 - Student loans from public sources are not available.

**Iceland:** Expenditure for ancillary services is not available.

**Ireland:** Expenditure for ancillary services is not available.

**Portugal:** 2008 - Expenditure at local level of government is not available. Imputed retirement expenditure is not available. Expenditure of post-secondary non-tertiary level of education is partially included in tertiary level of education. 2008 – 2011 – Student loans from public sources are not available. 2011 - Expenditure at local level of government is not available, except for tertiary institutions.

**Romania:** 2008: data not available. The data published in the 2015 Bologna Implementation Report has been removed from the Eurostat database.

**Slovakia:** 2008-2011 - Expenditure at ISC 5B is included under upper secondary level of education.

**Spain:** 2008: Expenditure for ancillary services is not available.

**United Kingdom:** 2011: data is different from the data in the 2015 Bologna Implementation Report due to the revision of the UK data for the reference year 2011.

### Figure 5.25: Percentage of fee-payers among recipients and non-recipients of public support, 2016/17

**Data source:** EUROSTUDENT VI, G.44.

**No data:** Finland.

**EUROSTUDENT Questions:** 3.3 What is the average monthly amount at your disposal from the following sources during the current lecture period? 3.4 What are your average expenses for the following items during the current lecture period?

**Notes:** Public support includes grants, loans, and scholarships from national public sources. Fees include tuition fees, registration fees, examination fees, and administrative fees. Social welfare contributions to HEIs/student associations, learning materials, field trips should be excluded, but may have influenced students' perception.

**Deviations from EUROSTUDENT standard target group:** Albania, Germany, Ireland, Italy, Latvia and Serbia.

### Figure 5.27: Percentage of persons with tertiary education, by age group, 2013 and 2016

**Data source:** Eurostat, [edat\_ifs\_9903] and additional collection for the other EHEA countries.

### Figure 5.28: Completion rates in ISCED 6 (first-cycle) programmes (%), 2014

**Data source:** OECD, Education at a Glance 2016, Table A9.2: Distribution of full-time students who entered a given educational level, by theoretical duration (N) and theoretical duration plus three years (N+3) (2014).

**Belgium (Flemish Community):** Data for 'Had not graduated and were not in education' refer to students who were not enrolled in either bachelor's or master's degrees or equivalent programmes. They could still be enrolled at other levels or in adult education.

**Czech Republic:** N+3 corresponds to N+2.

**France:** Data provided using a longitudinal survey and excludes international students.

**Netherlands:** In the Netherlands, a few students enter bachelor's or equivalent programmes and graduate from a long first degree within the theoretical duration of the original bachelor's or equivalent programme. They represent less than 0.001% of total new entrants and are included with 'Graduated from a long first degree' by N+3.

### Figure 5.29: Attainment by gender: odds ratios of men over women to attain higher education, 2006-2016

**Data source:** Eurostat, [edat\_ifs\_9903] and additional collection for the other EHEA countries.

**Country coverage:** Austria, Azerbaijan, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, Moldova, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovenia, Slovakia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Figure 5.30: Percentage of female graduates in tertiary education programmes by level of education, 2014/15

**Data source:** Calculated based on Eurostat, [educ\_uoe\_grad03].

### Figure 5.31: Tertiary education attainment of 25 to 34-year-olds by country of birth: odds ratio of native-born over foreign-born population to complete tertiary education, 2013 and 2016

**Data source:** Eurostat, EU-LFS and additional collection for the other EHEA countries.

**Bulgaria, Romania and Slovakia:** Not reliable and not publishable.

**Georgia:** Reference year is 2014 instead of 2016.

**Lithuania and Poland:** Not reliable.

### Figure 5.32: Adults (30-64) who attained their tertiary education degree during adulthood (aged 30-64) as a percentage of all adults (30-64), 2013 and 2016

**Data source:** Eurostat, EU-LFS and additional collection for the other EHEA countries.

**Georgia:** Reference year is 2014 instead of 2016.

## Chapter 6

### Figure 6.1.A: Unemployment rate and unemployment ratio of people aged 20-34 by educational attainment level (%), 2016

**Data source:** Eurostat, EU-LFS and additional collection for the other EHEA countries.

**Croatia and Lithuania:** Not reliable for the category 'low educational attainment'.

**Malta:** Not reliable for the category 'high educational attainment'.

### Figure 6.1.B: Unemployment rate of people aged 20-34 by educational attainment level (%), 2016

**Data source:** Eurostat, EU-LFS and additional collection for the other EHEA countries.

**Bulgaria, Lithuania, Luxembourg, Malta, Norway and Slovenia:** Not reliable for Bachelor's level.

**Bulgaria, Latvia, Luxembourg, Norway and Romania:** Not reliable for the Masters level.

### Figure 6.2: Compound annual growth rate of unemployment by educational attainment (%), 2013-2016

**Data source:** Eurostat, EU-LFS and additional collection for the other EHEA countries.

**Croatia and Lithuania:** Not reliable for the category 'low educational attainment'.

**Malta:** Not reliable for the category 'high educational attainment'.

### Figure 6.3: Unemployment rate of people aged 20-34 by educational attainment level and by sex (%), 2016

**Data source:** Eurostat, EU-LFS and additional collection for the other EHEA countries.

**Bulgaria, Croatia (male), Czech Republic (male), Estonia, Hungary (male), Latvia (male) and Luxembourg:** Not reliable for the category 'high educational attainment'.

**Malta (male):** Not reliable for the category 'medium educational attainment'.

**Island, Lithuania and Malta:** Not reliable and not publishable for the category 'high educational attainment'.

**Island and Malta (female):** Not reliable and not publishable for the category 'medium educational attainment'.

**Island and Lithuania:** Not reliable and not publishable for the category 'low educational attainment'.

### Figure 6.4: Unemployment rate of tertiary education graduates aged 20-34, by the number of years since graduation (%), 2016

**Data source:** Eurostat, EU-LFS and additional collection for the other EHEA countries.

**Bulgaria, Croatia, Czech Republic, Estonia, Hungary and Luxembourg:** Not reliable for the category 'more than 3 years'.

**Bulgaria, Estonia, Luxembourg and Malta:** Not reliable for the category '3 years or less'.

**Island (more than 3 years), Lithuania and Malta (more than 3 years):** Not reliable and not publishable.

### Figure 6.5: Unemployment rate of tertiary education graduates aged 20-34, by the number of years since graduation and by sex (%), 2016

**Data source:** Eurostat, EU-LFS and additional collection for the other EHEA countries.

**Austria, Croatia, Czech Republic, Denmark (male), Finland (male), Latvia (female), the Netherlands, Norway, Poland (male), Romania, Slovenia and Switzerland (male):** Not reliable for the category 'more than 3 years'.

**Bulgaria, Estonia, Hungary (male), Iceland, Latvia (male), Lithuania, Luxembourg (male) and Malta:** Not reliable and not publishable for the category '3 years or less'.

**Bulgaria, Estonia, Hungary, Iceland, Latvia (male), Lithuania, Luxembourg and Malta:** Not reliable and not publishable for the category 'more than 3 years'.

**Croatia, Czech Republic (male), Hungary (female), Luxembourg (female), Norway (female), Romania and Slovenia (male):** Not reliable for the category '3 years or less'.

### Figure 6.7: Ratio of median annual gross income of employees with tertiary education to the median annual gross income of employees with lower levels of education, 2013 and 2015

**Data source:** Eurostat, EU-SILC (Statistics on Income and Living conditions).

**Moldova:** Reference year is 2016 instead of 2015.

### Figure 6.8: At-risk-of-poverty rate by educational attainment for people aged 25-34 by education level, 2015

**Data source:** Eurostat, EU-SILC (Statistics on Income and Living conditions), specific extraction.

**Moldova:** Reference year is 2016 instead of 2015.

**Figure 6.11: Distribution of people with tertiary education (ISCED 5-6) aged 25-34 and employed in ISCO 1 or 2 (legislators, senior officials, managers and professionals), in ISCO 3 (technicians and associate professionals) and in ISCO 4-9, by sex (%)**

**Data source:** Eurostat, EU-LFS and additional collection for the other EHEA countries.

**Croatia (female):** Not reliable for the category 'ISCO 3'.

**Luxembourg (female):** Not reliable for the category 'ISCO 4-9'.

**Figure 6.12: Percentage of people aged 25-34 with tertiary education (ISCED 5-6) who are vertically mismatched (in ISCO 4-9) by field of study, 2016**

**Data source:** Eurostat, EU-LFS and additional collection for the other EHEA countries.

Country coverage:

**Education:** Austria, Belgium, Croatia, Cyprus, the Czech Republic, Denmark, Germany, Greece, Hungary, Italy, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Sweden, Spain, Switzerland, Turkey, the United Kingdom.

**Arts and humanities:** Austria, Belgium, Croatia, Cyprus, the Czech Republic, Germany, Denmark, Finland, France, Greece, Hungary, Iceland, Ireland, Italy, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

**Social sciences, journalism and information:** Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

**Business, administration and law:** Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Germany, Finland, France, Greece, Hungary, Ireland, Iceland, Italy, Latvia, Lithuania, Luxembourg, the former Yugoslav Republic of Macedonia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

**Natural sciences, mathematics and statistics:** Belgium, Cyprus, Czech Republic, Germany, Greece, Italy, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

**Information and Communication Technologies:** Belgium, Cyprus, Germany, France, Greece, Hungary, Ireland, Italy, the former Yugoslav Republic of Macedonia, Poland, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

**Engineering, manufacturing and construction:** Austria, Belgium, Bulgaria, Switzerland, Cyprus, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, Greece, Croatia, Hungary, Ireland, Italy, Lithuania, Latvia, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Poland, Portugal, Romania, Sweden, Slovenia, Slovakia, Turkey, the United Kingdom.

**Agriculture, forestry, fisheries and veterinary:** Austria, Belgium, Czech Republic, France, Germany, Greece, Hungary, Italy, the former Yugoslav Republic of Macedonia, the Netherlands, Poland, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

**Health and welfare:** Belgium, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

**Services:** Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom.

**Figure 6.13: Students' self-assessment of their chances on the national and international labour market based on the competences gained during studies (for all students and/or different focus groups), 2017**

**Data source:** EUROSTUDENT VI, J.3

**No data:** Germany, Italy, Switzerland, Turkey

**EUROSTUDENT Question(s):** 1.12 Regarding the competences gained during your current study programme: How well do you think you are prepared for the labour market after graduating?

**Notes:** Students responded on a five-point scale ranging from 'very well' to 'very poorly'. Values shown are aggregated across categories 1 + 2 (very) well

## Chapter 7

EHEA countries use multiple definitions to identify and report mobile students. Before 2013 the UOE data collection defined mobile students as foreign students (non-citizens of the country in which they study) who have crossed a national border and moved to another country to study. Starting from 2013 reference year the UOE definition is based on the country of origin understood as the country where the upper secondary diploma was awarded (or the best national estimate) and not the country of citizenship. Twenty countries in the EHEA still use the foreign citizenship/nationality as criteria to define mobile students.

For the inward mobility to the EHEA from countries outside the EHEA information from all declaring countries in the world was considered. For the outward mobility from the EHEA towards countries outside the EHEA only the questionnaires from Australia, Canada, the United States, Japan and New Zealand were considered due to issues with data availability and quality.

**Figure 7.10: Incoming degree mobility rate – tertiary education mobile students from the EHEA and from outside the EHEA studying in the country as a percentage of the total number of students enrolled, by country of destination, 2014/15**

**Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, Greece, France, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine:** The criteria used to define mobile students is the citizenship.

**Germany and Spain:** ISCED 8 is not included in the tertiary mobile students.

**Greece, Liechtenstein, Montenegro and Turkey:** Missing data.

**Norway:** Change in the definition of mobile student since UOE 2014 (2012/13).

**Figure 7.11: Number of incoming degree tertiary education mobile students from inside and outside the EHEA, by country of destination, 2014/15**

**Albania, Andorra, Armenia, Azerbaijan, Bulgaria, Bosnia and Herzegovina, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine:** The criteria used to define mobile students is the citizenship.

**Germany and Spain:** ISCED 8 is not included in the tertiary mobile students.

**Greece, Liechtenstein, Montenegro and Turkey:** Missing data.

**Norway:** Change in the definition of mobile student since UOE 2014 (2012/13).

**Figure 7.12: Number of outward degree tertiary education students inside and outside the EHEA by country of origin, 2014/15**

**Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine:** The criteria used to define mobile students is the citizenship.

**Germany and Spain:** ISCED 8 is not included in the tertiary mobile students.

**Greece, Liechtenstein, Montenegro and Turkey:** Missing data.

**Figure 7.13: Outward degree mobility rate – mobile tertiary education graduates within the EHEA as a percentage of all graduates of the same country of origin, by country of origin, 2014/15**

**Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine:** The criteria used to define mobile graduated students is the citizenship.

**Andorra, France, Greece, Iceland, Slovakia and Georgia:** Missing data.

**Poland:** ISCED 8 is not included in the graduated students.

**Spain:** Only including value from ISCED 6 and 7.

**Figure 7.14: Share of degree mobile graduates from abroad by education level, sex and country of origin, 2014/15**

**Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine:** The criteria used to define mobile graduated students is the citizenship.

**Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Belarus, France, Georgia, Greece, Iceland and Kazakhstan, Liechtenstein, Moldova, Montenegro, Russia and Ukraine:** Missing data.

**Poland:** ISCED 8 is not included in the graduated students.

**Spain:** Only including value from ISCED 6 and 7.

**Figure 7.15: Share of tertiary students enrolled abroad (degree mobility), by country of origin, 2014/15**

**Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine:** The criteria used to define mobile students is the citizenship.

**Germany and Spain:** ISCED 8 is not included in the tertiary mobile students.

**Greece, Liechtenstein, Montenegro and Turkey:** Missing data.

**Figure 7.16: Outward degree mobility rate – tertiary education students studying abroad outside the EHEA as a percentage of the total number of students of the same country of origin, 2014/15**

**Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine:** The criteria used to define mobile students is the citizenship.

**Germany and Spain:** ISCED 8 is not included in the tertiary mobile students.

**Greece, Liechtenstein, Montenegro and Turkey:** Missing data.

#### Figure 7.17: Mobility balance: Incoming/outgoing tertiary students ratio within the EHEA, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Italy, Kazakhstan, Luxembourg, Hungary, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Greece, Liechtenstein, Montenegro and Turkey: Missing data.

Norway: Change in the definition of mobile student since UOE 2014 (2012/13).

#### Figure 7.18: Mobility balance: Incoming/outgoing tertiary students ratio within and outside the EHEA, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Greece, Liechtenstein, Montenegro and Turkey: Missing data.

#### Figure 7.19: Balance as a measure of the attractiveness of the education system of the country at tertiary education level (mobility flows within and outside EHEA), 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

Greece, Liechtenstein, Montenegro and Turkey: Missing data.

#### Figure 7.20: Student mobility flows: Top three countries of origin (inward) in %, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Kazakhstan, Italy, Luxembourg, Malta, Serbia, Slovakia, Turkey, Moldova, Montenegro, Russia and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

#### Figure 7.21: Student mobility flows: Top three countries of destination (outward) in %, 2014/15

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

#### Figure 7.22: Outward mobility versus diversity of destination countries (mobility flows within and outside EHEA) 2014/15,

Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, the Czech Republic, France, Greece, Hungary, Italy, Kazakhstan, Luxembourg, Malta, Moldova, Montenegro, Russia, Serbia, Slovakia, Turkey and Ukraine: The criteria used to define mobile students is the citizenship.

Germany and Spain: ISCED 8 is not included in the tertiary mobile students.

#### Figure 7.23: Recognition of credits gained during (most recent) enrolment abroad – Share of students who have been enrolled abroad (in %), 2016/17

Data source: EUROSTUDENT VI, 1.7.

No data: Germany: Partial recognition/no credits gained/no plans for recognition, Switzerland: no plans for recognition.

EUROSTUDENT Question: 4.4. [only students who have been enrolled abroad] Were the credits (ECTS, certificates) you gained for your enrolment abroad recognised by your home institution?

Deviations from EUROSTUDENT survey conventions:

Austria, France, Germany, Ireland and Switzerland: Response option 'did not plan to get credits recognised' not offered.

Germany: Fewer response options offered

Deviations from EUROSTUDENT standard target group: Albania, Germany, Ireland, Italy, Latvia and Serbia.

Germany: fewer response options: no distinction between 'full' and 'partial' recognition possible.

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